

EON PRESENTS

ISK_{3.0}

INDUSTRIAL-SIZED KNOWLEDGEBASE

VERSION: LITE



THE ULTIMATE GUIDE TO EVE ONLINE

- » GETTING STARTED
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- » MINING
- » AGENTS
- » PLANETARY INTERACTION
- » MANUFACTURING
- » R&D
- » TRADING
- » PLAYER-OWNED STRUCTURES
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EVE
ONLINE

• EVE INDUSTRIAL BLACK BOOK • CREATED BY LACI AND MERMALIOR
• PRODUCED BY EON MAGAZINE • WWW.ISKTHEGUIDE.COM



FOREWORD

(AND LIABILITY WAIVER)

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Whether you're a beginner in EVE getting acquainted with the game for the first time, a trader who is testing the economic waters, maybe a fierce pirate, a determined miner, or even a seasoned pilot with years of experience in mission running under your belt, there is something to learn here. However much you play, there are no pilots who have successfully completed everything or who have trained every skill this universe has to offer. This book, the Industrial-Sized Knowledgebase, is beneficial to all pilots. It covers nearly

everything a pilot may experience within New Eden. If you wish to know something, just look it up here. You do not have to be familiar with everything contained within these pages, just open the book and you will find your answer.

As a new pilot you will have many questions to which you do not yet have the answers. Even basic functions and expressions will be unfamiliar to you. Even knowing what questions to ask may not be clear at first. Do not worry. All you need to know is this: read first, then ask. The answers are only a page away.

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 Having an active account is essential to be able to join the universe of EVE Online.

Please visit the website at www.eveonline.com and register for an account.

The current version of the EVE client (the game itself) is also available to download there.

PROLOGUE

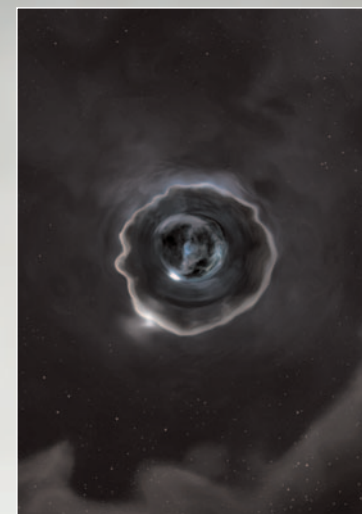
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「THE DAWN OF A NEW ERA」



➡ PROBES SENT INTO THE WORMHOLE SHOWED THAT PASSAGE THROUGH IT WAS STABLE, AND THAT A NEW GALAXY AWAITED EXPLORERS ON THE OTHER SIDE. A GALAXY CLEAR ACROSS THE UNIVERSE



➡ When space travel became a profitable enterprise due to asteroid mining and production in a vacuum-environment, it took no time at all for humanity to settle down on most of the planets and moons of our solar system. The ensuing economic boom allowed for great advances in technological research. Soon it became possible to travel vast distances in space. In the beginning, before warp (space-bending) technology, the distance between two star systems seemed an unconquerable obstacle. Later, jump gates,



merging gravity with negative energy, created stable wormholes which made travel between two distant places of space feasible within moments. Humanity swarmed out to distant star systems at an increasing rate.

The next breakthrough was the development of jump drives based on warp technology. The early versions of jump drives were only capable of handling short distances, but later it became possible to jump between star systems without the need for jump gates. This enabled human expansion to spread across the universe like a viral outbreak. Soon, human settlements appeared in hundreds of star systems, dozens of which grew into huge colonies. Unfortunately, the process of expansion became more and more difficult due to bureaucracy. Almost every star system within jump range was now sold out before the actual colonization took place. Many had to wait years for their chance at a new home on a new world.

This all changed suddenly when a new, natural wormhole was discovered near the Canopus system. Although this phenomena had already been proven to exist, this was the first occasion such a miracle had been found. The probes sent into the wormhole showed that the passage through it was stable, and that a new galaxy awaited explorers on the other side. Speculation was endless. This could be a galaxy far from our Milky Way, a galaxy clear across the universe, maybe another dimension, or even a parallel universe.

The wormhole was called EVE, because new worlds meant new beginnings for many. A decision was made to build jump gates on both sides of EVE, but travel would be restricted only to special, reinforced ships fit to travel through the wormhole. Then came the news that scientists predicted EVE would close within a few decades. To maximize the opportunities EVE offered, people and equipment were transported to the other side and bases were established in the new system.

The system on the other side of EVE was appropriately dubbed New Eden. The two gates built on either side of EVE had to be huge, since the nature of the wormhole was rather unpredictable. These were the greatest structures mankind had ever built. It took two hundred years even with the new, greater economic potential of humanity to construct them. New Eden was declared free for everyone who could venture there. Those who reached unclaimed spots first got the right to build a base there. Hundreds of companies started their own exploration and colonizing ventures to the new worlds as soon as the gates opened.

Although EVE closed while construction of New Eden was still in progress, the gates remained operational, but after 70 years of flawless operation, tragedy struck. An unexplained phenomenon destroyed the gates and caused a severe magneto-gravitational anomaly. The phenomenon made the gates useless, but, worse, it

collapsed the fragile stability of the newly prospering society in New Eden. The EVE gates still exist, but ships daring to fly close to them are destroyed by the harmful gravitational storms.

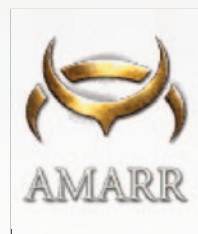
The effect of this catastrophe was instant and dramatic. Every settlement that was dependent on the highly developed industry of New Eden or on the Old World, found itself isolated. Most of the colonies, due to their relative newness, were not yet self-sustainable. The lack of oxygen, food and water sentenced many of the colonies to extinction. Those few settlements which survived slowly lost their knowledge and ability to produce hi-tech industry, because they lacked the tools or equipment to sustain it.

The surviving enclaves lived separately from each other for eons. As time passed, environmental influences caused minor changes in their appearance and made them different from each other. Eventually, the survivors reclaimed space travel and reentered the cosmos of New Eden.

「THE RACES OF EVE」



「THE AMARR EMPIRE」



→ The world of EVE is inhabited by five major races: Amarr, Caldari, Minmatar, Gallente and Jove. All of these races are of human origin; their ancestors entered this little part of the universe thousands of years ago through the natural wormhole. Though most of the first settlements collapsed when the wormhole suddenly closed, a few survived.

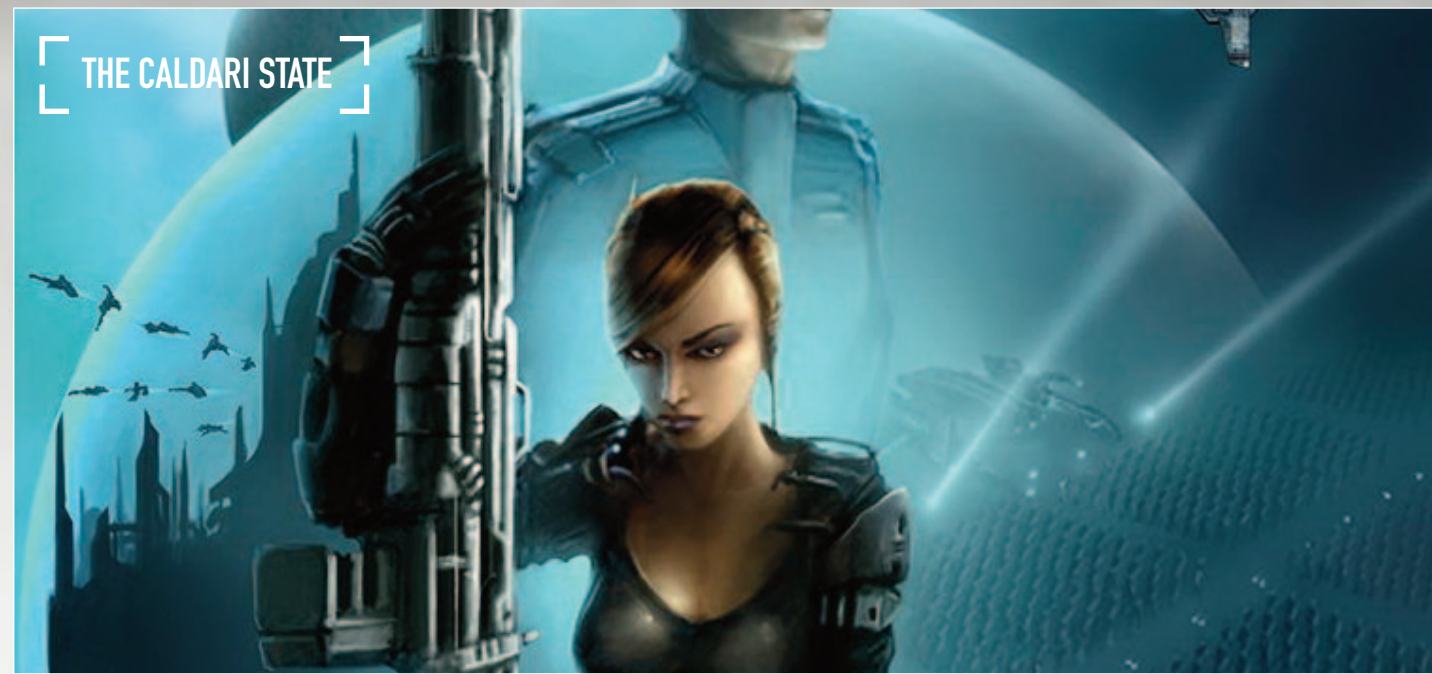
Today's races are the descendants of those scattered colonies.

The largest of the five main empires, the Amarr Empire is a sprawling patchwork of feudal-like provinces held together by the might of the Emperor, spanning 40% of the inhabited solar systems. Religion has always played a big part in Amarrian politics and the Amarrians believe they are the rightful masters of the universe, souring their relations with their neighbours. Another source of ill-feeling on the part of the other empires is the fact that the Amarrians embrace slavery. The Amarr Emperor is the head of a ritualistic, authoritarian imperial state, and below him are the Five Heirs, the heads of the five royal families from which a new emperor is chosen. The Emperor's authority is unquestioned and absolute, but the archaic and bureaucratic system of government makes it difficult for him to exert his rule unless directly in person. Otherwise, the Five Heirs rule in his name, dividing the huge empire between them. The Emperor and the Five Heirs can expect to live for at least 500 years. Extensive cyber-implants keep their frail bodies alive, even when their organs begin to fail. These cyber enhancements date back many millennia, and have become a symbol of royal divinity in the eyes of the Amarrians.

Always a deeply religious people, religion remains of great importance to every Amarrian, a fervour which, at various times, has been responsible both for great good and great evil. Shortly after recovering from the closure of EVE, they began to expand their realm at the expense of neighbouring states. The nations they conquered were enslaved, a practice justified by their religion. Ever since, the Amarrians have enslaved every nation and race they have encountered and today slavery is an essential part of Amarr society. This has, of course, tainted their relations with other races, especially the individualistic Gallenteans.

The Amarrians were the first of the races in EVE to re-discover warp technology, notably jump gate technology. After accomplishing this more than 2,000 years ago, they immediately began expanding to nearby solar systems, slowly building up their empire in the process. On the way, they encountered two human races, both of whom suffered the fate of being enslaved by the far more powerful Amarrians. In recent years however, the Amarrians have begun to run into serious opposition. First they met the Gallente Federation. Although smaller, the Amarrians soon found the economic and military might of the Gallenteans to be a match for their own.

Soon after, the Jovians arrived on the scene and the Amarrians made a futile attempt to subjugate them, resulting in a humiliating defeat. To make matters worse, the Minmatars, enslaved for centuries by the Amarrians, used the opportunity to rebel against their masters. Since these fateful events two centuries ago, the Amarrians have learned restraint. They have slowed down their expansion and are less forceful in their dealings with other races, but still view themselves as the most powerful race in EVE, if only because of their sheer numbers.



「THE CALDARI STATE」



→ The Caldari State is ruled by several mega-corporations. There is no central government to speak of – all territories within the State are owned and ruled by corporations. Duty and discipline are required traits in Caldari citizens, plus unquestioning loyalty to the corporation they live to serve. The corporations compete aggressively amongst

themselves and with companies outside the State, resulting in a highly capitalistic society.

Each corporation is made up of thousands of smaller companies, ranging from industrial companies to law firms. All land and real estate is owned by a company which leases it to the citizens, and government and policing are also handled by independent companies. Although this gives the corporations dictatorial powers, they are just as bound by Caldari customs and laws as the individual, and the fierce, continual competition between the corporations ensures a healthy, consumer-based social environment, which benefits everyone. While the Caldari State may not be nearly as big as that of the Gallenteans, let alone the Amarrians, they are still universally feared and admired.

The Caldari economy is strong, and their military might is parallel to that of the larger empires. Coupled to the fact that they are more unscrupulous than the Gallenteans and more combative than the Amarrians, this makes them in many ways the most meddlesome of all the empires. As most Caldari trade is conducted by individual companies rather than the State itself, this makes it difficult for the other empires to deal with them at a political level.

If a company is found guilty of unethical business dealings, it simply disappears into its parent corporation, and before long another one appears to take its place. But if a Caldari company is threatened, the whole corporation and often the whole State backs it up with full force.

Caldari society is steeped in military tradition. As a people, its members had to fight a long and bloody war to gain their independence, and even had to surrender their home planet to their hated enemies, the Gallenteans. It was at this time that the corporations established themselves as the driving force behind creating and maintaining the new Caldari State. Even if the Caldari have not engaged in war for many decades, they still strive to be at the cutting edge of military technology and their vessels, weapons and fighting methods are inferior to none but the enigmatic Jovians.

To curb their aggressive tendencies, the Caldari actively pursue and sponsor a range of sporting activities. Many of these are bloody, gladiatorial-like competitions, while others are more like races. But whatever the sport, the Caldari love betting on the outcome, making gambling a massive industry in the state.

The State offers its citizens the best and the worst in living conditions. As long as you keep in line, do your job, uphold the laws and so forth, life can be fairly pleasant and productive. But for those who are not cut out for this strict, disciplined regime, life quickly becomes intolerable. They lose their respect, family, status, everything, and the only options left to them are suicide or exile.

Although not exactly xenophobic as such, the Caldari are very protective of their way of life and tolerate only those foreigners that stick to the rules.

«THE RACES OF EVE»



➔ The Gallente Federation encompasses several races, the Gallenteans being the largest by far. The Federation is democratic and very liberal in a world full of dictators and oligarchies. The Caldari State was once part of the Federation, but a severe dispute resulted in their departure and a long war between the Gallente Federation and the Caldari State.

The Gallenteans are the masters of pleasure and entertainment and their rich trade empire has given the world many of its most glorious and extravagant sights. Self-righteous, meddling, pompous and tiresome, or virile liberals and defenders of the free world. Love them or hate them, you simply can't ignore them. Everybody has an opinion on the Gallente Federation, it all depends from which side of the table you view them. For many, it is the 'Promised Land', where any dream can become a reality.

Descendants of Tau Ceti Frenchmen, the Gallenteans remain strong believers in free will and human rights, despite numerous setbacks in their long history. It has been said that, once you have seen the Crystal Boulevard in Caille, you've seen it all. True, the view is spectacular, but if there's one thing you can never see in its entirety, it is the Gallente Federation. You may travel its length and breadth, marvel at the Sunspiral on Troux, climb the Akat Mountains on tropical Intaki, or thrill to the Mendre dancers on Sovicou. Wherever you go, you will always see something new and exciting, even when you visit the same place again. Gallente society is in a constant state of flux – vigorous, vibrant and progressive.

Few societies display such stark contrasts. Many of the wealthiest

people in the world are Gallenteans, creating a constant demand for luxury goods. At the same time, the ranks of the poor number millions, because while the liberal market-driven economy and individual freedoms may allow everybody the chance to advance to the top, they make it just as easy to plummet to the very bottom of the social ladder.

In the world of EVE, the Gallentean are the kings of entertainment, mass-producing everything from cheap porn-flicks to elaborate stage-shows for an ever-hungry public. They boast the most elaborate luxury space yachts, and the most glittering hotel reservoirs. Anything your mind or body could ever crave, the Gallenteans have plenty of it.

The Gallenteans are not alone in their Federation, whose boundaries are home to pockets of residents, varying in size and representing all the other races of EVE, most of whom left their own empires due to political or ideological differences, or simply in search of peace and prosperity. In addition to these, there are two human races, the Intakis and the Mannars, both of whom the Gallenteans found while exploring and expanding their empire. Both were at a very primitive level when the Gallenteans found them, but since coming under the protection and guidance of the Gallenteans, both races have flourished and today are fully-fledged members of the Federation. The Caldari were initially part of the Federation, but deep-seated differences and mutual animosity between them and the Gallenteans drove them out to form their own empire. For a time, the two warred against each other, but as neither could gain sufficient advantage to claim victory, peace was settled in the end.



➔ A tough, no-nonsense race, the Minmatars are a determined and independent people. Their home planet of Matar is a natural paradise, although centuries of abuse have taken much from its beauty.

The Minmatar Republic was formed over a century ago when the Matari threw out their Amarrians overlords in what is known as the Minmatar Rebellion. The Matari had the support of the Gallente Federation and to this day, the two nations remain close allies. Yet, only a quarter of the Matari people reside within the Republic. The rest are scattered around the galaxy, including a large portion still enslaved within the Amarr Empire.

Minmatar individuals are independent and proud, possessing a strong will and a multitude of tribal traditions. For the Minmatars, the most important thing in life is to be able to take care of yourself on your own, and although kin and family play an important role in their society, they prefer identifying themselves by the clan or tribe to which they belong. A clan can have any number of people in it, and its size is largely dictated by the main activity of its members. Most specialize in one area of activity. While those who live on a planet can focus on agricultural or industrial activity, others who travel around the universe of EVE concentrate on trading, pirating, and suchlike. In the distant past, the clans constantly warred against each other. Since then, however, Minmatars have learned that cooperation is more important, and although the clans still try to maintain their regional and ideological identities, they act as a single unit towards other races.

The fortunes of the Minmatars have ebbed and flowed continuously. At one time they had a flourishing empire with a level of mechanical excellence never before or since seen anywhere. Later, however, they had to endure centuries of enslavement, toiling and dying for the benefit of foreign masters. Today, most of them have regained their freedom, but the legacy of their enslavement has been the diaspora of the race.

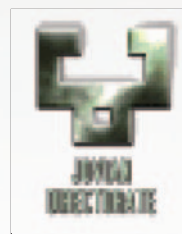
The Minmatars are the most numerous of all the races in the universe of EVE, but their vast numbers are divided into many factions. While the Minmatar Republic is the official state, only a quarter of all Minmatars are part of it. The largest proportion, almost a third, are enslaved within the huge Amarr Empire, while a fifth resides within the Gallente Federation, creating a powerful political bloc which keeps relations between the Gallenteans and the Amarrians in a constant state of tension. The remainder, who are not part of any formal organization, live as freemen.

Many are itinerant labourers, roaming from one system to another in search for work. A fair number make their living on the darker side of the law, acting as pirates, smugglers and peddlers in all kinds of illegal goods and many of the larger criminal groups in the world of EVE are run by Minmatars.

«THE RACES OF EVE»



THE JOVE DIRECTORATE



The Jovian Directorate is isolated from the rest of the universe to all but a selected few. The Jovians are a mystery to the other races, fuelled not only by their elusiveness, but also their highly advanced technology, eons ahead of the other races.

The Jovians have been civilized longer than any other race in the whole of EVE and have gone through several golden ages, now long-since shrouded in the past. The current Jovian empire is only a pale shadow of its former self, mainly because of the Jovian Disease – a psychological disorder that is always fatal.

The most mysterious and elusive of all the peoples of EVE, the Jovians number only a fraction of any of their neighbours, but their technological superiority makes them powerful beyond all proportion. Although definitely human, the Jovians often seem to the other races as though they are not, the reason being that they embraced genetic engineering as the way to solve any and all the problems which plague the human race.

Over the thousands of years since, the Jovians have experimented with every kind of genetic modification their technology allowed. As their powers grew, they began to believe they were capable of anything, and this led them into increasingly more bizarre mutations of their bodies and minds, a policy rigorously backed up by strict governmental control. But one fateful moment in their history made them lose this control for a few generations, and the results were catastrophic. By this time the Jovians had begun interfering with their basic instincts, curbing their aggression and

sexual instincts and cultivating strange new ones instead. Since the Shrouded Days, as the Jovians call their momentary social eclipse, they have been trying to put the pieces together again, but their DNA-structure has in many ways been damaged beyond repair. The consequence is the dreaded Jovian Disease. Genetic in nature, it is not infectious to other races, but among Jovians it causes a depression so deep and serious that the victim loses the will to live and death results within a few days or weeks.

Despite this, the Jovians escaped the chaos that followed the closure of EVE remarkably well. Within the space of only a few centuries they had recovered, and were once again running a hi-tech society. They settled in a number of systems and founded an empire lasting for nine millennia, but even if the Jovians are by far the most technologically advanced of the races of EVE, they have still not recovered the splendour of their first empire. The disease within them keeps them in a reproductive straightjacket, preventing them from increasing their numbers sufficiently for their current empire to truly flourish.

The Jovians crave knowledge, any knowledge at all. Their superior technology has enabled them to infiltrate the other races with bugging devices and sensors, giving them unrivalled access to information, which they use to maintain their strong position among the races. The Jovians sell a lot of their advanced technology equipment to the other races and it is this, more than anything else, which keeps the others at bay.

Jovian society is mysterious and difficult to comprehend. For this, and other reasons, it remains very much closed to the other races, and few foreigners reside within the Jovian empire.

DON'T PANIC!



You might get lost,
but with EON you
are never alone

「THE BATTLE OF VAK'ATIOH」



Two hundred golden, gleaming hulls, gathered on the fringes of the Vak'Atioth system. Amarrian arrogance had mandated the use of such a small force. They did not expect resistance. For the Amarrians, this was to be a great day. It would renew faith in the Reclaiming, a faith much needed. For weeks they had been advertising their intentions to crush the Jovians; flooding communication networks with propaganda proclaiming their people the chosen of God, rightful owners of the Jovian people. Vak'Atioth was not a primary system within the Jovian Empire. It lay upon the edge and contained only various small research facilities. It was, nonetheless, here that the mighty Amarr Empire had chosen to show the Jovians the undeniable might of their squadron, a force that didn't even approach the full size of the great Amarr Navy.

The Jovians valued one thing above all else – information. Their need for information had led to the formation of the Jovian Intelligence Network, an entity with eyes and ears in most of the other empires' internal archives. It delivered to the Jovians every plan the Amarrians had laid out for their assault – even before the Amarrian commanders themselves had received the information.

This allowed the Jovians to plan extensively for the battle that would take place in one of their own systems – then called Vak'Atioth, now known only as Atioth.

It was a rich and diverse mixture of battleships and cruisers, each ship equipped with state-of-the-art Amarrian laser technology. Their ships were bulky and slow, but made up for their lack of agility with the devastating power of their laser batteries.

The fleet organized itself in typical Amarrian military fashion – a staggered line designed to maximize the ghastly effect of tachyon fire against the enemy's front. Their hulls adorned with religious texts, broadcasting messages of Amarrian supremacy, interspersed with litanies and psalms in honour of the Reclaiming.

This was their moment; this was what they lived for.

The first volley of fire erupted from an Apocalypse, its turrets taking aim and firing as one, blood-red beams slicing into the side of a stationary ship until the vessel's hull ruptured, pieces of it



scattering like dust among the rank and file of the Jovian force.

It had begun.

The Jovian forces split into smaller wings, each numbering five ships, all equipped with devastating Jovian laser technology. Accelerating with frightening speed, they dove into the Amarrian attack forces. Amarrian cruisers equipped with close-range weaponry moved to intercept as wave after wave of the smaller vessels engaged single targets, like a furious pack of wolves, dodging and weaving, maximizing manoeuvrability.

And then it happened. Massive, eerily green blasts erupted from seemingly nowhere, and an Amarrian Apocalypse went up in flames. Another blast erupted mere seconds later, and tore through a squad of Mallers, their hulls briefly flickering with bright green energy discharges. The Amarrians did not expect this. Their rigid command structure inhibiting communications, they did not realize what was happening. Lack of coherence and interoperability in the fleet meant that they could not cope with the sudden appearance of this unseen terror. It was a Jovian mothership.

Swooping in, the Jovian frigate forces caused even more confusion, sending the Amarrian forces into disarray. At this point, communications broke down. Amarrian battle doctrine demanded sacrifice, and so the Navy could not disengage. Captains and their crews valiantly threw down their lives for the Empire, confident that they, God's chosen, would be victorious. The few that retreated would later be executed for cowardice, their families enslaved and their Houses disbanded.

For hours streams of glaring light lit up the system that night, the nimble Jovian frigates diving into the Amarr fleet, their ranged

cruisers supporting them with laser-fire over a distance and the titanic mothership firing blast after blast of its extreme-range weapons; cannons created specifically for this battle. The smaller vessels holding the Jovian line prevented Amarrian squads from coming close enough to fire upon their nemesis, leaving the fleet defenceless against its onslaught.

Battleship after battleship exploded in a violent bursts of light under the attack from the Jovian mothership. This left the Amarrians in a position they had not been in before. What could they do but press on and die?

Not six hours later, Vak'Atioth was overflowing with the remnants of hulls drifting in the emptiness of space. The Jovians had won the first battle of this war; the majority of the Amarrian fleet had been demolished whilst only a third of the Jovian ships had been lost. The Amarr knew they had to respond quickly and in numbers. Publicly, they blamed impetuous leadership for the headlong assault on the Jovians – even if that was exactly what Amarrian battle doctrine had dictated. So it was that captains that had given their lives for their Empire without a single thought of retreat were posthumously discharged from the Navy, their

reputations ruined and their families disgraced. A much larger fleet was ordered to gather in preparation for another assault upon the Jovians. They never got the opportunity to react. The Matari chose this moment to rebel against their Amarrian masters. Uncannily well equipped for slaves – and high on morale – they proved more than a match for their demoralized Amarrian captors. Faced with losing their grip on the Minmatar, the

☞ CAPTAINS AND CREWS VALIANTLY THREW DOWN THEIR LIVES FOR THE EMPIRE, CONFIDENT THAT THEY, GOD'S CHOSEN, WOULD BE VICTORIOUS. THE FEW THAT RETREATED WOULD BE EXECUTED FOR COWARDICE

Amarrians had no choice but to redirect their entire military force to the home front to handle the rebelling slaves. To this day, rumours circulate that the Gallentean Federation secretly outfitted the rebels with weapons, ships and supplies.

And thus, a quick and hasty peace was agreed upon with the Jovians; if only to allow the Amarrians to concentrate on themselves. The Amarrians agreed not to attack the Jovians again. Both sides knew this was not sincere. However, the Jovians

were happy to settle and continue as they were. To them, the complexities of the barbaric Amarrian nature were of interest only in the academic sense. Their handling of the Amarrian fleet blessed them with the reputation of an entity not to be tangled with.

No-one has attacked the Jovians since.



GETTING STARTED

»» CREATING YOUR CHARACTER

»» THE GUI

»» THE OVERVIEW

»» OTHER DISPLAYS

»» ATTRIBUTES AND SKILLS

»» CLONES AND INSURANCE

»» CORPORATIONS

CREATING YOUR CHARACTER



Welcome! Congratulations on obtaining your CONCORD Pilot License! When you create your character, also known as a pilot, you are free to choose his or her race, gender, bloodline, and name. All of these decisions are permanent and cannot be altered later so it is good to pay careful attention to the look of your character, making sure you are happy with your choices. Also of note is when choosing a name, please pay attention to your intended capitalization. EVE names are all case-sensitive. There is a 'Last Name' field and a 'First Name' field – the full name can have a single space in it..

RACE, BLOODLINE AND PROFESSION

The various character races and bloodlines differ in their background (history), looks, and initial skills and attributes. These differences can be equalized easily later by more training in particular areas and less in others. Since everyone can learn every skill, it is only matter of time to reach all skills at level V (no one has done it yet as it would currently take about 20 years worth of skill training). It is practical to choose a character that you will be happy with, for that pilot will grow and change as you explore EVE Online for years to come. If role-playing is important for you, choose a character whose background story appeals to you.



WARNING!

The choice you make about your character's race, bloodline and gender are permanent and you cannot change them later!

BEFORE ANYTHING ELSE

Before doing anything else, it is highly recommended you complete all tutorials and the mission series offered by Career Agents (in case you have not done so yet). It is important to be acquainted with the basics of the game, its controls, and structure.

If you complete these missions, you should have approximately five million ISK when you are done. All the recommended learning category and other skills will be at level II and you may even have up to five frigates to fly. Many aspects of the game are introduced by the Career Agents. You will not only learn trade and kill missions, but also exploration and PvP missions as well which introduce you tactics like webbing and warp scrambling.

Overall, the experience, much-needed ISK, ships and implants gained from these missions all come in handy. After completing these, you can then start to look for a corporation to join, where the 'veterans' will help you.

EVE IS NOT A SINGLE-PLAYER GAME

EVE Online is not about a single-player experience, so we suggest seeking out some friends as soon as possible. The Help channel and various language-specific channels are all great places to meet new people. We advise you to join these as soon as possible. To join a chat channel, click on the 'Open Channel Window' button on the upper right corner of your chat window. In the 'Channels' window, either select one of the listed channels, or type the name of any help/community channel you want to join.

Some help/community channels:

- English: Help, Rookie Help
- German: German, Hilfe
- Hungarian: HUN, Sugo
- For other languages, check under the 'Languages' category.

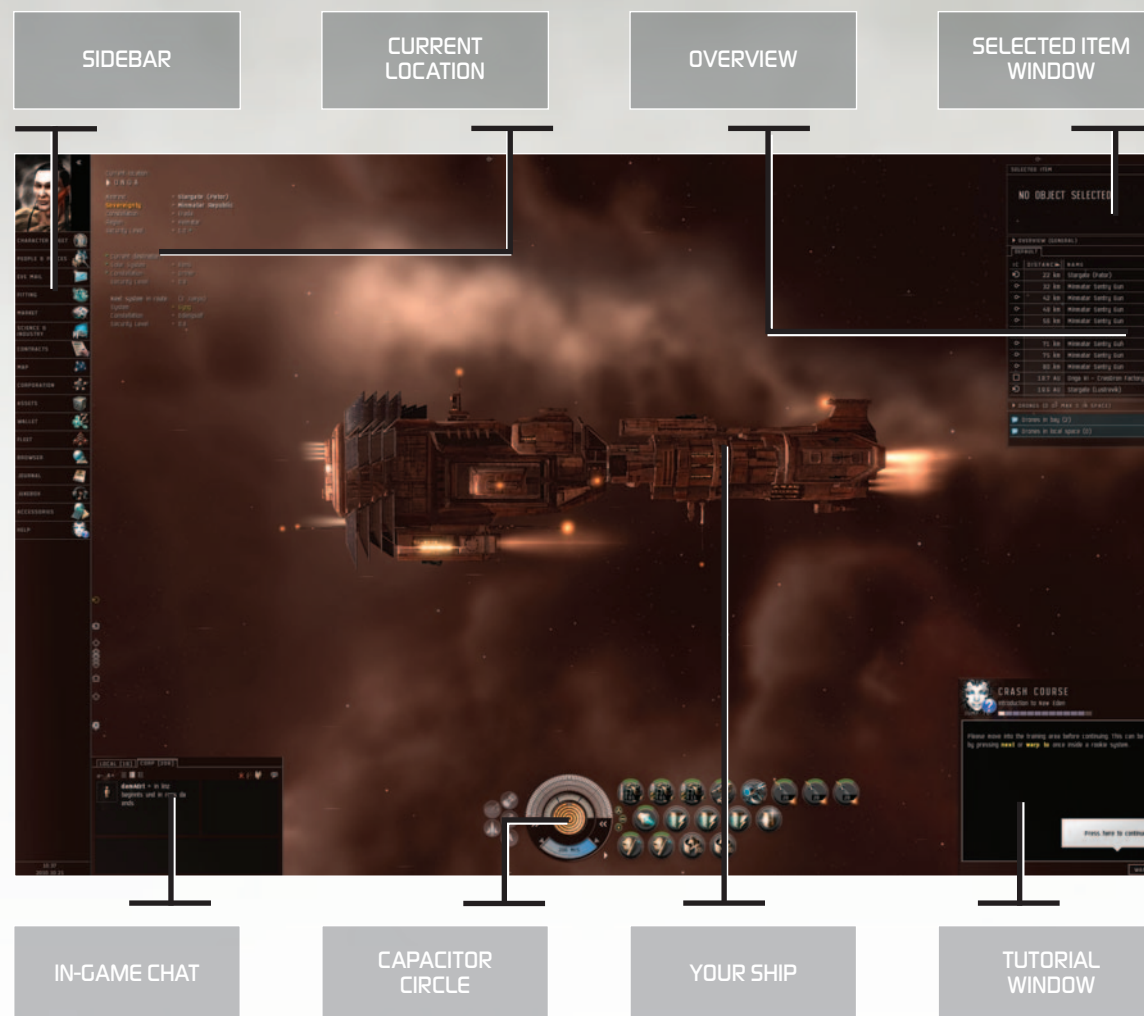
Most of these channels have a delayed member list, meaning that the names of members will only display in the channel's list window once they first start talking. Do not be afraid to ask questions. Everyone was a newbie pilot once, and we all know how complex EVE appears in the first few days. You will find people who are glad to answer your questions.

Since most of these channels are busy and it is hard to keep track of all the conversations, you may also be interested in joining various community channels. Corporations and alliances often run such channels. While in the first few days, it may be unwise to join a corporation because you do not know yet what kind of playing style (and corporation) you will prefer, it is wise to join their public channels if they offer help. That way you can get to know more people and more corporations, which is important in developing your playing style.

THE GUI



When you first enter space, your game window will look like this. This view will not change dramatically during your EVE Online career:



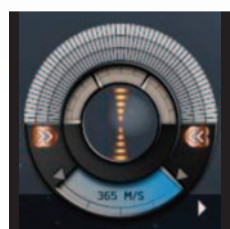
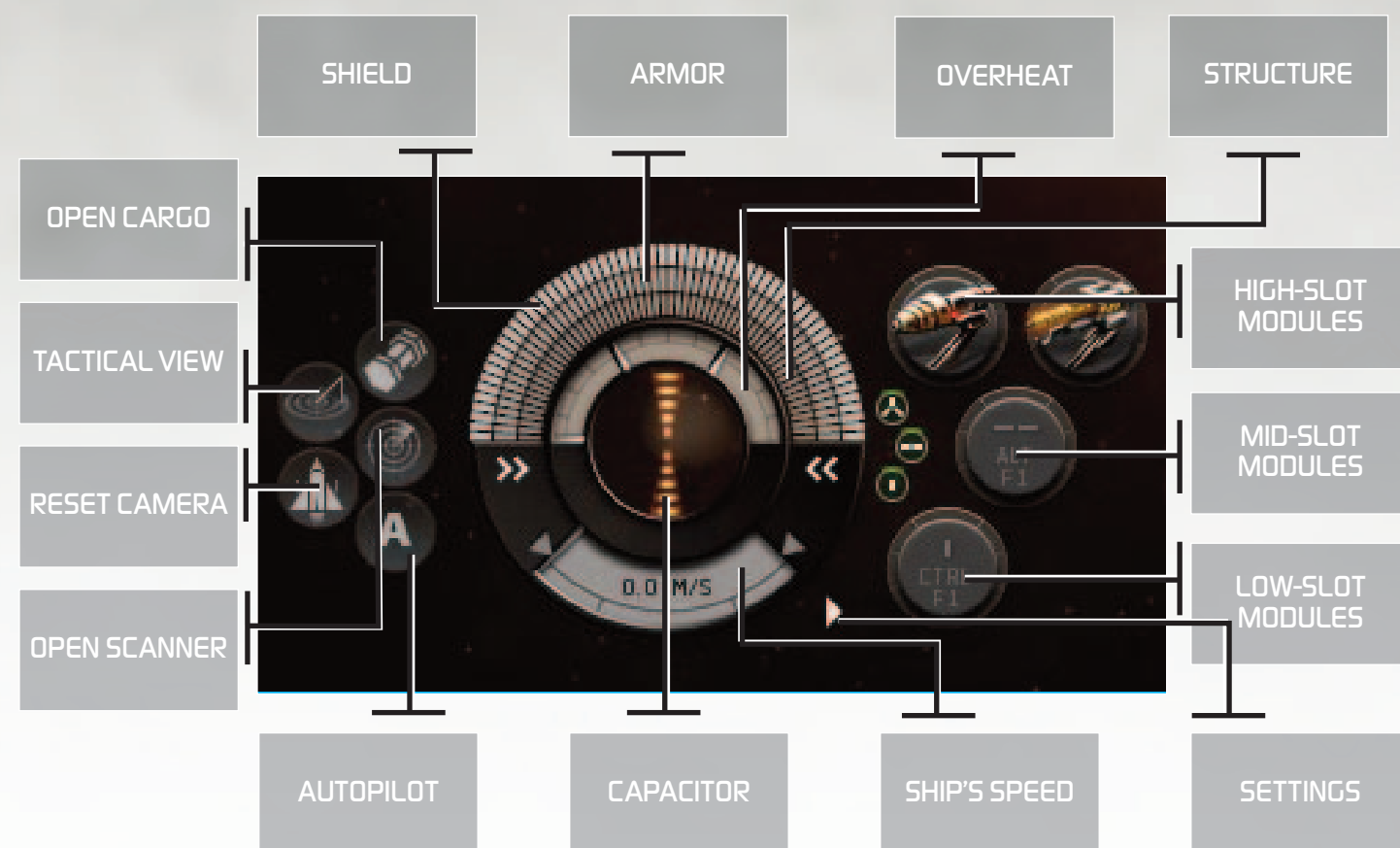
- On the right side of the picture you can see the Overview
- On the lower left side is the in-game chat window
- On the lower middle part of the picture is the HUD (Heads-Up Display) of your ship
- On the left side different information windows are waiting to be discovered
- Beside that you can see your current location

The UI of EVE is rich in options, as you can already see, even compared to that of other MMOs. Concentrating on mastering the basics of the interface will help you to become a great pilot. You are free to move the UI elements and, with the exception of your HUD (Capacitor Circle and Modules Area), you can also resize them to save some valuable screen space. Saving screen space only makes sense if you can use the extra space. Moving or resizing windows is just like your computer's operating system, but the HUD does not have the usual window frame.

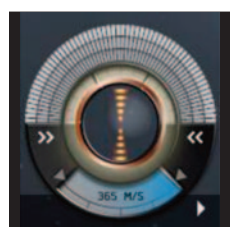
«THE GUI»

THE HUD

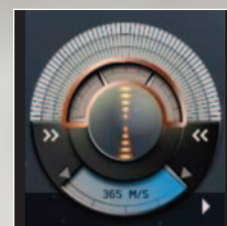
Perhaps the most important part of the UI is your HUD (Capacitor Circle and Modules Area) where you can see the status of your ship and modules, set your speed, as well as overheat and activate your modules.



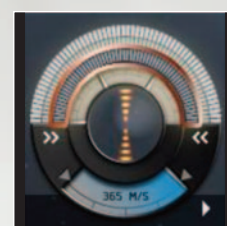
1 The >> and << signs on either side of the capacitor circle can be used to toggle showing the icons that are to the left and right of the circle. Hiding the more generic icons on the left can save some more screen space and you won't miss these buttons if you bind their functions to hotkeys. On the right-hand side you can show or hide the module icons. You can bind hotkeys to these icons as well, but doing so prevents you from the visual feedback about the state of the various modules. Hidden modules can be made visible here as well.



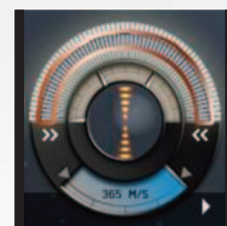
2 In the centre, you can see the level of your capacitor. While this image shows only two lines in your starting ships, there are more lines available in other ships, even filling the entire circle in the more powerful vessels. The capacitor is the main energy source of the ship. It powers the different modules. How this energy source is managed is essential for the survival of most ships. The other feature of the capacitor meter is that you can drag and move it by holding down the CTRL key then holding down the left mouse button on it.



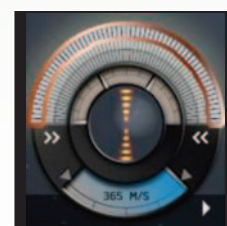
3 Moving outwards is the thermometer, divided by three parts. The thermometer warns you about the overheat level of the exaggerated modules. Since the modules can be used on three types of energy levels, and the levels can be overheated separately, three thermometers are needed. However, overheating modules requires certain skills you will not have access to at the beginning.



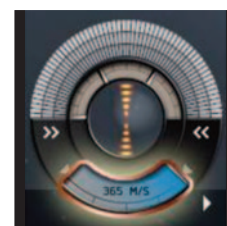
4 The next meter tells you about the integrity of the ship's hull with the damage level shown in red. If the hull is destroyed, you will end up in an escape pod amongst the wreckage of your ship. NPC enemies (Non-Player Characters – opponents controlled by the game) don't shoot at your pod, but players can attack it and will do so. If the hull of your pod is destroyed, you will die and find yourself in your clone in your designated home station. Also when your ship is destroyed, some of your cargo and modules will be destroyed as well. The rest, however, remains in the wreck, and can be looted from there. In addition, useful salvage parts can also be retrieved from the wreck.



5 The next meter shows the status of your ship's armour. When the armour is lost, then the hull begins to take damage. While hull damage is always a serious problem, the armour serves as the first line of defence for many ships and can be repaired by various systems while in flight. On the other hand, if your ship's primary line of defence is the shield and you start to get armour damage, then it is high time to warp-out.



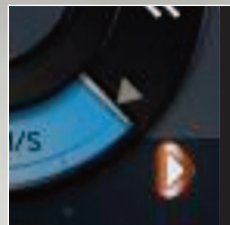
6 The next meter, and first line of defence of the ship, is its shield. It does not consist of material, but instead is a force field of energy. The ship's reactor automatically regenerates it. Many modules can be fit to allow faster regeneration. The first attacks always damage the shield. If the shield is lost, the next damage will be to the armour. The shield recharge rate depends on the state of the shield. If the level drops under 30%, the recharge will slow down as well. The three divisions of the thermometer can help you to estimate where this 30% is.



7 The meter on the lower part of the HUD shows the speed of your ship. You can adjust the speed by clicking anywhere on the meter, the left side being slower and the right side being faster. The meter always compares your speed to your current modified maximum speed, which is important if enemies slow you down. To provide an absolute measurement (which is important) you also have a numerical output. (Note: To see the speed mid-warp, move the cursor over the meter.) Speed and distance serve as another important aspect of defence. It is not necessary to find the right part of the speedometer to stop, or to speed up the ship to the maximum – there are two small triangular buttons that can be used to do this instead. While the left triangle stops the ship, the one on the right is responsible for increasing the speed to maximum.

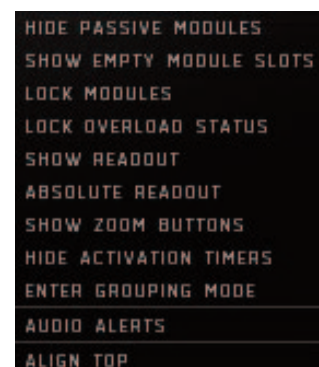
☞ THE UI OF EVE IS RICH IN OPTIONS. CONCENTRATING ON MASTERING THE BASICS OF THE INTERFACE WILL HELP YOU BECOME A GREAT PILOT

«THE GUI»



8 To the right of these meters is a small triangle icon. Clicking this opens up the Settings menu. This menu provides options to further configure your HUD as explained below:

- **Hide Passive Modules:** hides fitted module icons that do not require activation. If the modules are hidden, you will see an option there to show the passive modules.
- **Show Empty Module Slots:** shows or hides empty module slots of the ship.
- **Lock Modules:** you are free to move module icons by default. You can use this option to lock them in place. If you have enabled this, it will be replaced by an option to unlock your modules.
- **Lock Overload Status:** it locks the overload (overheat) status of your modules, to prevent accidental overheating.
- **Show Readout:** shows the numerical readout of your structure, armour and shield levels.
- **Absolute Readout:** displays the full and actual levels of the above readouts.
- **Show Zoom Buttons:** puts a zoom in and zoom out button to the bottom left side. They enable the camera movement compared to your ship or the actual target. When the zoom buttons are enabled, they will display on the left side of the HUD. They move the camera closer or further in relation to its target object. It will not go through the target object, but will simply zoom to it and not move. Since zooming is available via the mouse wheel by default, the zoom icons start out as hidden.
- **Hide Activation Timer:** enables or disables the cycle period effect of the modules (the circling track of light around a module showing when it is ready to use again).
- **Enter Grouping Mode:** enables you to create weapon groups of the same type, and makes it possible to load or unload ammo or to fire all grouped weapons at the same time.
- **Audio Alerts:** set shield, armour and hull levels (in terms of percentage) where you want the system to audio alert you about their status.
- **Align Top:** moves the HUD to the top of the screen.



➡ THE CAPACITOR IS THE MAIN ENERGY SOURCE OF THE SHIP. HOW WELL THIS IS MANAGED IS ESSENTIAL FOR SURVIVAL IN EVE



9 Activating the autopilot makes travel simple through the endless expanse of systems. However, this comfort has a price, as the autopilot does not warp directly to the gates, but instead warps to 15km from the gate with the ship then slowly approaching from there. This makes travel slower than directly warping to gates by manual control. In some parts of space (usually low-sec or nullsec), enemies can ambush you while the autopilot approaches the gate, so it is not safe to go 'Away From Keyboard' (AFK) completely while your autopilot takes you to your target system.



10 The little spaceship icon to the left of the capacitor wheel restores the default camera setting. It centres the view on your ship, at the default viewing distance. Because clicking in space can set a new course for the ship to fly, you can return to the familiar perspective after altering the camera by using this button.



11 Use the Scanner to explore the system you are in. For example, you can find hidden resources or players that are hiding by utilizing your scanner. More about this subject can be read in the Exploration chapter. Meanwhile, the basics of scanning can be acquired from an Exploration Career Agent.



12 The Tactical Overlay button toggles the tactical view on and off. It enables you to see the distance between objects and your ship, your targeting range, and the effective range of the modules fit to your ship, such as weapons or salvagers. During combat, this information can be very helpful in choosing the right target or deciding where to fly.



13 The cargo icon opens the cargo hold of your ship. You can organize your items either by simply dragging and dropping them or by right-clicking on an item in your cargo and choosing an option from the contextual menu. The Jettison option throws the selected items into space in a jettison (jet) can. You can drag and drop items from wrecks and other containers into your cargo or from your cargo into containers in space.

« THE GUI »



14 The three small icons just to the right of the capacitor circle serve to overload modules on the relevant slot levels. You will not have the skill required for overloading modules starting out as a rookie pilot. These three icons can be hidden along with the buttons for fitted modules by clicking on the << button.



15 The module icons of those modules fitted in the low slots of the ship appear in the bottom row by default. The module display, however, can be rearranged. This way the user interface can be customized to suit your taste. When playing in a lower screen resolution, you can get more space on the screen for anything important. Modules can be regrouped by function or by any other point of view such as modules to be used at the same time. (The picture to the left shows a customized icon layout as an example.)



16 The middle row of module icons displays medium slot modules by default. In the case where you have passive modules hidden, you can still drag another module on top of a hidden one. After doing this, if you toggle the passive modules display back on, you'll see that the passive module has switched places even though it was hidden before. As discussed earlier, use the Settings menu to toggle the display of passive modules. Although passive modules do not require activation, you can put them offline or online. This may be necessary when CPU or Powergrid limitations don't allow every module to be online.



17 The upper row displays high slot modules by default. They too can be rearranged. Weapons are special amongst the high slot modules, as they can be grouped in addition to being rearranged. Although weapon groups are represented by a single button, they stand for one or more modules. Only like weapon modules can be grouped. Any difference in the modules, and the modules cannot be grouped. You can, however, create multiple groups (like three Medium Railguns in one group and three Rocket Launchers in another).



18 An active module is marked by green light. On deactivation, the last cycle will be shown by a red light. The white line around the module is the activation timer. This timer can be visually toggled to not display via the Hide Activation Timer option.



19 Offline modules are indicated by its faded appearance. You can switch a module on- or offline by right-clicking on it and choosing the appropriate mode in the pop-up menu. Changing the type of ammo, toggling the auto reload on or off, and the command to manually reload weapons are all available in this menu as well.

➡ YOU WILL NOT HAVE THE SKILL REQUIRED FOR OVERLOADING MODULES WHEN STARTING OUT AS A ROOKIE PILOT

THE OVERVIEW »

➡ Perhaps the most important element of the user interface is the Overview. By default, this is a window on the right side of the screen that lists and organizes the items in space. You can set what you see, how you see it and in what order you should see it. There are two other windows that supplement the Overview. The Selected Item window shows the icons of the orders you can give in relation to the item you click on. When a ship with a drone bay has drones in the bay, then a third drone window allows for managing them.

You can customize the overview to list all or just particular objects. The window can also be resized, but be careful how much screen space is used. Too short of a list view could be dangerous if enemies appear at the bottom of the list and not directly in view. Too much and you could experience lag, especially when in a large fleet fight. Lag is a computer phenomenon where what is being displayed does not keep up with real time. In other words, you do not see what is really happening as it is happening. It is essential to find a balance in displaying useful and necessary information.

OVERVIEW RANGE

The overview will display objects based on two areas in space: the current system you are in and 'the grid'. The grid, or immediate area in space, is usually a range of 300-700km. Smaller objects such as NPCs, other players' ships, wrecks, containers, and asteroids will only display if they are on the same grid as you. Larger celestial objects in the system such as gates, stations, and planets can be set to display all the time.

THE OVERVIEW SETTINGS MENU

Click on the little white triangle in the upper left corner of the Overview to get the contextual menu for Overview options.

The first section contains the overview configurations that were setup and saved before, while the only element in the second section, 'Load Default', contains the default overview setups of 'Standard' and 'Mining'.

You can create several tabs in the overview window, each with its own display rules. Once the tabs are setup and the saved overview displays are loaded into the tabs, you can quickly switch to the most suitable view according to the current situation. For example, you may have one tab for combat showing ships and drones but no asteroids, and another for mining showing all the asteroids.

In the third section, you can delete the saved settings and toggle the brackets display on and off. Brackets are the different space items (ships, planets etc.) represented by small icons. Turning off brackets can significantly reduce lag.

In the fourth section, you can save current settings and can choose to configure the Overview. The Overview settings will be discussed in the next section.

Last, but not least, are several options to save the current settings, open the overview settings to customize them, export the current settings to save them to file, and import overview settings to load them from a previously saved file. Export and Import are handy

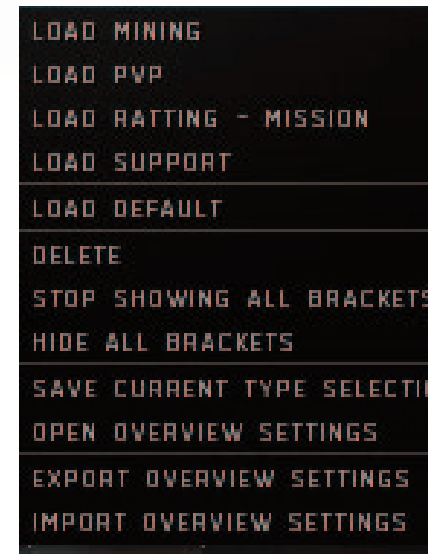
OVERVIEW (NOT SAVED)				
DEFAULT				
IC	DISTANCE	NAME	TYPE	VELOCITY
✖	5,893 m	Serpentis Flotilla Admi	Serpentis Flotilla Admiral	13 m/s
✖	7,060 m	Serpentis Chief Safeg	Serpentis Chief Safeguard	923 m/s
✖	13 km	Serpentis Flotilla Admi	Serpentis Flotilla Admiral	139 m/s
✖	16 km	Serpentis Flotilla Admi	Serpentis Flotilla Admiral	133 m/s
	25 km	Asteroid (Sharp Croki	Sharp Crokite	
	25 km	Asteroid (Crokite)	Crokite	
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when you need to reinstall your game, and you want to keep your overview settings backed-up for safekeeping.

THINGS THAT MATTER MOST

With the infinite possibilities of Overview settings, even a small mistake can cause disastrous results, either because you do not have enough information, or you have too much of it. Too much information can cause lag, cover too much area on the screen, or force you to scroll to see the more important items in space.

What is the solution? Set what is essential to see during a given situation at the moment it's happening (such as PvP, mining, or mission running), and then save those settings. Next, load that view onto a unique tab so you can easily switch from one view to the other.



« THE OVERVIEW »

FILTERS – TYPES

Here you can set the types of objects to be appear on the Overview, be it an asteroid, drone, ship or an NPC. In most cases, you can safely uncheck the Empires and CONCORD ships (but we recommend to not uncheck the mission specific enemies).

In case you do not want to mine, the asteroids can be taken off the list as well. Anything changed will be labelled as ‘Not saved’ until you do so.

The categories of objects you can set to display or not display are as follows:

- **Asteroids:** It lists every mineable asteroid. Primarily of use to miners.
- **Celestial:** Those larger, more significant objects in the system acting as independent entities, like stars, planets, moons, gates, beacons and asteroid belts.
- **Charge:** All kind of bombs, used to be able to see them and perhaps get a chance to dodge them before the explosion.
- **Deployable:** The only current item is the Mobile Warp Disruptor, more commonly referred to as a warp scramble bubble, or just bubble.
- **Drones:** Every pilot’s controlled or abandoned drone falls into this category. It is useful to see them to avoid hitting them with a smartbomb or, on the contrary, if you want to target the enemy’s drones.
- **Entity:** Everything else in space, like billboards, sentry guns, and mission NPCs. In short, it is useful to leave this category on during missions. Seeing the sentry guns is also useful for survival if you are a pirate.
- **NPC:** Every NPC ship (except for mission ships), friendly or hostile. Faction and CONCORD forces, NPC pirates (aka ‘rats’), rogue drones, and so on all fall into this category.
- **Planetary Interaction:** You can find the Customs Office here; we will cover this in the Planetary chapter.
- **Ship:** Player-controlled starships of any size. If the need arises, you can uncheck the appearance of different kind of ships. This is handy if you are assigned the role of ‘kill all the frigates’ in a fleet. Make a tab where only frigate-sized ships are shown.
- **Station:** As it says, this pertains to stations in a system.
- **Structure:** This pertains to player-owned structures, mainly starbases (also known as POSes).



FILTERS – STATES

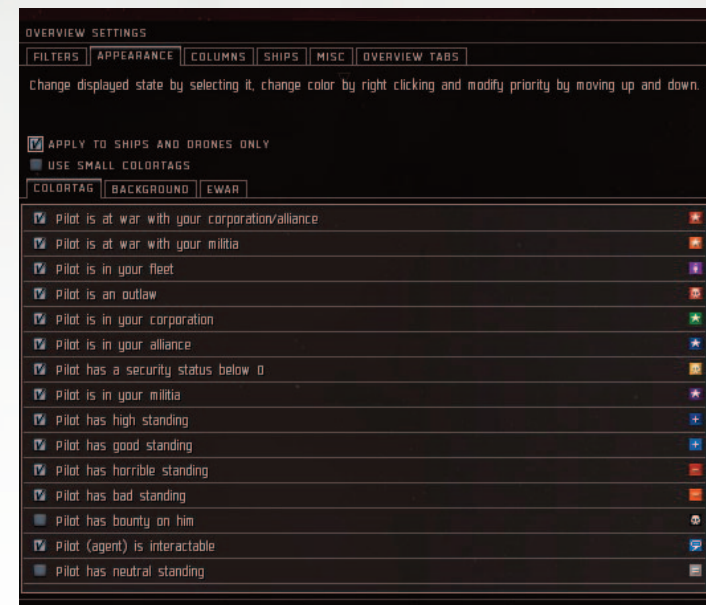
This menu allows you to toggle the visible states of items listed in the Overview. These states works as an additional filter specific to ships and wrecks on the grid. For example, you may not want to have fellow fleet members cluttering up the list. In addition, it is useful when looting wrecks and you do not want the already viewed ones on the list. You can filter players by their security status as well.



APPEARANCE – COLORTAG

The Appearance menu is where you set how various items should visually appear on your Overview. On the Colortag tab you can decide whether the given sign should appear on the given bracket on the Overview, and if so, how. These settings can be modified by right-clicking on them. The priority can be arranged by moving the chosen element up or down on the list. These settings affect both the Overview display and the chat window display.

For example, it does not matter whether a given player is an alliance member, because in this case his or her security status is not important. However, it is essential to see whether the given player is ‘blue’ (allied or friendly) to you or your corp regardless of his or her security status. You make this visual sign as a small symbol or as a larger visual indicator. This is useful at different resolutions, and the small symbol is not too distracting.



⦿ IT IS ESSENTIAL TO SEE WHETHER THE GIVEN PLAYER IS ‘BLUE’ (ALLIED OR FRIENDLY) TO YOU OR YOUR CORP REGARDLESS OF HIS OR HER SECURITY STATUS

THERE’S THE OVERVIEW



THEN THERE’S THE COMPLETE VIEW

THE OFFICIAL MAGAZINE
FOR EVE ONLINE PLAYERS

«THE OVERVIEW»

APPEARANCE – BACKGROUND

Like in the Colortag sub-menu, the appearance of a given ship can be modified, but in this case, the background is changed. The colours and the priority can be altered here. You can also set the background to flash on and off. This only modifies the Overview display and does not affect the chat window. A useful trick is to set ‘war targets’ to flash red. It makes them very obvious when they are on your Overview.

By using a combination of the Colortag and Appearance settings, all necessary information can be set to suit your needs. Do not forget that one of the basic secrets of success is to know who is around you, and whether they are friend or foe.

APPEARANCE – EWAR

On this tab, you can set whether or not to display visual indicators about the affect of a particular electronic warfare action being done to your ship. My personal advice is to leave them all on as this is very useful in both PvP and PvE situations.

COLUMNS

One of the most important parts in configuring the Overview is the Columns tab. Here you can choose to view additional information about what you have set to display. This way you can more easily gather information about your surroundings including types of object, distance, speed, etc.

- **Icon:** Displays a quick visual indicator of what type of object is displayed. Detailed abbreviations are found in Appendix II).
- **Distance:** Distance between you and the target object.
- **Name:** Name of the given object. For example, a stargate displays as ‘Stargate (Jita)’, a station displays as ‘Brutor Tribe Bureau – Moon 8 – Rens VII’.
- **Type:** Identifies the ships flown by other pilots (Rifter, Tempest, Brutix, Avatar, etc.).
- **Tag:** Displays the information set on the ‘Ships’ tag. More about this in the next section.
- **Corporation, Alliance, Faction and Militia:** Displays the target’s affiliation. Not that useful as the same information can be read by using Tags.
- **Size:** Only useful if you want to target ships of a specific size, such as frigates, cruisers, or battleships.
- **Velocity:** Displays the relative speed of an object. This is useful if you want to follow a ship and accelerate to its speed. It is also useful to see if a ship at distance is moving aggressively or slowly.
- **Radial Velocity, Transversal Velocity and Angular Velocity:** Shows the target’s movement in comparison to yours. Putting aside the complicated mathematical equations, the lower these values are, the higher



your chance is to hit your target. So, if the value of the Angular Velocity is lower than your weapon’s tracking (and assuming the target is in your weapon’s range) then you have a good chance to hit. Moving the chosen items up or down can set their order on the Overview.

SHIPS

Here you can set the data regarding the target ship:

- **Player’s name:** The name of the pilot.
- **Corp and/or Alliance tickers:** The short version of the name of the Corporation and/or Alliance.
- **Ship name:** The name of the target ship.
- **Ship Type:** The type of the target ship.
- **Other:** Displayed only if the corp ticker is enabled.

The chosen items can be moved up and down, thus determining the order from left to right on the Overview.

MISC

In the Misc tab, you can choose whether you want to see the broadcast messages on the top of your Overview window. It is useful if you use remote repairers or shield transfer arrays to help your fleet members to tank (referred to as ‘remote tanking’). You can also reset all settings to defaults.

OVERVIEW TABS

Finally, here you can assign various saved Overview settings to different Overview tabs. With this option, you can have separate tabs for mining, mission running, PvP combat, logistic duties, exploration, or any other activity. As you can see, the previous settings options can give you plenty of choices when creating tabs, letting you place some helpful, preconfigured settings just one click away. Of course, experienced PvP pilots can have different setups for offensive, electronic warfare and support duties.

LEGEND

The table on the right shows the Overview icons. As the game expands, new icons may be introduced, however, this explains the basics in order to get you started. This is a good reference for everyday use and for understanding most of the icons. If you have set up your Overview, export it, and backup the settings file to a safe location. This way, if you have to reinstall EVE, your OS, or plan to play EVE on a different computer, you will not have to configure everything again. Simply import these saved settings.





[OTHER DISPLAYS]

THE SIDEBAR

The << symbol at the top can be clicked to hide or display your character portrait and the labels of the icons.

- **Character Sheet:** Here you will find all the information regarding your character, including skill information and the skill training queue.
- **People and Places:** This is a directory for keeping track of friends and foes. You can also bookmark places in space, and manage those bookmarks here.
- **EVE Mail:** You can send and receive EVE mails here. Notifications about some events also appear here.
- **Fitting:** You can access the fittings of your ship here. Can be opened in space as well.
- **Market:** You can buy or sell items, and access trade statistics here.
- **Science and Industry:** This is the home of research and invention information.
- **Contracts:** Provides access to auctions and trade agreements. It is advisable to read the Trade Chapter before using it!
- **Map:** The map of the EVE universe. Will show an autopilot route if a destination has been set. Routes and travel information can be reviewed and modified here as well.
- **Corporation:** If not an NPC corp member, information about your player corporation, related roles, and access, can be found here.
- **Assets:** Your inventory is listed here, containing all of your items and ships. The Search option helps you to find your items easily.
- **Wallet:** The centre of your financial activities, with transaction listings and accounts.
- **Fleet:** You can create or find fleets to fly with here.
- **Browser:** A fully functional web browser based on Webkit, with some extra functionality for interaction between EVE Online and other designed sites.
- **Journal:** You can check your present mission status for all agents, and research for R&D agents here.
- **Accessories:** This button contains the Calculator, the Logs and the Notepad, but the Browser and the Jukebox can be moved here as well.
- Help, petitions, and access to tutorials (and Career Agents).



CURRENT LOCATION, OR 'WHERE DO I WANT TO GO TODAY?'

It is vital to have an understanding of the environment that you fly through, visit, or live in. Knowing things such as the security status of the system, who holds sovereignty there, is it a choke point and so on is vital information. Most of this information is displayed at the top left side of your screen. To toggle more or less information, right click on the Neocom to access the Settings menu, and then choose Configure, and then World Information.

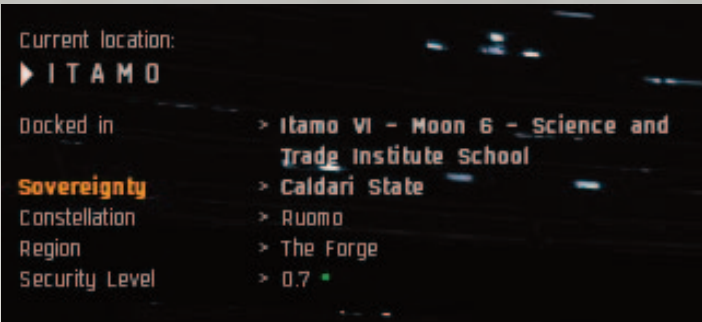
Four important things are shown in this part of the display:

- **Where are you?** (Current Location, Constellation, and Region) This comes in very handy for knowing about your immediate surroundings in the universe.
- **What is near you?** (Nearest, docked) It is useful to know what the nearest objects are. Knowing what is in the system is important: what stations are close by, who is docked, who is in local, etc.
- **Who owns this area?** (Sovereignty) This is useful to know if you want to conquer that area, or pass through it. It is also useful in Empire space, to know which empire controls this particular part of space.
- **What is the security status of the area?** (Security level) This is essential information about the system. Do you need to be wary of CONCORD or pirates, or can you expect attacks from a rival alliance?

THE SECURITY STATUS OF THE SYSTEMS

In the universe of EVE, every system has a security level which is represented by a number between 0.0 and 1.0. The higher the number means the better the security, while the lower the security level of a given system means:

- More valuable minerals are in the asteroid fields
- Bounties on NPC ships are higher
- Agents give different kinds of missions
- Mission rewards are higher



« OTHER DISPLAYS »

The following list helps you to understand what you should expect in systems of certain security status:

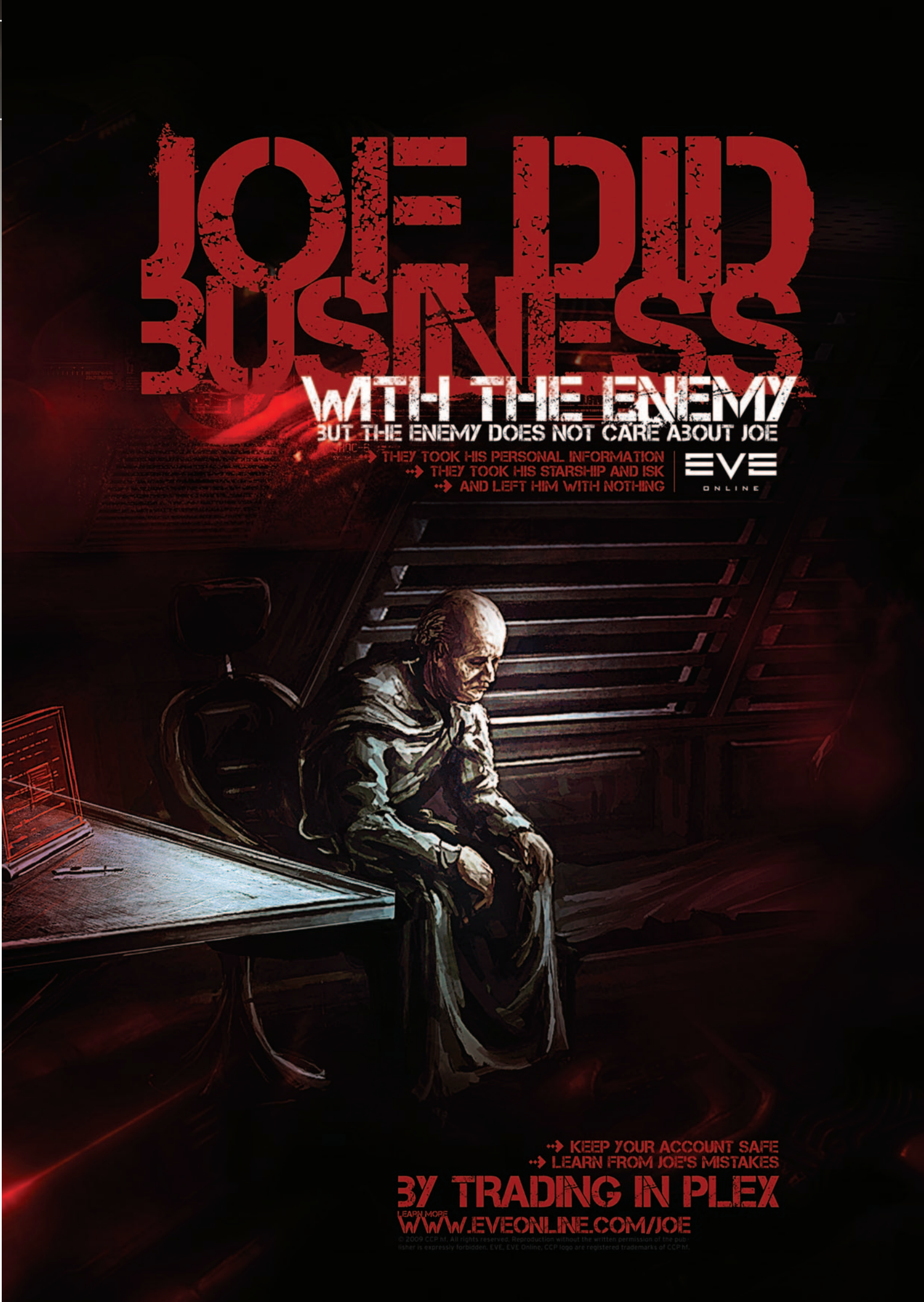
- **High-sec or Empire space (0.5 to 1.0):** These are typically territories of the four big empires that rule the EVE universe. Here CONCORD reacts to unlawful aggression. Only NPC stations and Sentry Guns are present. Sentries at the gates will also shoot aggressors on sight.
- **Low-sec or Low-sec Empire space (0.1 to 0.4):** Sovereignty here is also typically held by one of the four factions, but WITHOUT CONCORD as extra protection.
- **Nullsec (0.0):** Here the territories are either lawless, controlled by different pirate factions or by player alliances. There are not only NPC stations, but also other outposts as well, built and occupied by players. In addition, Drone Regions can also be found here, where, not surprisingly, drones rule the territory.
- **Wormhole (WH, 0.0):** The home of the Sleepers. ‘No man’s land.’ There are neither stations nor static gates to be found in unknown space.

	SECURITY STATUS OF THE SYSTEM	CONCORD ACTIVITY	SENTRY GUNS AT THE GATES	VALUE OF THE BEST DRES AND NPCs IN THE ASTEROID BELTS
High-sec	0.5-1.0	Yes	Yes	Low
Low-sec	0.1-0.4	No	Yes	Moderate
0.0 (Nullsec)	0.0	No	No	High
Wormhole	-0.0	No	No gates	Moderate to High

OTHER OPTIONS

Right-clicking on your ship displays another menu. Here you have options such as abandoning the ship using the Eject option. If you eject your pod into space, leaving your ship without a pilot in space, then any pilot’s pod with the skills to fly that ship can board it. Self-destruct is another menu option. When right-clicking on certain structures or ships there may be more advanced commands including the ability to set access passwords, the ability to open various bays and hangars, and access to fitting services, etc. These advanced functionalities will be described later in the guide.

Right-clicking on items in containers, hangars, in space or on characters in chat windows displays a contextual menu with various options. Some of the options from the contextual menus for selected ships, items in space, and drones are also icons in your Selected Item Window. You can right click on the icons in the Selected Item Window for advanced options like setting the default range to warp to, or the default range to orbit, etc. These commands are detailed in the basic tutorial of the game. You can also control-click on objects in space or in the overview to target them.



ATTRIBUTES AND SKILLS

To see your attributes, skills, and related settings, open the Character Sheet tool from the Neocom. As you can see, your character has five attributes which determine how fast you can learn skills. (Note: while the displayed attributes on the Character Sheet are whole numbers, the game calculates with decimals.)


Learning is simple. Every skill has two attributes: the primary and the secondary. Every minute, your pilot trains a certain amount of points with the primary attribute counting for double, and the secondary attribute counting times one.

Experienced players claim that an average player who wants to focus on fighting, agent running, or mining should aim for a balanced distribution of attributes, with Perception and Intelligence slightly higher than the others and Charisma lower than the others.


An important note is that each skill has a difficulty multiplier, which indicates the length of training time that is needed to acquire that skill. A skill with a multiplier of one can be learned in a relatively short time all the way up to Level V, whereas a skill with a multiplier of 14 would need more than 40 days of training time for Level V, even if both relevant attributes are set to the max values.



INTELLIGENCE
32 points



PERCEPTION
22 points



CHARISMA
22 points



WILLPOWER
22 points



MEMORY
26 points

NEURAL REMAP AVAILABLE:
2011.06.14 07:48:35



You can see the requirements of various skill levels and difficulties on the following table. The skill point (SP) requirements for various levels includes skillpoints from the levels you have already learned. The game will only display the differences.

LEARNING TIMES WITH MAXIMUM SPEED (2700 SP/HR, TIME FORMAT – DD:HH:MM:SS)										
	SKILL LEVEL 1		SKILL LEVEL 2		SKILL LEVEL 3		SKILL LEVEL 4		SKILL LEVEL 5	
	SP NEED	LEARN TIME FROM LVL 0	SP NEED	LEARN TIME FROM LVL 0	SP NEED	LEARN TIME FROM LVL 0	SP NEED	LEARN TIME FROM LVL 0	SP NEED	LEARN TIME FROM LVL 0
RANK 1	250	00:00:05:33	1414	00:00:31:25	8000	00:02:57:47	45,255	00:16:45:40	256,000	03:22:48:53
RANK 2	500	00:00:11:07	2828	00:01:02:51	16,000	00:05:55:33	90,510	01:09:31:20	512,000	07:21:37:47
RANK 3	750	00:00:16:40	4242	00:01:34:16	24,000	00:08:53:20	135,765	02:02:17:00	768,000	11:20:26:40
RANK 4	1000	00:00:22:13	5656	00:02:05:41	32,000	00:11:51:07	181,020	02:19:02:40	1,024,000	15:19:15:33
RANK 5	1250	00:00:27:47	7070	00:02:37:07	40,000	00:14:48:53	226,275	03:11:48:20	1,280,000	19:18:04:27
RANK 6	1500	00:00:33:20	8484	00:03:08:32	48,000	00:17:46:40	271,530	04:04:34:00	1,536,000	23:16:53:20
RANK 7	1750	00:00:38:53	9898	00:03:39:57	56,000	00:20:44:27	316,785	04:21:19:40	1,792,000	27:15:42:13
RANK 8	2000	00:00:44:27	11,312	00:04:11:23	64,000	00:23:42:13	362,040	05:14:05:20	2,048,000	31:14:31:07
RANK 9	2250	00:00:50:00	12,726	00:04:42:48	72,000	01:02:40:00	407,295	06:06:51:00	2,304,000	34:13:20:00
RANK 10	2500	00:00:55:33	14,140	00:05:14:13	80,000	01:05:37:47	452,550	06:23:36:40	2,560,000	38:12:08:53
RANK 11	2750	00:01:01:07	15,554	00:05:45:39	88,000	01:08:35:33	497,805	07:16:22:20	2,816,000	42:10:57:47
RANK 12	3000	00:01:06:40	16,968	00:06:17:04	96,000	01:11:33:20	543,060	08:09:08:00	3,072,000	46:09:46:40
RANK 13	3250	00:01:12:13	18,382	00:06:48:29	104,000	01:14:31:07	588,315	09:01:53:40	3,328,000	50:08:35:33
RANK 14	3500	00:01:17:47	19,796	00:07:19:55	112,000	01:17:28:53	633,570	09:18:39:20	3,584,000	54:07:24:27
RANK 15	3750	00:01:23:20	21,210	00:07:51:20	120,000	01:20:26:40	678,825	10:11:25:00	3,840,000	58:06:13:20
RANK 16	4000	00:01:28:53	22,624	00:08:22:45	128,000	01:23:24:27	724,080	11:04:10:40	4,096,000	63:05:02:13

PLAY IT AGAIN, SAM! OR NEURAL REMAPPING

When your pilot is new, you can change the attribute allocation twice. After that, you can remap only once a year, but even then none of your basic attributes can be less than 17. Since neural remapping is only a once yearly option, consider your modifications carefully.

It is strongly advised that you make a one-year skillplan using the EVEMON stand-alone tool from Battleclinic.com as it helps you determine

the necessary modifications for optimal attributes.

You'll need an API Key to make it work and an EVE account must be older than three days to acquire one. Nevertheless, it is worth using the program, so familiarize yourself with the skills, ships, and plans for future use. The total value of an attribute is the base points plus the implant boost (if any) plus additional attribute levels based on trained learning skills.

ATTRIBUTES

NEURAL REMAPPING

Calculating appropriate neural remapping allows Capsuleers to shift their natural strengths and weaknesses around between the five key cognitive areas. This technique is frequently used to facilitate a change in the direction of a Capsuleer's skill plan.

ATTRIBUTE	BASE POINTS	IMPLANTS	REMAPTABLE	TOTAL
INTELLIGENCE	17	0	0	17
PERCEPTION	17	0	0	17
CHARISMA	17	0	0	17
WILLPOWER	17	0	0	17
MEMORY	17	0	0	17

Unassigned attribute points: 140

«ATTRIBUTES AND SKILLS»

ATTRIBUTE ENHANCING IMPLANTS

Attribute enhancing implants are very important because they boost your skill learning speed significantly by increasing a basic attribute. There is one implant for each attribute, and they can boost that attribute from one to five points. The higher the bonus, the higher your cybernetics skill must be in order to use the implant.

Starting out, acquiring a full set of +1 or +2 implants (a set means having all five of the implants) is very helpful. Keep in mind that when upgrading an implant by putting a new one in, any implant that is already in that slot will be destroyed. Implants are also destroyed when your pod is destroyed.



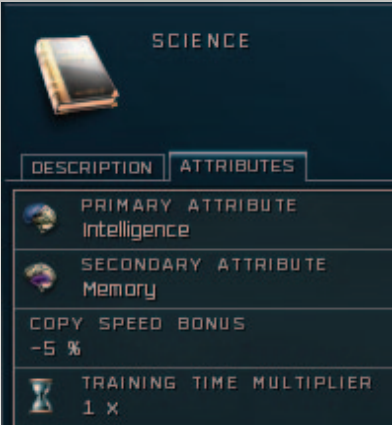
IMPLANT NAME	EFFECT		SLOT	SKILL REQUIREMENT	
Limited Ocular Filter	Perception	+1	1	Science III	Cybernetics I
Limited Ocular Filter - Beta	Perception	+2	1	Science III	Cybernetics I
Ocular Filter - Basic	Perception	+3	1	Science III	Cybernetics I
Ocular Filter - Standard	Perception	+4	1	Science III	Cybernetics IV
Ocular Filter - Improved	Perception	+5	1	Science III	Cybernetics V
Limited Memory Augmentation	Memory	+1	2	Science III	Cybernetics I
Limited Memory Augmentation - Beta	Memory	+2	2	Science III	Cybernetics I
Memory Augmentation - Basic	Memory	+3	2	Science III	Cybernetics I
Memory Augmentation - Standard	Memory	+4	2	Science III	Cybernetics IV
Memory Augmentation - Improved	Memory	+5	2	Science III	Cybernetics V
Limited Neural Boost	Willpower	+1	3	Science III	Cybernetics I
Limited Neural Boost - Beta	Willpower	+2	3	Science III	Cybernetics I
Neural Boost - Basic	Willpower	+3	3	Science III	Cybernetics I
Neural Boost - Standard	Willpower	+4	3	Science III	Cybernetics IV
Neural Boost - Improved	Willpower	+5	3	Science III	Cybernetics V
Limited Cybernetic Subprocessor	Intelligence	+1	4	Science III	Cybernetics I
Limited Cybernetic Subprocessor - Beta	Intelligence	+2	4	Science III	Cybernetics I
Cybernetic Subprocessor - Basic	Intelligence	+3	4	Science III	Cybernetics I
Cybernetic Subprocessor - Standard	Intelligence	+4	4	Science III	Cybernetics IV
Cybernetic Subprocessor - Improved	Intelligence	+5	4	Science III	Cybernetics V
Limited Social Adaptation Chip	Charisma	+1	5	Science III	Cybernetics I
Limited Social Adaptation Chip - Beta	Charisma	+2	5	Science III	Cybernetics I
Social Adaptation Chip - Basic	Charisma	+3	5	Science III	Cybernetics I
Social Adaptation Chip - Standard	Charisma	+4	5	Science III	Cybernetics IV
Social Adaptation Chip - Improved	Charisma	+5	5	Science III	Cybernetics V



«ATTRIBUTES AND SKILLS»

LEARNING SPEED

Your learning speed will increase the higher your attributes are. This speed is calculated according to the following formula:
Skillpoints / Minute = (Primary attribute + Secondary attribute /2)
To calculate the total time needed to learn a skill, multiply the total number of skillpoints you will earn from training a skill to Level V by the difficulty factor or rank. Then divide that result by the learning rate.
Overall, if you increase your attributes by utilizing implants, or through neural remapping, then the skills based on those enhanced attributes will take less time to train. For example, the Science skill is a rank 1 difficulty level, and its two main attributes are Memory and Intelligence.



➡ IF YOU INCREASE YOUR ATTRIBUTES BY UTILIZING IMPLANTS, OR THROUGH NEURAL REMAPPING, SKILLS BASED ON THOSE ATTRIBUTES TAKE LESS TIME TO TRAIN

		LEARNING TIMES WITH EVEN DISTRIBUTION (DD:HH:MM:SS)						
		REQUIRED SP	WITHOUT IMPLANTS INT: 20, MEM: 20	IMPLANT SET +1 INT: 20, MEM: 20	IMPLANT SET +2 INT: 20, MEM: 20	IMPLANT SET +3 INT: 20, MEM: 20	IMPLANT SET +4 INT: 20, MEM: 20	IMPLANT SET +5 INT: 20, MEM: 20
Skill LVL	1	250	00:00:08:20	00:00:07:56	00:00:07:35	00:00:07:15	00:00:06:57	00:00:06:40
	2	1414	00:00:47:08	00:00:44:53	00:00:42:51	00:00:40:59	00:00:39:17	00:00:37:42
	3	8000	00:04:26:40	00:04:13:58	00:04:02:25	00:03:51:53	00:03:42:13	00:03:33:20
	4	45255	01:01:08:30	00:23:56:40	00:22:51:22	00:21:51:44	00:20:57:05	00:20:06:48
	5	256000	05:22:13:20	05:15:26:59	05:09:17:35	05:03:40:17	04:22:31:07	04:17:46:40
		SP / Hour	1800	1890	1980	2070	2160	2250

		LEARNING TIMES WITH REMAP, BEST LEARNING SPEED (DD:HH:MM:SS)						
		REQUIRED SP	WITHOUT IMPLANTS INT: 27, MEM: 21	IMPLANT SET +1 INT: 28, MEM: 22	IMPLANT SET +2 INT: 29, MEM: 23	IMPLANT SET +3 INT: 30, MEM: 24	IMPLANT SET +4 INT: 31, MEM: 25	IMPLANT SET +5 INT: 32, MEM: 26
Skill LVL	1	250	00:00:06:40	00:00:06:25	00:00:06:10	00:00:05:57	00:00:05:45	00:00:05:33
	2	1414	00:00:37:42	00:00:36:15	00:00:34:55	00:00:33:40	00:00:32:30	00:00:31:25
	3	8000	00:03:33:20	00:03:25:08	00:03:17:32	00:03:10:29	00:03:03:54	00:02:57:47
	4	45255	00:20:06:48	00:19:20:23	00:18:37:24	00:17:57:30	00:17:20:21	00:16:45:40
	5	256000	04:17:46:40	04:13:24:06	04:09:20:59	04:05:35:14	04:02:05:03	03:22:48:53
		SP / Hour	2250	2340	2430	2520	2610	2700

Note: For display purposes, values (such as attributes) are rounded. Behind the scenes, the program calculates with the real values that are decimals. For example, if the ‘real’ value is 20.90, it is displayed as 21, but the training speed is calculated with 20.90.

TRAINING QUEUE

The first ‘golden rule’ of EVE Online: Always train your character! It is advisable to start training the the science skill and the cybernetics skill (necessary to use implants) as soon as possible.
The Skill Training Queue is there to help maximize your training so that there is no downtime between skills. Think of it as a waiting list where skills can be lined-up, waiting to be trained, during the next 24 hours. This way, your character can train in the given skill order automatically. It is required that the last skill on the list must start training within the next 24 hours. It does not matter if that last skill takes longer than 24 hours to complete training, but you may not queue up more skills in the list beyond that.
Skill books represent skills that can be trained. When you want to learn a brand new skill, right-click on the skill book in your inventory. You have a choice of either training that skill to level one right away or to inject the skill. If you have every prerequisite skill, then the new skill will either be added into your training queue and trained to Level I or it will be injected into your skills list at Level 0 for training at a later time. You can also add new skills by selecting to train after the current queued skills, but this only works if there is room in the 24-hour time limit!
You can manage your skill queue by clicking on the Open Training Queue button in the skills area of your character sheet. This window displays your skills list on the left and training queue on the right. Click on the skill you want to train on the left, and then click on the Add button to add the skill to the queue. If you check Skills That Fit within Queue’s Timeframe, then only skills that can be trained within the 24-hour interval will display. Do not forget to press Apply when done. The Remove button takes the selected skill out of the training queue.



➡ THE SKILL TRAINING QUEUE IS THERE TO HELP MAXIMIZE YOUR TRAINING SO THAT THERE IS NO DOWNTIME BETWEEN SKILLS

«ATTRIBUTES AND SKILLS»

WHAT SHOULD I TRAIN?

What you should train depends on many things, but mainly it depends on whether you want a specialized or a jack-of-all-trades pilot. When you first start out, being able to afford skill books, ships, and fittings can be difficult. So, planning out what you want to train based on expense is another approach to deciding what to train. Whatever you decide, it is advisable to at least learn the attribute enhancing learning skills before training in a particular skill group

	INTELLIGENCE (INT)	PERCEPTION (PER)	CHARISMA (CHA)	WILLPOWER (WIL)	MEMORY (MEM)
Corp. Management	-	-	Secondary	-	Primary
Drones	-	Secondary	-	-	Primary
Electronics	Primary	-	-	-	Secondary
Engineering	Primary	-	-	-	Secondary
Gunnery	-	Primary	-	Secondary	-
Industry	Secondary	-	-	-	Primary
Leadership	-	-	Primary	Secondary	-
Mechanic	Primary	-	-	-	Secondary
Missile Launcher	-	Primary	-	Secondary	-
Navigation	Primary	Secondary	-	-	-
Planet Management	Primary	-	Primary	-	Secondary
Science	Primary	-	-	-	Secondary
Social	Secondary	-	Primary	-	-
Spaceship Command	-	Primary	-	Secondary	-
Subsystems	All important except Charisma				
Trade				Primary	Secondary

Carrier Group	Recommended Skills
Base skills (Everyone)	Energy Management, Energy Systems Operation, Engineering, Electronics, Spaceship Command, Navigation, Warp Drive Operation
Skills for miners	Mining, Industry, Refining, Drones, Mining Drone Operation, Refinery Efficiency, Mining Barges, Exhumers
Skills for industrialists	Industry, Production Efficiency, Metallurgy, Mass Production
Amarr Ships	Small Energy Turret, Repair Systems, Controlled Burst, Gunnery, Energy Systems Operation, Hull Upgrades, Motion Prediction, Sharpshooter, Rapid Firing, Missile Launcher Operation, Long Range Targeting
Caldari Ships	Missile Launcher Operation, Small Hybrid Turret, Standard Missiles, Rockets, Gunnery, Shield Operation, Shield Management, Long Range Targeting, Sharpshooter, Motion Prediction, Rapid Firing, Controlled Burst
Gallente Ships	Small Hybrid Turret, Gunnery, Drones, Scout Drone Operation, Repair Systems, Hull Upgrades, Controlled Burst, Sharpshooter, Motion Prediction, Long Range Targeting, Rapid Firing
Minmatar Ships	Small Projectile Turret, Gunnery, Motion Prediction, Rapid Firing, Sharpshooter, Shield Operation, Shield Management, Missile Launcher Operation, Standard Missiles, Rockets, Long Range Targeting

in order to maximize your training efficiency. In the end, all common skills should be trained. The following table shows the TYPICAL Primary and Secondary attributes needed to train a given skill category. Of course, this is only in general. Later, it is worth planning a one-year training schedule in EVEMON, and remapping your attributes accordingly. It accelerates training significantly!

SKILL REQUIREMENTS

All the equipment, ships and implants have skill prerequisites. To see them, select Show Info on the object, then go to the Prerequisites tab. Some ship classes have faction specific skills required for them. For example, in order to fly a Caldari frigate, you need to learn the Caldari Frigates skill. Other ship classes, such as the Destroyer class, are generic in that there are no faction specific skills to learn to fly a Gallente destroyer versus a Caldari destroyer, assuming you have all the other faction specific skills learned to fly a particular destroyer. As you can see, most of the equipment, ships and implants require skills in order to use them. However, which skills are needed exactly? In other words, which skill do you need in order to fly that certain ship, or to use that given module? It is a good question, and the answer is not entirely definite. Just because you can fly that certain ship doesn't mean that you can actually fly it well. Why? Even if you can fly a particular ship all is in vain if you cannot fit the necessary weapons, protection and other additional equipment on it. In such a case, even the best and the most expensive equipment is useless.

- **A Green Check** means the skill is trained to the required level.
 - **A Yellow Circle** means you've started training the skill, but not to the required level.
 - **A Red X** means the skill has not been trained at all. You must meet all the prerequisites, acquire the skill and train it.
- After buying and injecting the skill, the Yellow Circle appears in front of the skill name on any prerequisites list.

BUYING SKILLS

If you open the Market tool, you can check whether a certain piece of equipment, ship or implant can be used or not. When looking at the Groups tab, if the little book just to the right of the object's picture is green then you can use that item. If the book is red then moving the mouse over it shows which required skills are missing. If a certain module can't be fitted on the currently occupied ship, then both CPU and PG icons will be red. It can also filter results by various skill options. Be careful, do not forget these filters are set or you might be surprised if something does not display.

- The Market Settings tab can filter results by:
- Price • Jumps • Quantity
- And can display results from:
- High-security space • Low-security space • Nullsec space



[CLONES AND INSURANCE]>

➡ The second ‘golden rule’ of EVE Online: Always have an upgraded clone! You can create and update clones on any station with a medical facility service. To do this, open it and click the Upgrade Clone button. Select a clone with enough skillpoints that cover your current amount of skills plus room to grow, then click OK. If your escape pod is destroyed (take it easy, it usually does not happen in high-sec space unless you are at war) and you do not have an upgraded clone, you will lose some of your skillpoints! Always make sure that your clone covers more skillpoints than you currently have or will have in the near future. Avoid those clones that you would ‘grow out of’ in a few days or weeks. Consult the ‘Keeps XX Skillpoints’ part of the Medical Service Window to see how many skillpoints a given clone covers.

Note! If the clone is not adequate, the skill with the highest amount of skillpoints loses 5% of the difference between the two clones! This can be devastating, and you may lose the ability to use a module or fly a ship, meaning you will have to relearn the skill to its entirety again.

JUMP CLONE SERVICE

Since you might need different sets of hardwiring implants for various duties (research and industry, agent missions, PvP) you might need multiple clones with different implants. In some cases, you might want to quickly jump between your home bases in different parts of space without bringing anything with you.

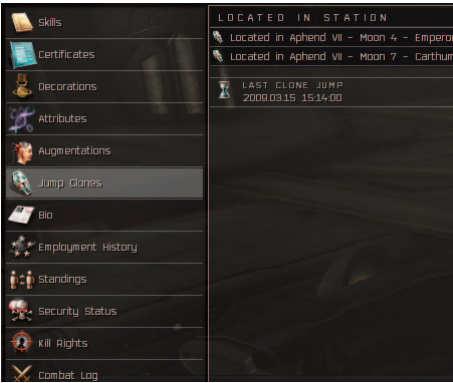
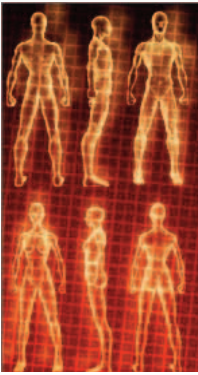
The solution for quick travel and for being able to use different sets of implants for different jobs is the Jump Clone Service. The Infomorph Psychology skill determines how many jump clones a character can have in addition to their medical clone. You can switch jump clones once every 24 hours although there are rules:

- You need a standing of 8.0 with a particular corporation to create jump clones through them. The station must have a medical bay as well. In nullsec space, if the station or outpost is owned by a player alliance, then your corporation must have proper standing to create jump clones.
- You can only switch between clones once every 24 hours.
- You can only have one jump clone waiting for you in one station, outpost, or ship. However, if you are at the same place as your clone, you can jump into your other ‘body’.
- All implants and equipment stays at the location you jumped from.
- You must be in a capsule and you must put your skill training on hold to be able to jump. An active session change timer also prevents the jump for 30 seconds.

Clone jumping requires the Jump Clone Service and does not have any effect on your medical clone. This allows you to have different clones for:

- Researching • Refining • Mining • Agent running
- PvP • Leadership duties

Go to the Jump Clones section of your Character Sheet, then choose where you want to jump. Expanding the location of a particular clone shows you the implants plugged-in. Below the list of available jump clones, it displays when you last clone jumped and, if that was within 24 hours, how long until you can jump again.



INSURING YOUR SHIP

The third ‘golden rule’ of EVE Online: Always insure your ship! There are many opportunities to lose your cherished treasures due to carelessness, or to other players, or maybe to NPCs. It is always difficult to see your hard-earned ship vanishing in an explosion. This feeling is incomparable, and it can ruin your mood entirely.

What can you do to ease the pain? Insure your ship! Use the Insurance service on stations whenever it is possible. Always choose the most expensive option, because that is the profitable choice. Do not forget that insurance only covers the ship. The equipment, rigs and cargo are not included.

It is very important to note that the insurance of faction and Tech II ships is NOT in proportion to the market prices of these ships, so if it is possible, try not to lose them. Also, the insurance will need to be repurchased on a ship if it expires (insurance lasts for 12 weeks), if the ship is repackaged, or is given to another character.







If the ship is insured to your corporation, insurance will not be terminated when contracted or traded to a corp mate. If you insure the ship and it is destroyed personally (and that includes via ‘self-destruction’), then the money is paid to you. If the ship is insured to the corporation (a corp hangar is required for this), the insurance money is due only if a corp member loses that ship.

It is not worth making money from insurance. Usually the total cost of the ship and the insurance is higher than the market price, so don’t count on making any profit. On the list of insurance options available, the ‘cost’ is what you pay for the coverage, while the ‘payout value’ is what you will receive should you lose your ship.

ITEM LEVELS

Now we come to evaluating equipment so you can pick what will be best for your needs. A weapon may do more damage, may have better tracking speed, or may need less energy. Others may hold more ammunition than another can. Checking for this kind of information, especially in the case of ten different types of cannon, can be very complicated. It is easy to recognize Tech II equipment visually with its small yellow triangle and the roman numeral II in the upper left corner, but what about the dozens of pieces of ‘named’ equipment? It can be difficult, especially for a beginner.

Fortunately the developers thought about it, and introduced a classification system for modules. The Meta Group and Meta Level of a module help you determine which module is the better in a given group when comparing things from that same group. Right click on the module and choose Show Info or click on the small blue letter ‘i’ beside its name. Then choose the Attributes tab to view this information.

INSURANCE QUOTES	
SELECT LEVEL OF INSURANCE (12 WEEKS)	
 BASIC	COST 1,458,214.80 ISK - PAYOUT VALUE 14,582,148.00 ISK
 STANDARD	COST 2,818,429.60 ISK - PAYOUT VALUE 17,510,577.60 ISK
 BRONZE	COST 4,377,644.40 ISK - PAYOUT VALUE 20,429,007.20 ISK
 SILVER	COST 5,836,859.20 ISK - PAYOUT VALUE 23,347,436.80 ISK
 GOLD	COST 7,296,074.00 ISK - PAYOUT VALUE 26,265,866.40 ISK
 PLATINUM	COST 8,755,288.80 ISK - PAYOUT VALUE 29,184,296.0 ISK

	Large Shield Booster I	Tech I
	Large Converse I Deflection Catalyzer	Tech I
	Large Neutron Saturation Injector I	Tech I
	Large Clarity Ward Booster I	Tech I
	Large C5-L Emergency Shield Overload I	Tech I
	Large Shield Booster II	Tech II
	Large 'Outlaw' Shield Booster	Storyline
	Domination Large Shield Booster	Faction
	Republic Fleet Large Shield Booster	Faction
	Caldari Navy Large Shield Booster	Faction
	Dread Guristas Large Shield Booster	Faction
	Gist C-Type Large Shield Booster	Deadspace
	Kaikka's Modified Large Shield Booster	Officer
	Pith C-Type Large Shield Booster	Deadspace
	Gist B-Type Large Shield Booster	Deadspace

CLONES AND INSURANCE

META GROUP AND META LEVEL

Meta Groups are actually a kind of arrangement of the equipment. This lets you know how the module can be acquired. Tech I, Tech II modules, and Tech III ships can be manufactured. Manufactured items can be bought either on the market or via contracts. Anything not manufactured can either be found in-game through various forms of looting, or bought via contract from another pilot who has found the item in-game.

These are the Meta Groups:

- **Civilian:** The lowest end of the spectrum. Minimal to no skills are needed, but they are also mostly ineffective. Beyond your initial days in EVE, their use is strongly NOT ADVISED. Can be bought on the Market.
- **Tech I:** Probably the most used type of equipment. Everything falls into this category from the basic models to the named variations, from Meta Level 0-4. The basic model is Meta 0, while Meta 4 is the best, named variation. Can be bought on the Market.
- **Storyline:** Storyline Missions offer these modules, or offer their blueprints to manufacture them. Usually better than Meta 4 equipment. On rare occasion some are better than Tech II. Since they are so rare, this often makes them very expensive. Marked as Meta 6.
- **Tech II:** The most improved type of equipment in a group. Can be manufactured by players (as in it is relatively easy to acquire these modules). However, in exchange for higher efficiency, more skills are required than with lesser modules. Can be bought on Market. Marked as Meta 5.
- **Faction:** Equipment modified by certain factions that can be bought by redeeming Loyalty Points from running missions at a Loyalty Point store. Other ‘currency’ that the Loyalty Point store may require are dog tags from NPCs and ISK. Their efficiency is better than Tech II, and the skill requirement is less. However, this makes their price much higher. The Meta Levels of Faction items are 8 and 9.
- **Deadspace:** Complexes found throughout the game range in difficulty level from 1 (easiest) to 10 (difficult). The NPCs that ‘live’ in these complexes may drop Deadspace items from time to time. The value of this equipment varies from a couple of millions up to billions. Their Meta Level is between 10 and 14.

TYPE	NAME	META GROUP	META LEVEL
Tech I	Large Shield Booster I	Tech I	0
Tech I	Large Converse I Deflection Catalyzer	Tech I	1
Tech I	Large Neutron Saturation Injector I	Tech I	2
Tech I	Large Clarity Ward Booster I	Tech I	3
Tech I	Large C5-L Emergency Shield Overload I	Tech I	4
Tech II	Large Shield Booster II	Tech II	5
Storyline	Large 'Outlaw' Shield Booster	Storyline	6
Faction	Domination Large Shield Booster	Faction	8
Faction	Republic Fleet Large Shield Booster	Faction	8
Faction	Caldari Navy Large Shield Booster	Faction	9
Faction	Dread Guristas Large Shield Booster	Faction	9
Deadspace	Gist C-Type Large Shield Booster	Deadspace	11
Officer	Kaikka's Modified Large Shield Booster	Officer	11
Deadspace	Pith C-Type Large Shield Booster	Deadspace	11
Deadspace	Gist B-Type Large Shield Booster	Deadspace	12
Officer	Hakim's Modified Large Shield Booster	Officer	12
Deadspace	Pith B-Type Large Shield Booster	Deadspace	12
Officer	Thon's Modified Large Shield Booster	Officer	12

- **Officer:** This is the best type of equipment. The Meta Level of these items ranges from 10-14, and in many cases is the same as or is similar to a Deadspace item. Sometimes the Deadspace NPC is missing a certain piece of equipment that only the officer may have on his ship. Officer level modules can be worth billions of ISK. For example, the Chelm’s Modified Cap Recharger can be about 6-8 billion ISK. Officers are very rare, and they are not guaranteed to always drop modules. Some pilots may never run across an officer.

To summarize, the higher Meta Level an item has, the better it is, and, except Tech II, more expensive as well. The above refers to every module that has more than one type except Civilian.

CORPORATIONS

While other games have clans, guilds, or teams, EVE Online has corporations. Unlike other games, all characters must belong to a corporation. While you may be a one-man corp, my advice is to find an established outfit with many players that match your playing style. This makes survival a lot easier as the ‘older’ corp members help you either financially or even just with advice.

JOINING A CORPORATION

Why should you join a corporation? Why are one-man corps not the best solution? It is mostly because of the amount of teamwork required to accomplish many things in EVE. Also, there is the basic fun of social interaction: corp chat, common hangars, POSes (Player-Owned Structures) usage and shared experience.

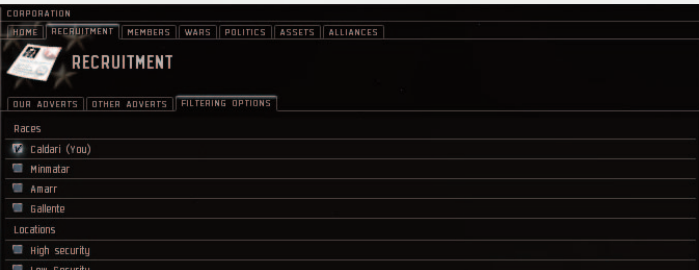
To join a corporation you can look for the Office or HQ of a particular group. To do this, click on a pilot, then select the name of the corporation. You can also open People & Places from the Neocom and search for the corporation name. Do not forget to filter the drop down menu by choosing ‘Corporation’. Consult the Offices Menu on the Corp Info Window, and then pay a visit to one of the offices or the HQ.

After docking at the Station, switch to the Offices Tab on the right, find the corporation in the list and click on the Apply to Join button. On the application, introduce yourself briefly – who you are and why you want to join. You can also join by clicking Apply to Join on the Attributes tab on the corporation information window. The application rules of the companies and whether they are recruiting can be found on the EVE forums (tinyurl.com/2w6akkv).

Don’t forget that every NPC corp (except Militia) has an 11% tax rate! It may be cheaper to live in a player-owned corporation.

EVERYBODY NEEDS SOMEBODY

If you are looking to find a corp for the first time, or you are tired of the constant fleet battles and nullsec operation and desire a move to Empire for some veldspar mining, then here you go! You can now find a corp to your liking. The ‘Other Adverts’ tab is your new friend. Here you can start setting up your search by selecting the region, whether you care about alliances or not, how many members the corp should have and if you want to limit the search by skillpoints.



Now you will get all appropriate adverts pertaining to that region. If you feel there are too many, you can start filtering by using the filters page. Here you can further define what you are looking for so that only advertisements that fit your criteria are shown.

When you look at the list, you can see various pieces of basic information. You see timestamps for when the advertisement was created, when it will expire, the name of the corp, what alliance it is in (if any) and the location of the office. If you see something that catches your eye, you can double-click on the advert which will bring up more comprehensive information, showing everything the corp is looking for and its personalized, 1000-character ‘sales pitch’.



«CORPORATIONS»

CREATING A CORPORATION

You can create a new corporation by clicking on the Corporation Neocom tool, then selecting Create New Corporation and filling in the data sheet. You'll need to do the following:

- Design the logo
- Give your corp a name
- Give your corp a ticker
- Choose the tax rate
- Select the corp's home page, if there is one available
- Give it a short description
- Click the Submit button

The skill requirement needed to start a corporation is not much. You only need to have Corporation Management trained, which allows you to have an additional ten members in your corp per level trained, and Ethnic Relations, which allows you to have other races join the corporation beyond the CEO's own. Create your corp's base by clicking on Move HQ Here at any station to make that your chief office of operations.

In addition, offices can be rented on stations as well, with the help of the Rent Office button, which is useful for recruiting. New members can apply at the HQ office if they like.

Pay attention to the hangar rent because the more popular a place is, the more expensive it is. Examples would be trade hubs such as Jita or Amarr, or other popular agent hubs. If you find the fee too high, then look for another station in the system or look around within one to two jumps. It is worth looking around to only pay 10,000 ISK per month instead of 40,000,000! Usually 1.5m ISK is required to start a corporation.

LEAVING A CORPORATION

If you decide to leave a corporation, all you have to do is to give up your roles and titles, assuming you have any, and then wait for 24 hours before exiting. If you have no titles or roles, you can exit immediately. To relinquish titles and roles, right click on the portrait of your character in any chat channel to open the contextual menu, and choose the Quit Corporation – Remove All Roles option. If you don't have any roles or titles, you can quit without waiting by choosing the Quit Corporation – Confirm Quit option.

You can also quit the corporation by joining another one directly, after the day of grace after relinquishing your roles. When you quit your corp without joining another, you will automatically become a member of an NPC corporation matching the faction of your race.

ROLES AND TITLES

The cornerstones of a corporation are its officers: those who hold roles and titles that entrust the future of the corporation in their duties. Trust can be granted on many levels. It is best to be cautious

when granting roles as there are several examples in EVE history where misplaced trust led to betrayal causing serious damage to the corporation members. When a new member joins, set their roles and titles accordingly with the most basic of access.

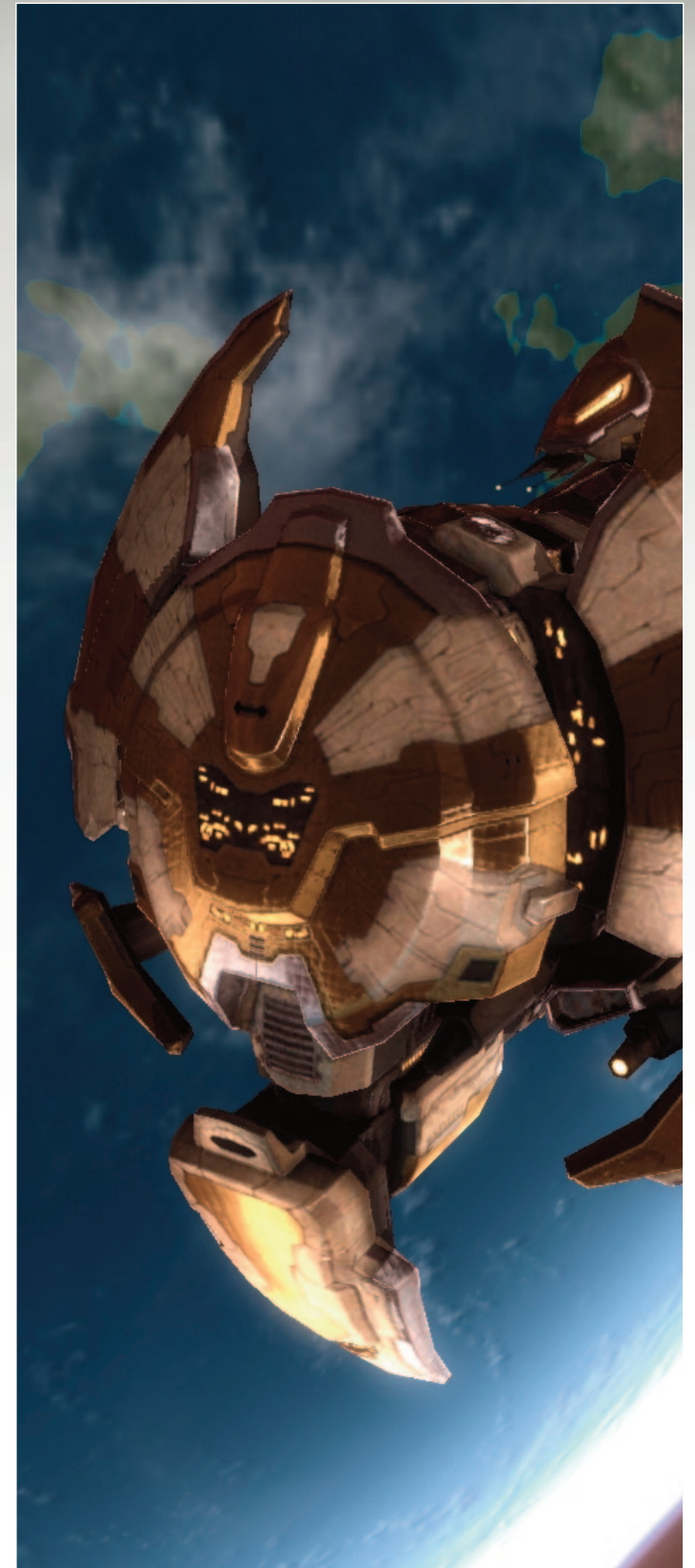
Operating a corp is simple: setup the roles of the given titles so that when a new member joins, granting him a title also grants him the pre-assigned rights as well. It might seem simpler to just assign the roles right away, but after the tenth member setup, you'll learn to streamline this process. Of course, the roles can always be assigned individually as well. It's up to you.

The roles given to the members are essential for the corp's operation, and setting them accordingly leads to efficient day-to-day business. There are three kinds of roles: Normal, Divisional and Grantable. Normal roles can be given to any member, while Grantable roles can be forwarded to someone else, i.e. the given corp member can assign his role to another member. Divisional roles give you access to the corporate wallet (which includes buying stuff) as well as seeing the balance of the division when it is selected.

The following roles can be assigned:

- **Accountant:** The Accountant overlooks the corporation's financial affairs, sees to the bills, and is able to pay them provided the corp has the necessary amount in the corp wallet. The accountant also oversees corporation ownership through the assignment of shares: who owns them and what amount. He is free to dispose of the corp's property, selling it directly from or buying directly into a corp hangar. Purchases made for the corporation (from the corp's account) appear in the Delivery area at the place of purchase, and can only be moved out of here by the Accountants. Items cannot be moved into the Delivery area manually as this is only for picking up purchases.
- **Accountant (Divisional):** This gives access to the corp wallet to manage the money in it, lets you pay the bills and view the balance, journal, transaction logs and shares.

- **Auditor:** An auditor can oversee the history of the members as they join or quit the corporation.
- **Config Equipment:** Members with this role can anchor, unanchor, rename and configure containers for the corporation.
- **Config Starbase Equipment:** Members with this role can anchor, unanchor, rename and configure control towers and POS modules for the corporation and put them online or offline as needed.
- **Director:** Directors have the same roles as the CEO. They can hire and fire members and they can grant any role (except Director). It can be very useful, especially if the corporation is multinational and members located in different time zones must be coordinated. These roles are essential for the corp to run smoothly, since the CEO may not always be available. Note that the Director has access to every Grantable and Normal role! This means the Director has full powers to do everything.
- **Factory Manager:** Members with this role can create manufacturing and science jobs (PE research, ME research, invention, etc.) at places rented by the corporation. Such jobs use materials from corp hangars. They also have the ability to deliver completed jobs and can oversee the current jobs in process.
- **Junior Accountant:** The 'light' version of the Accountant. He can oversee the same things but cannot modify shares, and does not have access to the Delivery area. The Divisional version can also view (but not pay) bills, and can view the wallet's balance and shares.
- **Personnel Manager:** He is your friendly HR staff member, and can hire or fire other corporation members.
- **Rent Factory:** Members with this role can rent and unrent production facilities for the corporation.
- **Rent Office:** Can rent and unrent offices for the corporation.
- **Rent Research Facility:** Members with this role can rent and unrent research (science) facilities for the corporation.
- **Security Officer:** He is responsible for setting up access to the corporation's hangars, and also has access to the Delivery area as well. The Security Officer can place items in members' personal hangars (but not take anything out). Note that no one but the owner of a personal hangar can take anything out of it.
- **Starbase Caretaker:** The Starbase Caretaker is the junior equivalent of the Config Starbase role. Members with this role can oversee the otherwise hidden processes of a POS, such as information on the Processing Management tab, the state of fuel, and amount of ammunition in turrets, but he cannot interact with the POS directly except to setup the flow of resources as changes on the Production tab.



«CORPORATIONS»

- **Starbase Defence Operator:** Members with this role and with the Starbase Defence Management skill can operate the weapons and EW modules (Electronic Warfare fittings such as webbers) attached to the POS.
- **Starbase Fuel Technician:** The fuel transporter can fill the POS with fuel and check its state, but is not able to online or offline anything.
- **Station Manager:** As the title says, he is responsible for everything on the station owned by the corporation. This includes the docking and manufacturing rights, and every other function available on the station. He can determine the fees of these services and set the defensive systems as well.
- **Trader:** Can view transaction logs but requires divisional access to do any actual trading.

SETTING THE STATION AND HANGAR ROLES

As you can guess, items in corp hangars are very important for a corporation. For this reason hangar access is also important. What can you have in a hangar? Anything including ships, ship modules, POS modules, control towers, raw materials, fuel, blueprints, etc. Moreover, shared access to blueprints is one of the key benefits of player-run corporations. Other shared items are just as important for newer members.

The role management system allows hangar access to corp members at the corp HQ, other offices, POSes or mobile corp hangars on certain spaceships. You can assign hangar access roles for the following states:

- **Based at:** the given station with corp offices.
- **Corp HQ:** the central hangar of the corporation (it is strongly advised to give access to the most trusted members only).
- **Other:** any other location that does not fall under the Base or the HQ category.

Members with the assigned roles of Security Officer, Accountant or Factory Manager are able to do their jobs without the 'Based at' role assignment.

The location-related roles make it possible for members with the proper access to manage inventory in various hangars and storage. However, it is important to know that in order to access containers that are within hangars (Giant Secure Containers, for instance) the Container Can Take role must be assigned to the member. The Corporate Hangar Array anchored at a POS is actually a hangar in space. Therefore, access to it falls under the 'Roles at Other' category. Only members granted this role will have access to its contents.

SHARES

Every corporation in the EVE universe functions as a corp owned by its shareholders. Each corporation starts with 1000 shares at its foundation. This number can be increased by the vote of the shareholders.

What are these shares for?

- Give rights to vote to the shareholders.
- Dividends can be distributed among the shareholders.
- Majority in votes (50%+1) can be used to replace the CEO (replaceable role).
- Shareholders can send messages to corp members even if corp members blocked them (perhaps 'accidentally').

It is advised to give yourself, as the founder, the majority of shares to avoid others taking over your corporation. You can give or take shares to or from any player. The player does not have to be a member of a corp to own shares in it. You can check the list of shareholders and the issues of stock under the Corporation Wallet, Shares, Shareholders tab.

WALLET			
MY WALLET		CORPORATION WALLET	SETTINGS
BALANCE	42.0 ISK	ACTIVE WALLET DIVISI	Master Wallet
BILLS	JOURNAL	SHARES	WALLET DIVISIONS
OWNED BY CORP	SHAREHOLDERS		
OWNER	CORPORATION		
Laci	Lethal Agentrunner Concord Incinerator		

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FITTING

»» THE ART OF FITTING

»» CPU AND POWERGRID

»» TANKING

»» THE ACTIVE SHIELD TANK

»» THE ARMOUR TANK

»» THE REMOTE TANK

»» THE PASSIVE SHIELD TANK

»» THE BUFFER TANK

»» THE SPEED-SIGNATURE TANK

»» WEAPONS – MISSILES

»» WEAPONS – TURRETS

»» WEAPONS – AMMUNITION

»» WEAPONS – DRONES

»» THE SHIPS OF THE RACES



[THE ART OF FITTING »

➡ The art of fitting your ship is very important for your EVE career as it can be the difference between success and devastating failure. To be a pro, you must know your ship and its modules. Being able to sit in a ship doesn't mean that you can actually fly it. Flying a ship, being able to fit important modules on it, being able to use a proper fit, and using a ship efficiently, all have very different skill requirements. Years of experience and training can be the difference between an unknown pilot and a champion. However, experience and skills alone will not make you efficient. You will also need your ship, rigs, modules and other equipment as well.

SLOTS

Every ship (with the exception of shuttles, freighters, and jump freighters) has various slots for modules. These slots determine what you can fit on your ship, and in what quantity. They are divided into three main groups: High, Medium (sometimes referred to as 'Mid') and Low slots.



SLOTS		
	High Slots	High slots are mostly used for weapons. Remote repair systems, energy (capacitor) neutralizers, energy transfers, energy draining modules, salvagers, tractor beams, some drone-related modules and probe launchers are also high slot modules.
	Medium Slots	Most shield-related modules use mid slots, as well as afterburners, microwarpdrives, and modules that can modify various attributes of your weapons.
	Low Slots	Armour-related modules, cargo extenders, and damage increasing modules use low slots. Some capacitor-related modules use low slots as well.
	Rigs	Rigs are permanent ship modifications that provide bonuses to various ship functions, and work in much the same manner as hardwirings do for players: They can be inserted in specially designated slots, and will be destroyed if they are removed or the ship repackaged.

HARDBOINTS AND BAYS

Most warships need weapons, in the form of either turrets or launchers. Since these weapons need a physical spot on the outer hull of the ship, in addition to being fit into a high slot, they also need a hardpoint. The amount of hardpoints a ship has can determine how many weapons you can fit on your ship.

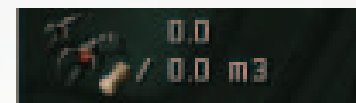
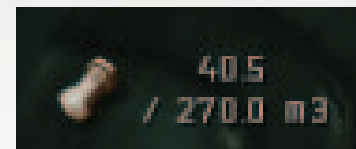
Every turret uses a hardpoint when you fit it on the ship. Free (empty) hardpoints are indicated by white squares next to the turret icon on the Fitting screen, and if there are no further hardpoints left, you cannot put any new turrets on the ship even if you still have free high slots.

Every missile launcher needs a free launcher hardpoint to fit it on the ship. Launcher hardpoints are similar to turret hardpoints, but they are used by missile launchers of various kinds. On the Fitting screen, these are represented by white squares next to the launcher icon. It is common to have more high slots than hardpoints.

Bay types:

- **Cargo Bay:** Every ship has a cargo bay in which you can store and transport various items (raw materials, ammunition, modules, re-packaged ships, and so on).
- **Fuel Bay:** Fuel bays are an addition to the normal 'cargo bays' on ships. It's a 'gas tank', not to be confused with a bay for storing actual minable gas. Only use with 'Ice Products'.
- **Capital Corporate Hangar Bay:** Same as the Cargo Bay, but it can be shares with corp members.
- **Ship Maintenance Bay:** The ship maintenance bay is very useful for moving a few ships out to a new location, either in space or a station, and also has the benefit of allowing your corp or fleet members to either refit in space or arrive in fast ships and switch to others.
- **Ore Hold:** A dedicated bay for raw ores.
- **Drone Bay:** In the EVE universe, some ships have a special bay designed to hold drones. While you can put drones into the cargo hold as well, launching them is only possible from the drone bay. Assuming your ship's drone bay allows space for them, a maximum of five drones can be controlled at the same time (except for carriers and supercarriers). More can be stored in the drone bay as backups. The drones currently available are listed by size:

- **Light Scout Drone:** 5m3
- **Medium Drone:** 10m3
- **Heavy Attack Drone:** 25m3
- **Sentry Drone:** 25m3
- **Fighters:** 5000m3
- **Fighter Bombers:** 5000m3



➡ EXPERIENCE AND TRAINING CAN BE THE DIFFERENCE BETWEEN AN UNKNOWN PILOT AND A CHAMPION. HOWEVER, THEY ALONE WILL NOT MAKE YOU AN EFFICIENT PILOT

«THE ART OF FITTING»

LET’S BE FIT: SAVE WHAT YOU CAN!

It is useful to save the fittings you, or others, have designed so that you can load and use them again later. The advantage of doing this is that you do not have to put the modules together over and over again, and the fitting setups can be shared with others anytime, either to ask their opinion or to help other players fit a similar ship.

To save a fitting, open the Fitting tool on the Neocom or from station services. Here you can:

- Select your design to be for personal or corporation use.
- Use the Fit button to put the modules on your ship with one click if the proper ship is active and you have all the required modules in your hangar.
- Use the Save button to save your current fitting design. It will be added to the list of your personal or corporate setups based on your choice above.
- Export or import your fitting setups.
- Delete a given fitting setup from your list.

You can share your designs in the in-game chat window. Just drag and drop the chosen setup from the list into the chat window. More specifically, left click on it, keep the button depressed, drag the selection to the window, then release the left button.

STACKING PENALTY

The stacking penalty prevents you from fitting lots of damage enhancing modules to your low slots. Every module affecting the same attribute receives a penalty, as showing below:

DAMAGE/RANGE/TRACKING MODULES	
One Module	100% efficiency
Two Modules	95.44% efficiency
Three Modules	67.99% efficiency
Four Modules	35.57% efficiency

RATE OF FIRE MODULES	
One Module	100% efficiency
Two Modules	77.58% efficiency
Three Modules	46.55% efficiency
Four Modules	22.41% efficiency



WEAPON DISRUPTION MODULES	
One Module	100% efficiency
Two Modules	43.45% efficiency
Three Modules	16.13% efficiency
Four Modules	5.71% efficiency

«CPU & POWERGRID»

Ship equipment needs both CPU and powergrid capacity. If you don’t have enough, you can still add modules to your ship but you cannot put them online. There is nearly no point to doing this, since you cannot benefit from offline equipment. It is possible, however, to still fly a ship with offline modules.

THE CPU

The CPU describes the calculating and controlling capacity of the central computer on the ship, in theory anyway. You can increase it as follows:

	TYPE	NAME	EFFECT
	Skill	Electronics	5% Bonus to ship CPU output per skill level
	Module	Co-Processor	increases CPU Output
	Implant	Hardwiring - Zainou ‘Gypsy’ KMB series	Neural interface upgrades that boost the pilot’s skill at electronics






If you are out of options, try to lower the CPU need of your modules. You can use modules with a higher Meta level (with the exception of Tech II modules), or try using one (or more) of the methods listed on the following table:

	TYPE	NAME	EFFECT
	Skill	Electronics Upgrades	Skill at installing Electronics upgrades, e.g. signal amplifier, co-processors and backup sensor arrays. 5% reduction of sensor upgrade CPU needs per skill level
	Skill	Energy Grid Upgrades	Skill at installing power upgrades e.g. capacitor battery and power diagnostic units. 5% reduction in CPU needs of modules requiring Energy Grid Upgrades per skill level
	Skill	Weapon Upgrades	5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs
	Skill	Mining Upgrades	5% reduction per skill level in CPU penalty of mining upgrade modules
	Implant	Hardwiring – Zainou ‘Gnome’ KTA series	Neural interface upgrades that lower launcher CPU needs by 1, 3 or 5%
	Implant	Hardwiring – Zainou ‘Gnome’ KZA series	Neural interface upgrades that lower turret CPU needs by 1-5%
	Implant	Hardwiring – Eifyr and Co. ‘Rogue’ HY series	1-5% reduction in CPU penalty of mining upgrade modules
	Rig	Powergrid Subroutine Maximizer	This ship modification is designed to reduce a ship’s CPU need for all power upgrade modules






« CPU & POWERGRID »

THE POWERGRID

Powergrid is the capacity of the electronic systems of the ship (something like the circuit-breaker in your building). It determines how many things that are plugged into the ship can ‘run’. You can increase it as follows:

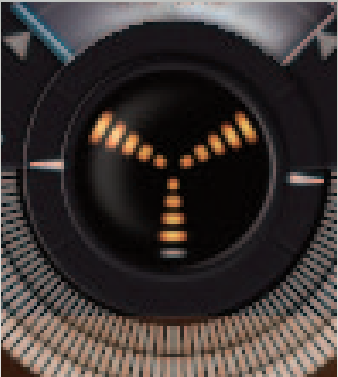
	TYPE	NAME	EFFECT
	Skill	Engineering	5% Bonus to ship's powergrid output per skill level
	Module	Power Diagnostic System	Monitors and optimizes the powergrid. Gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate
	Module	Reactor Control Unit	Boosts power core output
	Module	Micro Auxiliary Power Core	Supplements the main power core providing more power
	Implant	Hardwiring – Inherent Implants ‘Squire’ PG series	A neural interface upgrade that boosts the pilot's skill at engineering
	Rig	Ancillary Current Router	This ship modification is designed to increase a ship's powergrid capacity

If you are out of options, try to decrease the PG requirements of the modules already fitted. You can use modules with a higher Meta level (with the exception of Tech II), or try using one (or more) of the methods listed on the following table:





	TYPE	NAME	EFFECT
	Skill	Shield Upgrades	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs
	Skill	Advanced Weapon Upgrades	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level
	Implant	Hardwiring - Zainou ‘Gnome’ KUA series	A neural Interface upgrade that reduces the shield upgrade module power needs
	Rig	Core Defence Charge Economizer	Designed to reduce the power need of all shield upgrade modules at the expense of increased signature radius
	Rig	Algid Energy Administrations Unit	Designed to decrease the CPU need of a ship's energy turrets at the expense of increased powergrid need for them
	Rig	Algid Hybrid Administrations Unit	Designed to decrease the CPU need of a ship's hybrid turrets at the expense of increased powergrid need for hybrid weapons

THE FLUX CAPACITOR REQUIRES 1.21 GIGAWATTS






Every active module, your warp drive, shields, and even repair modules use energy from the capacitor. The power system of the ship is determined by three factors: the maximum level of the capacitor, its recharge time, and the energy consumption of the activated modules. If you increase the maximum level of capacity but leave the recharge time unchanged, the effective recharge rate increases as well. Naturally, reducing the recharge time also improves this rate. The capacitor does not regenerate evenly, the optimal recharge point is at about 30% of the capacitor level; i.e. at that point you get the most power for a given unit of time.



ITEMS THAT INCREASE THE MAXIMUM LEVEL OF THE CAPACITOR

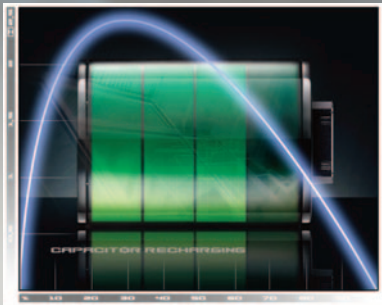
	TYPE	NAME	EFFECT
	Skill	Energy Management	5% bonus to capacitor capacity per skill level
	Module	Capacitor Battery	Increases capacitor storage
	Rig	Semiconductor Memory Cell	This ship modification is designed to increase a ship's capacitor capacity. +15% (Tech I); +20% (Tech II)
	Implant	Inherent Implants ‘Squire’ CC2, CC4, CC8	Neural interface upgrades that boost the pilot's skill at energy management. +1, +3 and +5% to the maximum capacitor capacity

ITEMS THAT REDUCE THE RECHARGE TIME OF THE CAPACITOR

	TYPE	NAME	EFFECT
	Skill	Energy Systems Operation	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level
	Module	Cap Recharger	Increases the capacitor recharge rate. +15% (Tech I); +20% (Tech II)
	Module	Capacitor Power Relay	Increases capacitor recharge rate at the expense of shield boosting
	Module	Capacitor Flux Coil	Increases capacitor recharge rate, but causes a reduction in maximum capacitor storage
	Module	Power Diagnostic System	Monitors and optimizes the powergrid. Gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate
	Rig	Capacitor Control Circuit	This ship modification is designed to increase a ship's capacitor recharge rate. +15% (Tech I); +20% (Tech II)
	Implant	Inherent Implants ‘Squire’ CR2, CR4, CR8	Neural interface upgrades that boost the pilot's skill at energy systems operation. +1, +3 and +5% to the capacitor recharge rate

« CPU & POWERGRID »

The capacitor is stable if the energy consumption of the active modules is lower than or equal to the capacitor recharge rate of the ship. You can check it on the fitting window. If it says ‘stable’, everything is well. Even so, if the value is a lot more than 30% (shown by the circle) then you might want to consider fitting other, more useable equipment. If the capacitor is not stable, you can check how long it takes to entirely deplete by continuous use of all the modules fitted.



THE RECHARGE RATE OF THE CAPACITOR

The capacitor recharge rate is not even. This means that it does not regenerate by the same amount at 90% as it does at 30%.

THE EXACT FORMULA IS:

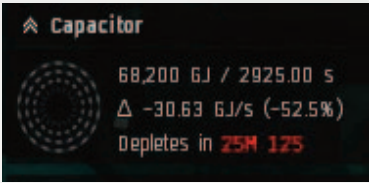
Maximum recharge rate = 2.4 x Maximum Capacitor Level / Capacitor Recharge Time

CAP BOOSTERS

You can recharge the capacitor either partly or entirely in a single boost depending on the maximum cap amount and the module and charge being used. The required module is the Capacitor Booster and its charge is called a Cap Booster. Using one recharges the Capacitor instantly.

In general, the Heavy Capacitor Booster is designed for battleships; the Medium is for cruisers; while the Small one is for frigates. The module goes in a medium slot and then is loaded with Cap Boosters. The more energy that a Cap Booster recharges, the larger the Capacitor Booster must be to handle it. For example, a Micro Capacitor Booster cannot be loaded with Cap Booster 800’s!

The module has a cycle time that you have to wait between boosts. Reducing this time is not possible, and is only effected by the Meta level of the module.



	TYPE	CAPACITY	USEABLE WITH
Heavy	Battleship-sized capacitor boosters	128m ³	25, 50, 75, 100, 150, 200, 400, 800
Medium	Cruiser-sized capacitor boosters	32m ³	25, 50, 75, 100, 150, 200, 400, 800
Small	Frigate-sized capacitor boosters	12m ³	25, 50, 75, 100, 150, 200
Micro	Small capacitor boosters, for when powergrid and CPU are scarce	8m ³	25, 50, 75, 100, 150

The higher the energy level of a charge, the bigger capacitor boost is necessary, so a Micro Capacitor Booster cannot be loaded with Cap Booster 800. So for example, a Small Capacitor Booster I has a capacity of 12m³ which will fit a Cap Booster 200, which has a volume of only 8m³.

NAME	CAPACITY BOOSTER	VOLUME
Cap Booster 25	25 GJ	1m3
Cap Booster 50	50 GJ	2m3
Cap Booster 75	75 GJ	3m3
Cap Booster 100	100 GJ	4m3
Cap Booster 150	150 GJ	6m3
Cap Booster 200	200 GJ	8m3
Cap Booster 400	400 GJ	16m3
Cap Booster 800	800 GJ	32m3

- NO SKILLS REQUIRED
- ZERO POWER REQUIREMENTS
- EASY TO FIT
- DEADLY AT CLOSE RANGE (WHEN ROLLED)

EVE ONLINE

THE OFFICIAL EVE-ONLINE MAGAZINE ISSUE #020

GROUND CONTROL

PLANETARY INTERACTION. AS IT IS NOW AND HOW IT MIGHT BE...

THE NEW STAR CHAMBER
THE EVOLUTION OF THE ESM AND WHY IT MATTERS

FIERCE COMPETITION
THE HISTORY OF THE ALLIANCE TOURNAMENT

SUPERCARRIERS
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TANKING, AN OVERVIEW

➡ Tanking means to delay, or avoid, the destruction of your ship. There are three main methods to achieve this: the active tank, the passive tank, and the speed/signature tank. These solutions can be combined (perhaps with the exception of the combination of the shield and armour tank). When viewing the Fitting screen, you can see the characteristics of your ship while the bonuses of active modules can only be seen after you are in space and activate the given module. The screen shows:



- **Maximum hitpoints of the shield**, its recharge time, and resistance against different damage types.
- **Maximum hitpoints of the armour** and its resistance against different damage types.
- **Maximum hitpoints of the structure** and its resistance against different damage types.
- **The effective hitpoints of the ship: the theoretical, maximum damage endurance** calculated from the above values and their resistances. This is the maximum amount of damage that the ship can take before it is destroyed.

Every tanking method has its advantages and disadvantages. There is no such thing as the ‘best’ form of tanking, only better or worse options for different situations. Two tanking types can be broken down into further sub-divisions:

Active Tank

- Active Shield Tank
- Armour Tank
- Remote Tank

Passive Tank

- Passive Shield Tank
- Buffer Tank

DEFENCES

Every ship has three major lines of defence in the EVE universe (from outside to inside):

- **Shields:** If your ship is hit this is where it first takes damage, and if the pilot does not have the Tactical Shield Manipulation skill, when it reaches 25% of capacity level some of the damage pierces and damages your armour as well.
- **Armour:** If your shield is lost, the armour is all that’s left to keep you safe from the coldness of space.
- **Structure:** If both the shield and the armour are lost, the structure takes damage. If the hull is lost, the ship is destroyed.



When we talk about tanking, we do nothing else but increase, repair, or recharge the hitpoints or resistance of the different lines of defence. Most of the time, either shield or armour tank should be used, as a combination of the two just wastes slots and is not as effective as concentrating on only one of them. Hull tanking cannot be used in a combat situation, since hull repairing modules are very slow.

The following methods can be used to survive a battle:

- Increase the maximum hitpoints of the shield (using a shield extender), or armour (with armour plate) or structure (a reinforced bulkhead) with modules, skills, and implants.
- Regenerate the lost hitpoints with shield boosters (for shields) or armour repairers (for armour).
- Another way to regenerate the lost hitpoints is the remote versions of the above listed modules. The remote modules are activated on you from another ship; usually a support ship or a carrier helps you this way.
- In time, the shield regenerates itself, but there are various modules specialized in recharging (shield recharger, shield power relays). Increasing the shield capacity level has the same effect, although the recharge time does not increase, but, instead, the amount being recharged increases (shield extenders).
- Increasing the resistance of the shield, armour and structure is also important, as it reduces the damage and thus increases the effective HP of the ship.

ACTIVE TANKING

The point of the active tank is to repair the damage (in most cases during combat), with modules using the capacitor. Such modules include shield boosters and armour repairers. You can also add different types of resistance extenders. The significance with these modules is that although they do not increase the repaired level, they increase a ship’s resistances against the different damage types, thus less damage has to be repaired. The important point to this method is the energy itself. How much cap does it takes to sustain the tank? If you have power, everything works smoothly, but if you run out of power, your tank stops working and your ship will die. An important consideration is to get your ship to have a stable capacitor with proper skills, modules and if necessary, even implants.

Most active tanking PvE (Player vs. Environment) fits use two active hardeners specific to the incoming damage type, and modules to restore lost hitpoints (shield boosters, armour repairers). It might also include some general hardeners (Invulnerability Field or EANM, for instance).



THE ACTIVE SHIELD TANK »

➡ The two main elements of the Active Shield Tank (besides the capacitor) are the shield booster and the shield boost amplifier. The Active Shield Tank focuses on reinforcing the first line of defence of your ship to avoid its destruction. The most important characteristic is that both modules use medium slots, thus leaving room in the low slots for damage-increasing modules. Another important characteristic is that the reinforcement occurs relatively fast, in a much shorter time than in the case of the Armour Tank.

However, this fast repair comes with a price; compared to the Armour Tank, the Shield Tank needs much more energy to operate. Its great advantage is that the shield booster recharges the shield at the beginning of the cycle, while the armour repairer repairs the armour at the end of its cycle.

The shield booster repairs the shield; while the shield boost amplifier increases the booster's efficiency by allowing it to repair more damage using the same energy and time. Using an amplifier is not as efficient as using two boosters, but it needs much less energy to operate.

For example:

- **Medium Shield Boosters (x2)** using 120 points of capacitor energy, recharge 120 points to the shield in three seconds, so it does 40 energy and 40 shield every one second.

- **Medium Shield Booster (x1)** and **Shield Boost Amplifier (x1)** using 60 points of energy in total, recharges 78 points to the shield in three seconds, so together they do 20 energy and 26 shield every one second.

If you look at the values of a 30 seconds cycle, the result is that the two boosters setup recharges 1200 points to the shield, but also uses 1200 points of capacitor energy. As opposed to this, the booster and boost amplifier duo recharges only 780 points to the shield, but only uses 600 points of energy (half as much).

You can fit two boosters, using one of them constantly and activating the other one only in case of emergency. More than one amplifier can be fitted with a booster, but take the stacking penalty under consideration, i.e. using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized. Active Shield Tankers often use capacitor boosters, since the provided extra energy can be used immediately.



REQUIRED SKILLS

In addition to the skills listed here, you should also train the ‘general’ skills listed in the Buffer Tank chapter.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Shield Compensation	2	4	2% less capacitor need for shield boosters per skill level
Shield Management	1	4	5% bonus to shield capacity per skill level
Shield Operation	1	3	Skill at operating a spaceship's shield systems, including the use of shield boosters and other basic shield modules. 5% reduction in shield recharge time per skill level
Energy Management	3	4	5% bonus to capacitor capacity per skill level
Energy Systems Operation	1	4	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance

ADVANTAGES OF ACTIVE SHIELD TANKING

This method regenerates almost immediately, so you can avoid its continuous use, thus conserving energy. Its huge advantage against the Armour Tank is that the desired result can be reached within a few seconds. Compare this with the Armour Tank, where nine to 12 seconds pass between activation and final result. Comparing the three main methods of tanking, this is the most rapid solution, repairing the most amount of HP within a given time frame. It uses the most power as well.

Its great advantage against Armour Tanking, however, is the location of the modules required to make it work. This method uses mid slots, leaving the necessary low slots for damage-increasing modules free. Finally, compared to the Passive Shield Tank, its advantage is that the desired outcome can be reached using far fewer modules.

DISADVANTAGES OF ACTIVE SHIELD TANKING

Compared to an Armour Tank, its damage resistance is not as good. The shield resistance totals 110%; that is 0% Electro Magnetic, 50% Explosive, 40% Kinetic, 20% Thermal. Compare to the armour resistance total of 130%; where 50% EM, 10% Exp, 35% Kinetic, 35% Thermal resistance. In the case of Active Shield Tank, the price is for the efficiency and the high energy requirement, which is two to three times larger than that of the Armour Tank. The result is even worse when comparing it to the Passive Shield Tank, which does not need capacitor at all.

« THE ACTIVE SHIELD TANK »

MODULES REQUIRED/RECOMMENDED FOR ACTIVE SHIELD TANK

MODULE	EFFECT	ACTIVE/PASSIVE
Shield Booster	Expend energy to provide a quick boost in shield strength	Active
Shield Boost Amplifier	Focuses and amplifies the efficiency of shield boosting modules. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Shield Extender	Increases the maximum strength of the shield	Passive
Shield Hardeners	Boosts shield resistance against a specific. Penalty: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance	Active
Shield Resistance Amplifier	Boosts the specific resistance of the shield. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive

➡ THE ACTIVE SHIELD TANK FOCUSES ON REINFORCING THE FIRST LINE OF DEFENCE OF YOUR SHIP TO AVOID ITS DESTRUCTION

[THE ARMOUR TANK]

➡ Armour tanking requires a different approach to shield tanking. Its main advantage is that before you start using the capacitor, you have some extra time while the shield is whittled away. However, the danger should not be underestimated; make only one mistake (forget to activate the repairer in time), or if the tank is inefficient (the damage is bigger than the amount that can be repaired), and you have to escape within that painfully short time that the structure's hitpoints will offer.

Armour tanking is a very simple concept: fit an armour repairer to your ship and activate it. The reason for the existence of this method of protection is (among others, many ships were designed for armour tanking), that its energy consumption is much more efficient than that of the Shield Tank. While shield tanking gives only one shield point for one energy point, the amount is two to three times that when using an Armour Tank.

Modules that are also considered part of the Armour Tank are: armour plates, armour repairers and various armour resistance enhancer modules. They all use the low slots of the ship. The

medium slots are thus open for tracking computers, webifiers, microwarpdrives, warp scramblers and afterburners.

The repairing rate of the Armour Tank is not as good as that of the Shield Tank, due to its slower cycle time (nine to 12 seconds). This tank method builds on the ship's resistance, typically with extra armour hardeners. Due to the relatively low energy consumption, capacitor boosters are hardly ever needed, as capacitor power relays may keep your capacitor stable.

There are only a few things that can improve the efficiency of repairers (some ships also have a bonus, like the Paladin):

- **Auxiliary Nano Pump:** increases the ship's armour repairer repair amount.
- **Nanobot Accelerator:** reduces the ship's armour repair cycle duration
- **Trimark Armour Pump:** increases the ship's total armour hitpoints



« THE ARMOUR TANK »

REQUIRED/RECOMMENDED SKILLS

In addition to the skills listed here, you should also train the general skills listed in the Buffer Tank chapter.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Hull Upgrades	2	5	Skill at maintaining your ship's armor and installing hull upgrades like expanded cargo holds and inertial stabilizers. Grants a 5% bonus to armor hitpoints per skill level
Mechanic	1	5	Skill at maintaining the mechanical components and structural integrity of a spaceship. 5% bonus to structure hitpoints per skill level
Repair Systems	1	5	Operation of armor/hull repair modules. 5% reduction in repair systems duration per skill level
Energy Management	3	4	Skill at regulating your ship's overall energy capacity. 5% bonus to capacitor capacity per skill level
Energy Systems Operation	1	4	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level
XY Armor Compensation	2	4	To active armor hardeners: 3% bonus per skill level to Armor XY resistance when the modules are not active. To passive armor hardeners: 5% bonus per skill level to Armor XY resistance

ADVANTAGES OF THE ARMOUR TANK

The better resistances to the armour, and the more efficient capacitor consumption are the major advantages of the Armour Tank. The length of the cycle also is an advantage, as there is more time for capacitor regeneration. A kind of ‘tricky’ advantage is that the tank does not have to be operational until the shield is gone, giving some extra time to the ship’s captain. Due to the lower power requirement, a continuously active ‘double tank’ can be fitted (two armour repairers) as in the case of shield tank.

DISADVANTAGES OF THE ARMOUR TANK

The unquestionable disadvantage of this method is that if the tank is broken, the next line of defence won’t offer enough time to escape, whereas with shield tanking, the armour provides more time. According to its characteristic, the longer cycle does not give an advantage over the shields.

MODULES REQUIRED/RECOMMENDED FOR ARMOUR TANK

MODULE	EFFECT	ACTIVE/PASSIVE
Armour Repairer	This module uses nano-assemblers to repair damage done to the armour of the ship	Active
Armour Plate	Increases the maximum strength of the armour. Penalty: Adds to your ship's mass, making it less agile and manoeuvrable in addition to decreasing the factor of thrust gained from speed modules like afterburners and microwarpdrives	Passive
Armour Hardener	An enhanced version of the standard armour plating. Uses advanced magnetic field generators to strengthen the nanobot plating integrity. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Energized Plating	An enhanced version of the standard armour plating. Uses advanced magnetic field generators to strengthen the nanobot plating integrity. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Resistance Plating	Grants a bonus to resistance. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive

⇒ ARMOUR TANKING IS A VERY SIMPLE CONCEPT, FIT AN ARMOUR REPAIRER TO YOUR SHIP AND THEN ACTIVATE IT

[THE REMOTE TANK]



➡ The Remote Tank is a repair method provided by other ships or drones. It can be used on both armour and shield. The main reason for this method is that the bigger ships are not able to withstand attackers en masse (like capitals versus a fleet of many battleships). Thus they need the help. Another reason can be the many strong opponents of an NPC mission or Complex attacking at the same time. The tank needs help there. It is also useful in the case of the smaller roaming gang. The fleet members can help each other, since the primary target cannot be known in advance. If the tanking ship consumes all its capacitor power, the support ships help with repair and capacitor recharge. In most cases, the tanking ship has the highest resistances, shield and armour in the fleet.

ADVANTAGES OF THE REMOTE TANK

The most important advantage is that it provides free room for DPS (Damage Per Second) and combat modules, so a ship can entirely

focus on either on damage dealing or damage absorbing. Naturally the target ship should also have a tanking method fitted, which is usually the Buffer Tank. Remote tanking can be used on POSes or POS modules as well, which is another huge advantage.

DISADVANTAGES OF THE REMOTE TANK

The support ship is relatively unprotected, as its huge portion of capacity is used to protect the target ship. The remote repairers are not suitable for self-repairing. They use high slots, just like weapons do. The most common problem is when the support is being shot, or if the player's internet connection is lost. Also, using Remote Tanking in high-sec on a non-corporation, non-fleeted ship is considered aggression, and CONCORD will respond.

REQUIRED/RECOMMENDED SKILLS

In addition to the skills listed here, you should also train the general skills listed in the Buffer Tank chapter.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Remote Armor Repair Systems	2	4	5% reduced capacitor need for remote armor repair system modules per skill level
Capital Remote Armor Repair Systems	10	4	Operation of capital sized remote armor repair systems. 5% reduced capacitor need for capital remote armor repair system modules per skill level
Shield Emission Systems	2	4	Operation of shield transfer array and other shield emission systems. 5% reduced capacitor need for shield emission system modules per skill level
Capital Shield Emission Systems	10	4	Operation of capital-sized shield transfer array and other shield emission systems. 5% reduced capacitor need for capital shield emission system modules per skill level

MODULES REQUIRED/RECOMMENDED FOR REMOTE TANK

MODULE	EFFECT	ACTIVE/PASSIVE
Remote Armour Repair System	This module uses nanossemblers to repair damage done to the armour of the target ship	Active
Shield Transporter	Transfers shield power over to the target ship, aiding in its defence	Active
Remote Hull Repair System	This module uses nanossemblers to repair damage done to the hull of the target ship	Active

[THE PASSIVE SHIELD TANK]

➡ The key concept of passive tanking is that the ship does not depend on the capacitor, so you have one less problem to deal with. Ignoring the active tank modules (shield booster, armour repairer, etc.) frees some room, so that more useful modules can be fitted to the ship. It also reduces the potential to die from ‘Alpha Strikes’, or massive damage before the active tank’s repairers have a chance to cycle and repair anything.

The Passive Shield Tank is capable of continuous tanking without using an active module, thus consuming capacitor power so it can disregard armour repairers and shield boosters. In cases where an active module (such as a resistance enhancer) is fitted on the ship, it is called Hybrid Tank. There are three approaches of the Passive Shield Tank:

- Increase the amount of the shield and/or improve the shield recharge time.
- Increase the resistances of the shields, so that each hit represents less damage, effectively increasing the ship’s effective hitpoints.
- A combination of the above two. Increase the amount of the shield so that the recharge rate will repair more shield, increase the shield recharge rate, and improve the resistances of the shield.

Naturally, passive armour tanking ships can be created by this method as well, but remember that the armour never regenerates on its own!

The Passive Shield Tank is the most popular among agent runners, or ‘ratters’ who use it in the asteroid belts. While it really shines in PvE, many PvP pilots consider it a bit too risky. The tank is built on the fact that the shield regenerates in a fixed time, regardless of the amount of the shield.



Thus, if a shield recharges in 500 seconds, it does not matter whether the shield capacity is 500 or 5,000,000 HP. The recharge time remains the same (500 seconds). In the first case the regeneration rate is one shield/sec (500 shield HP in 500 seconds), while in the second 10,000 shield/sec (or 5,000,000 shield HP in 500 seconds). So, a ship with more shield doesn’t recharge faster, but it does recharge more shield HP per second. Either increase the shield HP or reduce its regeneration time (or both). These two factors determine the shield regeneration time.

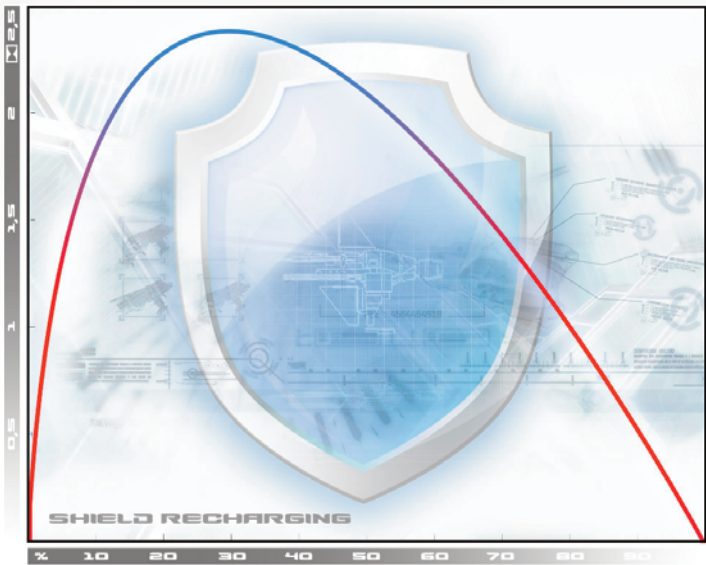
Using the above example, if you increase the shield HP from 500 to 1000, your ship’s average shield recharge rate would increase from one HP per second to two HP per second. If you reduce the shield recharge time from 500 seconds to 250 seconds, you would reach the same recharge rate.

However, this is EVE Online, so nothing is that simple. The shield recharge rate, just like that of the capacitor, is not linear, it is only the peak; namely it indicates the highest regeneration rate.

THE NATURAL REGENERATION OF THE SHIELD

The precise formula is quite similar to the formula of the capacitor, namely:

- Peak = 2.4 x Maximum Shield Hitpoints / Shield Recharge Time



As you can see on the graph above, with a given recharge time (the vertical scale), the peak of the regeneration rate is at 30% of the shield hitpoints (the horizontal scale). Sometimes, the best solution is not always reducing the recharge time. The extra shield hitpoints provided by a shield extender may give better results.

REQUIRED/RECOMMENDED SKILLS

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Engineering	1	4	Basic understanding of spaceship energy grid systems. 5% Bonus to ship's powergrid output per skill level (prerequisite for shield-related skills)
Shield Operation	1	5	Skill at operating a spaceship's shield systems, including the use of shield boosters and other basic shield modules. 5% reduction in shield recharge time per skill level
Shield Management	3	5	Skill at regulating a spaceship's shield systems. 5% bonus to shield capacity per skill level
Energy Grid Upgrades	2	4	Skill at installing power upgrades e.g. capacitor battery and power diagnostic units. 5% reduction in CPU needs of modules requiring Energy Grid Upgrades per skill level
Shield Upgrades	2	4	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs
Tactical Shield Manipulation	4	1	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level V
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging
Shield Rigging	3	1	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs. 10% reduction in Shield Rig drawbacks per level
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance

« THE PASSIVE SHIELD TANK »

ADVANTAGES OF THE PASSIVE SHIELD TANK

Unless it is the Hybrid Tank, the Passive Shield Tank is extremely easy to use. Warp out of any conflict as soon as the shield reaches 10% to 15%! You do not have to monitor the capacitor, activate the shield booster, and even when your internet connection is lost, you have good chance of survival (provided that your tank endures). In case you have a ship with high resistance bonuses (i.e. a Ferox or Drake) and you fit resistance enhancing modules on the ship, this rate will be very impressive. For instance, if 20 shield hitpoints recharge per second and you have 80% of a specified resistance, then the tank totals in 100 effective shield HP/second. Undoubtedly this is the most AFK-type of tanking method.

DISADVANTAGES OF THE PASSIVE SHIELD TANK

You have absolutely no influence on your tank. There's nothing more you can activate to help, nothing to overheat, nothing to boost. If your tank is broken and you have not prepared for retreat, you will die. It's as simple as that. Although the regeneration is continuous, it is not as high as in the case of active tanking. Another great disadvantage is that it requires many low and medium slots, thus taking room from the damage modules and/or other medium slot equipment.

MODULES REQUIRED/RECOMMENDED FOR PASSIVE SHIELD TANK

MODULE TYPE	EFFECT	ACTIVE/PASSIVE
Shield Extender	Increases the maximum strength of the shield	Passive
Shield Recharger	Improves the recharge rate of the shield	Passive
Shield Power Relay	Diverts power from the capacitors to the shields, thereby increasing the shield recharge rate	Passive



[THE BUFFER TANK]



➡ The key concept of the Buffer Tank is to significantly increase the effective hitpoints of the ship. The larger number gives you a chance to use the repair modules and if the tank is broken (i.e. the ship gets more damage than it could repair), it gives you time to escape or wait for the cavalry to save you.

In most cases, this technique is to buy time to kill the opponents and reduce incoming DPS until it reduces below your normal tank (or remote tanking) again. You should definitely use it when huge

DPS is expected, within a short time range that even the repair cycle could not manage, like surviving an Alpha Strike by an enemy fleet. Nevertheless, it is not suitable for independent tanking, as it cannot regain the lost HPs, but only combined with self or remote repair. Buffer tanking can be shield or armour based. In the first case, the desired result is reached by using shield extenders and/or resistance enhancing modules, while in the later, armour plates and/or resistance enhancing modules are used.

« THE BUFFER TANK »

REQUIRED/RECOMMENDED SKILLS

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Engineering	1	4	Basic understanding of spaceship energy grid systems. 5% bonus to ship's powergrid output per skill level
Electronics	1	4	Basic understanding of spaceship sensory and computer systems. 5% bonus to ship CPU output per skill level
Shield Management	3	4	Skill at regulating a spaceship's shield systems. 5% bonus to shield capacity per skill level
Shield Upgrades	2	2	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs
Tactical Shield Manipulation	4	4	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level V
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging
Shield Rigging	3	2	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs. 10% reduction in shield rig drawbacks per level
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to shield XY resistance
Hull Upgrades	2	4	Skill at maintaining your ship's armour and installing hull upgrades like expanded cargoholds and inertial stabilizers. Grants a 5% bonus to armour hitpoints per skill level
XY Armour Compensation	2	4	To active armour hardeners: 3% bonus per skill level to armour XY resistance when the modules are not active To passive armour hardeners: 5% bonus per skill level to armour XY resistance
Armour Rigging	3	2	Advanced understanding of armour subsystems. Allows makeshift modifications to armour subsystems through the use of rigs. 10% reduction in armour rig drawbacks per level
Mechanic	1	4	Skill at maintaining the mechanical components and structural integrity of a spaceship. 5% bonus to structure hitpoints per skill level

ADVANTAGES OF THE BUFFER SHIELD TANK

It empowers the ship with a significant amount of ‘temporary’ hitpoints, i.e. it is able to endure the incoming damage, and can survive one or two really huge hits. The buffer offers you enough time to either run or attack and hold up the enemy. With proper support it is an ideal tanker.

DISADVANTAGES OF BUFFER SHIELD TANK

The Buffer Tank doesn’t have any means of repairing any lost hitpoints except for the slow natural recharge rate of the shield, so it does not provide any long-term survival plan. Without friends, support or other help, you can only hope that you will finish off your enemies before they burn through your tank.

MODULES REQUIRED/RECOMMENDED FOR PASSIVE SHIELD TANK

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL
Armour Plate	Increases the maximum strength of the armour Penalty: Adds to your ship's mass, making it less agile and manoeuvrable in addition to decreasing the factor of thrust gained from speed modules like afterburners and microwarpdrives	Passive
Armour Hardener	An enhanced version of the standard armour plating. Uses advanced generators to strengthen the nanobot plating integrity Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Energized Plating	This plating utilizes a magnetic field to deflect attacks. Grants a bonus to resistance Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Resistance Plating	An enhanced version of the standard armour plating. Uses advanced magnetic field generators to strengthen the nanobot plating integrity Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Shield Recharger	Improves the recharge rate of the shield	Passive
Shield Power Relay	Diverts power from the capacitors to the shields, thereby increasing the shield recharge rate	Passive
Shield Extender	Increases the maximum strength of the shield Penalty: Increases the ship signature radius	Passive
Shield Hardener	Boosts shield resistance against damage Penalty: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance	Active
Shield Resistance Amplifier	Boosts the thermal resistance of the shield Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive

[THE SPEED/SIGNATURE TANK]>>

➡ An optimal combination of modules to reach a low signature radius and a high speed can actually eliminate incoming damage. Low signature radius can be achieved by the type of the ship (assault frigate, interceptor, strategic cruisers, or some cruisers such as the Ishtar, Scimitar, Vagabond). You can also use:

- Halo Implants
- Skirmish Warfare Link – Evasive Manoeuvres



The speed of the ship is provided by afterburners or microwarpdrives. You can also consider overdrive injectors to boost your speed. Remember that microwarpdrives increase a ship's signature radius, so afterburners are generally a better idea.

OTHER WAYS OF TANKING

- You can use some 'dirty tricks' to increase your survival rates:
- Keep relatively long distance. You can attack from long range, enemies cannot. You snipe at them from a distance and they die before coming close enough to be able to do serious damage.
 - Really high speed and transversal movements make the enemy guns unable to track you (and slower missiles can have a problem reaching you).
 - Cloaking. If you cannot be seen, you cannot be a target.
 - Electronic Warfare, i.e. jamming the guns or targeting systems of the enemy ships, thus reducing their efficiency, or completely forcing the enemy to watch the fight, making them totally helpless.

RESISTANCE IS NEVER FUTILE

One of the most important ways of increasing defence is to reduce the incoming damage with the help of your armour or shield resistances. While structure, does not have any basic resistances, both armour and shield have some (Tech II ships are much better than their Tech I versions). The special bonuses of the ships are above their basic resistances.

				
		SHIELD	ARMOUR	STRUCTURE
EM		0%	50%	0%
Thermal		20%	35%	0%
Kinetic		40%	35%	0%
Explosive		50%	10%	0%



HOW RESISTS WORK?

If you have 0 resistance against a damage type and the damage from an incoming attack is 100, your shield/armour/structure hitpoints will be reduced by 100 points. The value of the resistance enhancing module equals the difference between 100% and the resistance already existing.

$1 - (1 - A * [1 - B] * [1 - C] * [1 - (0.87 * D)] * [1 - (0.57 * E)] * [1 - (0.23 * F)] * [\text{etc.}])$

- A = Basic resistance
- B = Ship Bonus(es) (if exists)
- C = Best resist enhancing module (if exists)
- D = 2nd best resist enhancing module (if exists)
- E = 3rd best resist enhancing module (if exists)
- F = 4th best resist enhancing module (if exists)
- The negative multiplier for second and later modules is the stacking penalty

DAMAGE	DAMAGE WITH 0% OF RESISTANCE	50% OF RESISTANCE	50% BASIC AND 30% OF RESISTANCE ENHANCER MODULE (65% RESISTANCE)	50% BASIC, 50% SHIP BONUS AND 30% RESISTANCE ENHANCER MODULE (82.5% RESISTANCE)
100	100	50	35	17.5
300	300	150	105	52.5
500	500	250	175	87.5
800	800	400	280	140

As you can see, one shield booster/amplifier (even a large booster instead of an XL is fine) or a single armour repairer can provide you enough protection. But even a 'cheaper' (lower Meta level) module can serve well with decent resistances. However, keep in mind that there is no such thing as an 'over-tanked' ship, and it is better to have more tank than is required, instead of less. Less means dead. The following tables are based on a Gallente battleship with 10% basic resistance against explosive damage as an example.

Skills, rigs and modules used in the example:

- **Armour Explosive Hardener I** (active resistance enhancer module against explosive damage)
- **Anti-Explosive Pump I** (armour resistance enhancer rig against explosive damage)
- **Explosive Armour Compensation** (level III skill to improve the effect of the active armour resistance enhancing modules against explosive damage)
- **Energized Adaptive Nano Membrane I** (EANM – Armour resistance enhancer hardener against all damage types)



« THE SPEED/SIGNATURE TANK »

WITH 0 RIG						
HARDENERS	1 HARDENER	2 HARDENERS	1 EANM + 1 HARDENER	2 EANMS + 1 HARDENER	1 EANM + 2 HARDENERS	2 EANMS + 2 HARDENERS
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	18.1%	-	31.4%	39.9%	-	-
0 Active 2 Inactive	-	24.5%	-	-	34.9%	41.5%
1 Active 0 Inactive	55%	-	61.7%	65.5%	-	-
2 Active 0 Inactive	-	74.6%	-	-	77.1%	78.2%
1 Active 1 Inactive	-	58.5%	-	-	63.7%	66.4%

WITH 1 RIG						
HARDENERS	1 HARDENER	2 HARDENERS	1 EANM + 1 HARDENER	2 EANMS + 1 HARDENER	1 EANM + 2 HARDENERS	2 EANMS + 2 HARDENERS
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	41.9%	-	49.2%	52.9%	-	-
0 Active 2 Inactive	-	44.9%	-	-	50.5%	53.4%
1 Active 0 Inactive	66.7%	-	70%	71.5%	-	-
2 Active 0 Inactive	-	78.9%	-	-	79.9%	80.3%
1 Active 1 Inactive	-	68.4%	-	-	70.8%	71.7%

WITH 2 RIGS						
HARDENERS	1 HARDENER	2 HARDENERS	1 EANM + 1 HARDENER	2 EANMS + 1 HARDENER	1 EANM + 2 HARDENERS	2 EANMS + 2 HARDENERS
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	55.8%	-	59.1%	60.4%	-	-
0 Active 2 Inactive	-	56.9%	-	-	59.5%	60.5%
1 Active 0 Inactive	72.4%	-	73.8%	74.3%	-	-
2 Active 0 Inactive	-	80.7%	-	-	81.1%	81.2%
1 Active 1 Inactive	-	73.1%	-	-	74%	74.3%

WITH 3 RIGS						
HARDENERS	1 HARDENER	2 HARDENERS	1 EANM + 1 HARDENER	2 EANMS + 1 HARDENER	1 EANM + 2 HARDENERS	2 EANMS + 2 HARDENERS
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	62.4%	-	63.6%	64.1%	-	-
0 Active 2 Inactive	-	62.7%	-	-	63.7%	64.1%
1 Active 0 Inactive	74.8%	-	75.2%	75.4%	-	-
2 Active 0 Inactive	-	81.3%	-	-	81.4%	81.4%
1 Active 1 Inactive	-	75%	-	-	75.3%	75.4%

TECH I EANM (COMPENSATION LEVEL III)				
	W/O EANM	1 EANM	2 EANMS	3 EANMS
Base Resist	10%	10%	10%	10%
0 Rigs	10%	25.5%	36.7%	42.9%
1 Rig	37%	46.4%	51.7%	54.1%
2 Rigs	53.4%	58%	60.1%	60.8%
3 Rigs	61.4%	63.3%	64%	64.1%

TECH I EANM (COMPENSATION LEVEL III)				
	W/O EANM	1 EANM	2 EANMS	3 EANMS
Base Resist	10%	10%	10%	10%
0 Rigs	10%	35.3%	51.1%	59%
1 Rig	37%	52.4%	60%	63.2%
2 Rigs	53.4%	60.9%	64%	65.1%
3 Rigs	61.4%	64.5%	65.5%	65.8%

If you use a passive armour resists based tank, EANMs can be useful, but you should not forget that they are not as effective as damage specific active armour resistance hardeners.

Training Explosive Armour Compensation skill to level V and using Navy Equipment can enhance your resistances significantly. For example, let's see the Imperial Navy EANM module and Explosive Armour Compensation at Level V.

The above examples show that if you know what kind of enemies and their damage type you will face, it is worth using damage type-specific active hardeners. It is very important to avoid fitting on unnecessary rigs/modules as comparing the 2 rig/2 modules with 3/2 or 2/3 sets shows that it does not cause significant

improvement. A 1/2 or 2/1 set compared to a 2/2 set increases the result only with 3-5%, but a rig or module slot is used as well. Summing it up, it is not worth fitting on more than three modules of the same type.

« THE SPEED/SIGNATURE TANK »

REQUIRED/RECOMMENDED SKILLS

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT
Shield Upgrades	2	2	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs
Tactical Shield Manipulation	4	4	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level V
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging
Shield Rigging	3	2	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs 10% reduction in Shield Rig drawbacks per level
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance
Hull Upgrades	2	4	Skill at maintaining your ship's armour and installing hull upgrades like expanded cargoholds and inertial stabilizers. Grants a 5% bonus to armour hitpoints per skill level
XY Armour Compensation	2	4	To active armour hardeners: 3% bonus per skill level to armour XY resistance when the modules are not active To passive armour hardeners: 5% bonus per skill level to armour XY resistance
Armour Rigging	3	2	Advanced understanding of armour subsystems. Allows makeshift modifications to armour subsystems through the use of rigs. 10% reduction in armour rig drawbacks per level

REQUIRED/RECOMMENDED MODULES

MODULE TYPE	EFFECT	ACTIVE/PASSIVE
Armour Hardener	An enhanced version of the standard armour plating. Uses advanced generators to strengthen the nanobot plating integrity Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Energized Plating	This plating utilizes a magnetic field to deflect attacks. Grants a bonus to resistance Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Resistance Plating	An enhanced version of the standard armour plating. Uses advanced magnetic field generators to strengthen the nanobot plating integrity Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Shield Hardener	Boosts shield resistance against damage Penalty: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance	Active
Shield Resistance Amplifier	Boosts the thermal resistance of the shield Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Damage Control	Utilizes a combination of containment field emitters and redundancy systems to prevent critical system damage. Grants a bonus to resistance for shield, armour and hull. Only one damage control can be activated at a given time	Active

[WEAPONS – MISSILES] »

➡ The biggest advantage of missiles is that they always hit their target if it is within range. But for how much damage? Missiles have to fly to their target which takes time, so the damage is not instant. The Caldari specialize in using missiles, but some Minmatar ships can also use missiles as their secondary or even primary weapons.

Another major advantage of missiles is their various damage types, so depending on the weakness of the enemy, the most suitable damage type can be selected. All you have to do is use different sizes for different targets. (Do not fire torpedoes at frigates.)

To learn about the missile’s stats, undock from the station and use ‘Show Info’ on yourself. Choose modules, and then select missiles from the list. You can also use the fitting window as well, and if you check your launchers or missiles, you can learn what you want to know.

The stats here are the amount, upgraded with skills, modules and ship bonuses

- **Launcher:** refers to the fitted module, rocket launcher, launching-carriage etc.
- **Missile:** ammunition fired from the launchers

Key Attributes of Missile Weapons

- **Rate of Fire (ROF) (Launcher):** The time between launching two missiles. It can be reduced by skills, modules (or by different kind of launcher). Lower delay means a faster weapon.
- **Maximum Velocity (missile):** The speed your missile flies with. One of the attributes that determines the range.
- **Maximum Flight Time (missile):** It means the maximum time the missile can fly. It is the second attribute that determines the range. Determining the range is simple: Missile Velocity x Flight Time. Naturally if the target is eliminated or gets out of range, the missile does not hit it. Or if it hits, the missile does not fly any further.
- **Damage (missile):** It is the damage of the missile. Unlike guns, here the damage does not depend on where it is fired from. It can be modified by the ship’s bonus, skills and modules.
- **Explosion Velocity (missile):** Speed of the ‘shockwave’ from your exploding warhead. If the target is faster than this, the damage will be less. This value is closely related to the Explosion Radius.
- **Explosion Radius (missile):** the radius of explosion of the missiles affects only the target! It determines how effective the bigger sized missiles are against small targets. If the Explosion Radius is not bigger than the target’s Signature Radius, then the damage is not modified. If it is bigger, then it is taken from the damage accordingly. The above example is only applies to standing targets. If it is moving, the Explosion Velocity must be taken into consideration as well.

For instance: if the missile’s explosion radius is 400m, the target’s signature radius is 150m, then the damage reduces to $(150/400=0.375)$ 37.5%, so 72.5% of the charge is eliminated and does not do any damage.

FOF AND DEFENDER MISSILES

- There are two special kinds of missiles, FoF (Friend or Foe) and Defender Missiles.
- **Defender Missile:** Light missiles designed to destroy incoming rockets. In most cases, one is not enough to eliminate the threat, especially if it is Cruise Missiles or Torpedoes. The best result can be obtained from a Standard Missile Launcher, since it has the most optimal ammunition-magazine and RoF.
 - **FoF Missiles (Friend or Foe):** They are ‘Fire and Forget’ type missiles, used mostly when the targeting systems are jammed. It is one of the sole weapons in the game that can do damage to enemies, even when they are not targeted. Their damage is not as much as with other missiles, but in return, FoF missiles provide firepower even when permanently jammed within targeting range. Anyone becomes an enemy that commits aggression in some way (steals from your container, shoots you) and thus becomes target.










SIZE DOES MATTER

Do not shoot small targets with large missiles, since the damage is highly influenced by the above mentioned factors, even if the target was hit. Do not waste torpedoes against frigates, and rockets are not suitable for sieging a POS. The next table lists the stats of the missiles and their recommended targets. In most cases, you can still use another category up or down, but the efficiency will be reduced significantly, and it will be almost unusable with more than two sizes difference than recommended.



WEAPONS – MISSILES

MISSILE LAUNCHERS

LAUNCHER		AMMO		SUGGESTED ENEMY SIZE	FLIGHT SPEED	FLIGHT TIME	BASE DAMAGE	ROF
	Rocket Launcher		Rocket	Frigate	2250m/s	2s	33	5s
	Standard Missile Launcher		Light Missile	Frigate	3750m/s	5s	75	15s
	Assault Missile Launcher		Light Missile	Frigate, Cruiser	3750m/s	5s	75	12s
	Heavy Missile Launcher		Heavy Missile	Cruiser	3750m/s	10s	150	15s
	Heavy Assault Missile Launcher		Assault Missile	Cruiser	2250m/s	4s	100	8s
	Cruise Missile Launcher		Cruise Missile	(target painted Cruiser) BC, BS	3750m/s	20s	300	22s
	Siege Missile Launcher		Torpedo	BS, Dread, Carrier, POS	1500m/s	6s	450	18s
	Bomb Launcher		Bomb	Anything, area of effect	3000m/s	10s	6400(!!!)	160s
	Citadel Torpedo Launcher		Citadel Torpedo	Dread, Carrier, POS, Titan	1750m/s	15s	2000	34s
	Citadel Cruise Launcher		Citadel Cruise Missile	Dread, Carrier, POS, Titan	4250m/s	20s	1500	44s

REQUIRED/RECOMMENDED SKILLS

Every missile gets a 5% bonus damage from the skill similarly named, with the exception of Defender Missiles, where the 5% bonus/skill level is applied to the velocity of the missile.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT	NOTE
Missile Launcher Operation	1	5	Basic operation of missile launcher systems. 2% bonus to missile launcher rate of fire per skill level	Affect All Launchers
Missile Bombardment	2	4	Proficiency at long-range missile combat. 10% bonus to all missiles' maximum flight time per level	Affect All Missiles
Missile Projection	4	4	Skill at boosting missile bay trigger circuits and enhancing guided missiles' ignition systems. 10% bonus to all missiles' maximum velocity per level	Affect All Missiles
Rapid Launch	2	5	Proficiency at rapid missile launcher firing. 3% bonus to missile launcher rate of fire per level	Affect All Launchers
Target Navigation Prediction	2	4	Proficiency at optimizing a missile's flight path to negate the effects of a target's speed upon the explosion's impact. 10% decrease per level in factor of target's velocity for all missiles	Affect All Missiles
Warhead Upgrades	5	4	Proficiency at upgrading missile warheads with deadlier payloads. 2% bonus to all missile damage per skill level	Affect All Missiles
Guided Missile Precision	5	4	Skill at precision missile homing. Proficiency at this skill increases the accuracy of a fired missile's exact point of impact, resulting in greater damage to small targets. 5% decreased factor of signature radius for light, heavy and cruise missile explosions per level of skill	Only for Light, Heavy And Cruise missiles
Missile Specialization	5	5	Specialist training in the operation of advanced missile launchers. 2% bonus per level to the rate of fire of modules requiring for Missile Launcher Specialization	Not for: FOF, Defender Missile, CitadelTorpedo, Citadel Cruise Missile
Weapon Upgrades	2	5	Knowledge of gunnery computer systems, including the use of weapon upgrade modules. 5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs	For All Weapons
Advanced Weapon Upgrades	6	4	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level	For All Weapons (Except Smartbombs)

WEAPONS – MISSILES

REQUIRED/RECOMMENDED MODULES

MODULE TYPE	MODULE EFFECT	ACTIVE/PASSIVE
Ballistic Control System	A computer system designed for monitoring and guiding missiles in flight, thus allowing for superior effectiveness and lethality Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Target Painter	A targeting subsystem that projects an electronic 'Tag' on the target thus making it easier to target and hit Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active

AMMUNITION FOR THE ROCKET LAUNCHERS

In many cases, it might be a problem to determine the damage type of a missile, and honestly, their names do not help either. However, the colour of their warhead can help you. Every missile type causes only one type of damage, according to this:

Blue warheads mean EM damage



Red warheads mean Thermal damage



Dark green warheads mean Kinetic damage



Yellow warheads mean Explosive damage



Missiles of every type (except Defender missiles) come in four versions, one for each damage type, but they do the same amount of damage. Of course, there are Faction Type Missiles with greater damage potential. While a normal Tech I Light Missile does 75 points of damage, the Caldari Navy version does 86 points, the Guristas 87 points, and the Dread Guristas version is 90 points of damage.

TECH II MISSILES





Tech II missiles can only be used with Tech II launchers, and can be divided in two types, 'Range/Precision' (Precision and Javelin missiles) and 'Damage' (Fury and Rage missiles):

- **Precision:** It has the half of the explosion radius of its Tech I version.
- **Fury:** Fury missiles have increased damage, but in return they have much lower velocity, which results in reduced range.
- **Javelin:** Javelin torpedoes fly as fast as the Tech I cruise missiles, but have five seconds longer flight time, have higher explosion velocity and smaller explosion radius, which make them ideal against smaller enemies.

- **Rage:** The damage is much higher, but the 50% bonus comes at a price. A Rage missile is much slower and has lower explosion velocity and a double explosion radius. Thus, it is much less effective against smaller targets. For instance, the Rage heavy assault missile is better against battleships than cruisers. Rage torpedoes are more effective against capitals and POSes than battleships (except if significant 'target painting' is used on the target).

Unfortunately, there are other drawbacks, such as damage increasing missiles reduce the capacitor recharge rate (which is rather unpleasant for a Raven with Active Shield Tank), while missiles focusing on precision reduce the maximum velocity of the ship. Consider carefully, whether the bigger damage or precision is worth its disadvantages before using them.

Unfortunately, the stacking penalty applies here as well, so 4x Cruise Missile Launchers II, using Fury cruise missiles give 107% negative 'bonus' to the capacitor recharge:
(20% penalty/launcher = 1.24 or 1.2 x 1.2 x 1.2 x 1.2).

MISSILE TYPES				
				
	EXPLOSIVE	KINETIC	THERMAL	EM
Rocket	Phalanx	Thorn	Foxtire	Gremlin
Light	Piranha	Bloodclaw	Flameburst	Sabretooth
Heavy	Havoc	Scourge	Widowmaker	Thunderbolt
Cruise	Devastator	Wrath	Cataclysm	Paradise
Torpedo	Bane	Juggernaut	Inferno	Mjolnir
Citadel Cruise	Catastrophe	Rajas	Sol	Thunar
Citadel Torpedo	Doom	Rift	Purgatory	Thor

[WEAPONS – TURRETS]>



One of the main differences and advantages versus missile launchers is that turrets damage instantly. You do not have to wait until a missile reaches its target. Unfortunately, turrets can miss and their precision is significantly worse than using missiles. Time to learn the definitions of Tracking Speed and Range (Optimal and Falloff), Signature Radius (you might know this one already) and their relation to each other. Just like missile launchers, turrets use high slots. They require free turret hardpoints and free CPU/PG capacity in addition to the required skills.

OPTIMAL RANGE

The range when the turret is still accurate. It is affected by the ship bonus (if there is any) and the ammunition, which can modify the basic range from -50% to +50%.

FALLOFF RANGE

It is the range that is added to the Optimal Range, reducing the hit probability of the turret to 50% (regardless of Signature Radius differences and the Tracking Speed). Doubling this range, the chance to hit is reduced to 0%. For instance, if the Optimal Range is 50km and the Falloff is 25km, the hit probability is 100% at 50km, 50% at 75km and 0% at 100km. Basically, the hit probability decreases linearly from 100% (Optimal Range), through 50% (Optimal + Falloff) to 0% (Optimal Range + Falloff + Falloff).

TRACKING SPEED

Tracking Speed means how fast your turret can turn and aim at the enemy in radian/second. 1 rad/sec means that the turret turns 180

degrees in one second. All we really need to know is that higher is better. So, with higher Tracking Speed, you have a better chance to hit a quick, transversely moving ship.

“Transversely moving ship? Excuse me? Huh?” This is the most common reaction to this phrase. The essence of targeting is: what matters is the target’s movement compared to you. Anything moves directly towards or away from you in a straight line, the turrets can hit it more precisely, as they do not have to keep ‘turning’ to aim the target. Something that moves transversely to you means it is moving across your path, and not toward you or away from you.

SIGNATURE RESOLUTION

Like missiles, turrets suffer from a smaller enemy Signature Radius as well. The smaller the Signature Radius of the target, the smaller the area the gun’s power is being concentrated on. Guns compensate this by being tuned to a size. This tuning is called Signature Resolution. The most effective way to increase a target’s Signature Radius is to use a Target Painter. If the target acts bigger because of the target painter, he is much easier to hit.

The basic Signature Radius of frigates is 35 to 45, cruisers are 95 to 120 and battleships are around 400. According to this, the Signature Resolution of the Small Turrets is 40m, the Medium Turrets 100m and the Large Turrets 400m. So if the Signature Resolution of the weapon is bigger than the ship’s Signature Radius, the chance to hit will be smaller, and if the target’s Signature Radius is higher, you hit it with maximum damage (if it does not move faster than your Tracking Speed, that is). But, within your optimal range, you have a good chance of hitting big on a standing target.

For instance, if you shoot a frigate with a Tachyon Beam Laser, the weapon’s 400 Signature Resolution rates to the ship 40m Signature Radius, which is $40/400 = 0.1 = 10\%$ damage. Naturally if this frigate is coming to you in a straight line using a MWD, as there is no transversal movement, and the MWD increases the signature radius of the frigate. The 10% is probably more than enough to kill the ship.

DAMAGE MULTIPLIER

The basic damage of your ammo is multiplied by the Damage Multiplier of the turret used. The higher the multiplier, the more damage you do to your enemies.

For example: a 150mm Railgun (a Small Hybrid Turret) with a Damage Multiplier of 3.75 (modified by skills and modules) loaded with Thorium Charge S, whose basic Kinetic damage is five and basic Thermal damage is four, hits with 18.75 Kinetic (5×3.75) and 15 Thermal (4×3.75) damage.

RATE OF FIRE

The Rate of Fire is the time between two shots (in seconds). It is inversely proportional to the size of the weapon, i.e. bigger guns fire slower than smaller ones. Naturally, damage will be higher in the first case (provided it is not affected by Signature Resolution).

ACTIVATION COST

Activation Cost is the capacitor amount required by a weapon in use. It is of great importance at Amarr and Gallentean ships and weapons.

HIT QUALITY

Hit Quality is a hidden value. In practice, it modifies the damage when it hits.

- In Optimal Range: 0.5x to 1.5x
- In Falloff Range: 0.5x to 1.0x
- There is always a 1% chance for 300% (Wrecking) hit

The chance to hit is being reduced in Falloff Range, so it is certain that the average damage will be smaller than within Optimal Range.



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« WEAPONS – TURRETS »

LASER TURRETS

Laser Turrets are mostly used by Amarr ships. Their first and foremost advantage is that (apart from the Faction and Tech II crystals), they do not need reserves. This means, if you load a plain, Tech I crystal, you can use it to the end of times for unlimited shots. It is highly useful that you do not have to spend money on ammunition and it does not occupy room in your cargo bay. Its other advantage is that the crystals can be reloaded (or changed out for a different one) instantly, instead of the 10 seconds reloading time of other weapons.

The drawback of the Laser Turrets is its significant capacitor and power grid requirement. Ships that use lasers are highly sensitive to the effects of capacitor draining and neutralizing. It is no accident that most of the Amarr ships receive bonus for the weapons capacitor requirements (among others). That is why the Apocalypse BS has high PG and Cap values. The other disadvantage is that these weapons only deal EM and Thermal damages, so they are most effective against the shield, because the basic EM resistance of armor is 50%.

Laser Turrets can be divided in two main groups: Pulse Lasers, and Beam Lasers. Pulse lasers release energy in a series of quick bursts while beam lasers can operate ‘continuously’. Pulse Lasers can be fitted on a ship more easily. Their capacitor requirement is smaller, but in return they have shorter range. Although their basic damage is not as good, it is compensated by the excellent ROF (it fires more quickly). Thus, the DPS is higher.

Beam Lasers fall in the bigger ‘appetite’ and bigger damage dealing category. Due to their lower tracking speed, the target can be missed, and then the longer range advantage is wasted. One miss can be a serious drawback, as these weapons also have a low ROF value, so not only is energy wasted, but precious time is lost as well.

There is one special type of laser weapon left: Tachyon Beam Lasers are one of the most effective non-capital sized weapons with very long range and high damage (but with weak tracking speed). Tachyon Beam Lasers belong to the family of Large Beam Lasers, and it is a nightmare to fit them due to their very high Power Grid and Capacitor Power requirements, They have a weak ROF, but when they hit the target, the target feels it.



PULSE LASER TURRETS						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
Dual Light Pulse Laser		4500m	1500m	2.7s	0.27375	2x
Galling Pulse Laser		4000m	500m	2.1s	0.308125	1.5x
Medium Pulse Laser		5000m	2000m	3.5s	0.24625	3x
Focused Medium Pulse Laser		9000m	3000m	4.05s	0.09	2x
Heavy Pulse Laser		10000m	4000m	5.25s	0.08125	3x
Dual Heavy Pulse Laser		18000m	6000m	6.075s	0.0375	2x
Mega Pulse Laser		20000m	8000m	7.875s	0.03375	3x
Dual Giga Pulse Laser		37500m	10000m	11.81s	0.0040512	8x

BEAM LASER TURRETS						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
Dual Light Beam Laser		8750m	3000m	3.2s	0.13	2x
Medium Beam Laser		10000m	4000m	4s	0.1	3x
Focused Medium Beam Laser		17500m	6000m	4.8s	0.042	2x
Heavy Beam Laser		20000m	8000m	6s	0.033	3x
Quad Light Beam Laser		8000m	1000m	3.15s	0.081	1.5x
Dual Heavy Beam Laser		35000m	12000m	7.2s	0.0175	2x
Mega Beam Laser		40000m	16000m	9s	0.0153125	3x
Tachyon Beam Laser		44000m	20000m	12.5s	0.0139205	4.5x
Dual Giga Beam Laser		80000m	32000m	13.5s	0.002296875	5.5x

« WEAPONS – TURRETS »

PROJECTILE TURRETS








Projectile Turrets are used by Minmatars, and can be divided in two main groups: Artillery and Autocannon. The main characteristic for both groups is that capacitor power is not required for their use. Artillery has long range and high damage. Among the long range weapons, Artillery have the smallest Optimal Range, but the highest Falloff and Damage Multiplier. Their disadvantages are their weak ROF and Tracking Speed. Artillery can be the favourite weapon of the ‘hit and run’ type player, as its ‘alpha strike’ is very high.











Autocannons are different than other guns. They have significantly small damage per round, but their Tracking Speed and ROF are excellent. The downside is that if you shoot fast, you have

to reload more frequently, and that means ten seconds of dead time in every reload. Common problem with autocannons is that they fire so fast, that their pilots run out of ammo. The best gun is useless if it doesn’t shoot.

The low capacitor requirement offers a huge advantage against other races, as an Amarr or a Gallentean ship becomes paralyzed without capacitor. Taking these characteristics of Projectile Turrets into consideration along with the variable damage type (by choosing the most appropriate ammo) makes Minmatar ships lethal opponents. Naturally the speed is also an important matter, since to survive a battle you need to avoid hits.



ARTILLERY						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
250mm Light Artillery Cannon		8050m	8750m	8.5s	0.0825	4.62x
280mm Howitzer Artillery		10000m	8750m	10.71s	0.066	6.403x
650mm (Medium) Artillery Cannon		16100m	17200m	12.75s	0.0275	4.62x
720mm Howitzer Artillery		20000m	17500m	20.03s	0.022	7.973x
1200mm (Heavy) Artillery Cannon		32200m	35000m	21.038s	0.01125	5.082x
1400mm Howitzer Artillery		40000m	35000m	40.163s	0.009	10.672x
Quad 3500mm Siege Artillery		72000m	70000m	35.44s	0.0018	12.75x

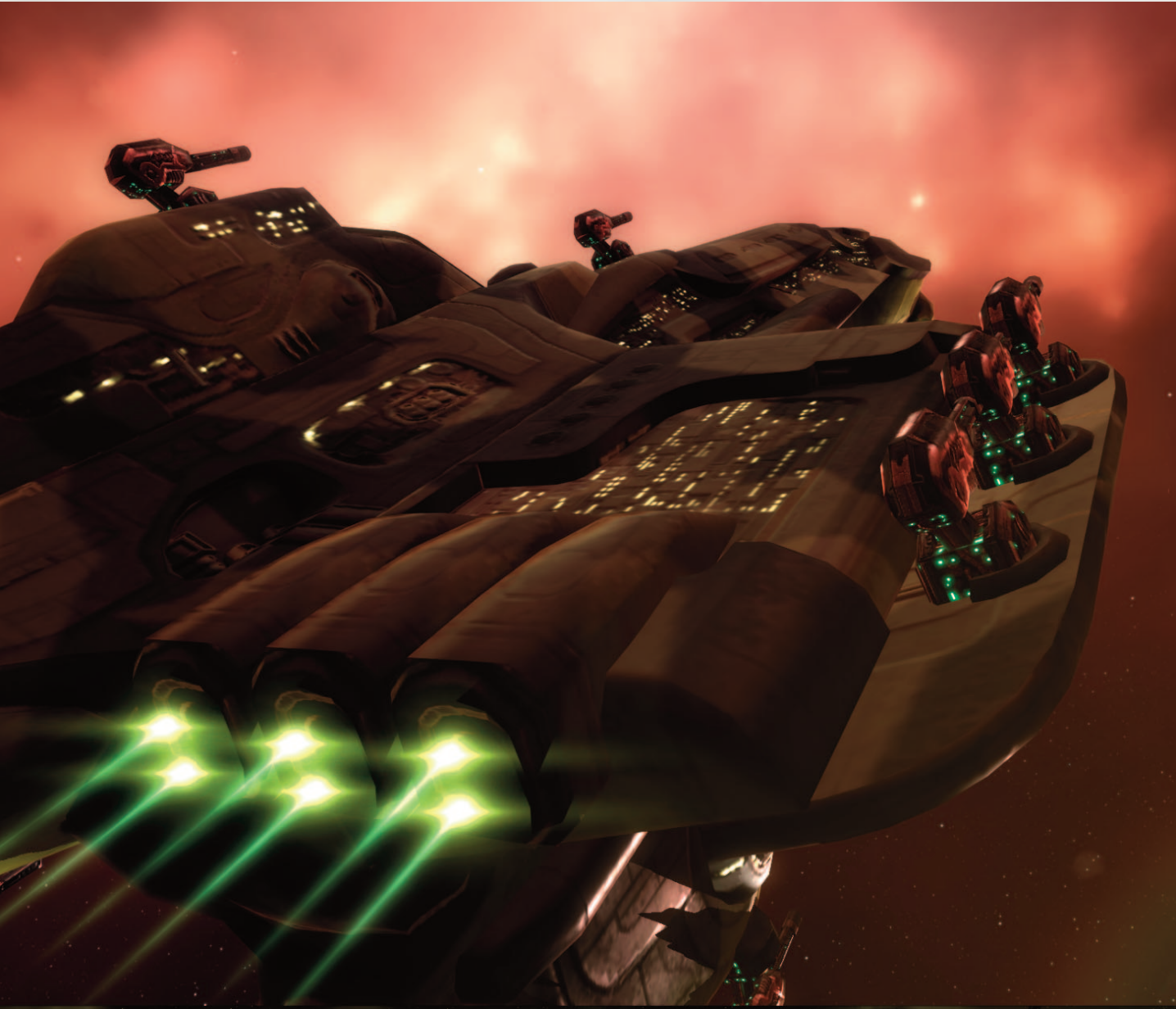
AUTOCANNONS						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
125mm (Light) Gatling Autocannon		800m	4000m	3s	0.417	2.0625x
150mm Light Autocannon		900m	4400m	3.375s	0.362	2.475x
200mm (Light) Autocannon		1000m	4800m	3.750s	0.315	2.8875x
220mm (Medium) Vulcan Autocannon		1800m	8800m	4.725s	0.12144	2.31x
425mm (Medium) Autocannon		2000m	9600m	5.625s	0.1056	2.8875x
Dual 180mm Autocannon		1600m	8000m	4.5s	0.13965	2.0625x
800mm (Heavy) Repeating Artillery		4000m	19200m	7.875s	0.0432	2.695x
Dual 425mm Autocannon		3200m	16000m	6.75s	0.05713	2.0625x
Dual 650mm Repeating Artillery		3600m	17600m	7.5s	0.04968	2.444x
6x2500mm Repeating Artillery		25000m	19200m	9.45s	0.00486	5.8x

« WEAPONS – TURRETS »

HYBRID TURRETS

Hybrid Turrets typically serve on Gallente and Caldari ships. Generally, Gallente are specialized in Blasters whereas Caldari favour Railguns, but it certainly is not a rule. The main difference between the two types of weaponry is that Blasters are close range weapons, while Railguns are best against targets at long range. Blasters bear the most ‘raw’ DPS. They have a rather high Damage Multiplier, good Rate of Fire, but only moderate Tracking Speed. The true disadvantage of the weapon is the small range, so have to get close to the enemy. This requires either an AB or MWD as a solution to the problem of distance.

Using Railguns is another way that can be chosen. They are very popular in Fleet Battles. Although their DPS and Alpha strikes are behind that of Artillery Turrets, their Optimal Range and Tracking Speed exceed them. Keep in mind the significant weakness of the Gallentean weapons and ships; their power requirements are huge. The ships do not have the same amount of capacitor as the Amarr do and the bonus reducing the energy requirement of the weapons is not available. So if you use Blasters and MWD together, do not forget to ensure a sufficient energy supply or you can only wave to your enemies, because you will not able to hurt them.



BLASTERS						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
Light Electron Blaster		1000m	1500m	2s	0.365	1.75x
Light Ion Blaster		1250m	2000m	3s	0.336	2.8125x
Light Neutron Blaster		1500m	2500m	3.5s	0.3165	3.5x
Heavy Electron Blaster		2000m	3000m	3s	0.12	1.75x
Heavy Ion Blaster		2500m	4000m	4.5s	0.11	2.8125x
Heavy Neutron Blaster		3000m	5000m	5.25s	0.1	3.5x
Electron Blaster Cannon		4000m	6000m	4.5s	0.05	1.75x
Ion Blaster Cannon		5000m	8000m	6.75s	0.046	2.8125x
Neutron Blaster Cannon		6000m	10000m	7.875s	0.0433	3.5x
Ion Siege Blaster Cannon		30000m	15000m	10.63s	0.0054125	7.92x

RAILGUNS						
TURRET		OPTIMAL RANGE	FALLOFF	ROF	TRACKING	DAMAGE MODIFIER
75mm Gatling Rail		6000m	3000m	2.6s	0.13	1.5x
125mm Railgun		9000m	5000m	3.25s	0.085	2x
150mm Railgun		12000m	6000m	4.25s	0.07	2.75x
200mm Railgun		18000m	10000m	4.875s	0.028	2x
250mm Railgun		24000m	12000m	6.375s	0.023	2.75x
Dual 150mm Railgun		12000m	6000m	3.9s	0.042	1.5x
350mm Railgun		36000m	20000m	7.313s	0.01167	2x
425mm Railgun		48000m	24000m	9.563s	0.009625	2.75x
Dual 250mm Railgun		24000m	12000m	5.85s	0.0175	1.5x
Dual 1000mm Railgun		96000m	24000m	14.35s	0.001925	5.8x

WEAPONS – TURRETS

TIER VS. META LEVEL

Generally speaking, the higher the Meta level of a given weapon, the higher its damage level is and easier is to fit (CPU, PG; in the given weapon type). Tech II equipment requires more resources. This means higher Skill, CPU, PG and / or cap requirements or their combination.

There are Tier-categories in a given size of weapon. Their characteristics are damage, range and the required resources increase in Tier levels, whereas Tracking Speed, ROF and ammo capacity decrease. (Ammo capacity does not concern lasers.)

For instance, in the case of Pulse Lasers:

TIER	SMALL PULSE	MEDIUM PULSE	LARGE PULSE
Tier 1	Dual Light	Focused Medium	Dual Heavy
Tier 2	Gatling Pulse	Heavy Pulse	Mega Pulse
Tier 3	Medium Pulse	-	-

TYPE NAME	META GROUP	ACTIVATION COST
Tachyon Beam Laser I	Tech I	95 GJ
Tachyon Afocal Maser I	Tech I	90.25 GJ
Tachyon Modal Laser I	Tech I	85.5 GJ
Tachyon Anode Particle Stream I	Tech I	80.75 GJ
Tachyon Modulated Energy Beam I	Tech I	76 GJ
Tachyon Beam Laser II	Tech II	95 GJ
'Ballista' Tachyon Beam Laser I	Storyline	95 GJ
Ammatar Navy Tachyon Beam Laser	Faction	71.25 GJ
Dark Blood Tachyon Beam Laser	Faction	71.25 GJ
Imperial Navy Tachyon Beam Laser	Faction	71.25 GJ
True Sansha Tachyon Beam Laser	Faction	71.25 GJ
Raysera's Modified Tachyon Beam Laser	Officer	71.25 GJ
Selynn's Modified Tachyon Beam Laser	Officer	71.25 GJ
Chelm's Modified Tachyon Beam Laser	Officer	76 GJ
Dracila's Modified Tachyon Beam Laser	Officer	76 GJ



REQUIRED / RECOMMENDED MODULES FOR TURRETS

MODULE TYPE	EFFECT	ACTIVE/PASSIVE
Target Painter	A targeting subsystem that projects an electronic 'Tag' on the target thus making it easier to target and hit Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Heat Sink	Dissipates energy weapon damage efficiently, thus allowing them to be fired more rapidly Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Gyrostabilizer	Gives a bonus to the speed and damage of projectile turrets Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Magnetic Field Stabilizer	Grants a bonus to the firing rate and damage of hybrid turrets Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive
Tracking Computer	By predicting the trajectory of targets, it helps to boost the tracking speed and range of turrets. This module can be loaded with scripts to increase its effectiveness in certain areas Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Tracking Enhancer	Enhances the range and improves the tracking speed of turrets Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive

WEAPONS – TURRETS

REQUIRED /RECOMMENDED SKILLS

Every, turret based weapon skill belongs to the ‘Gunnery’ skill group. The Gunnery skill itself provides 2% ROF bonus to all weapons. There are size specific skills (small, medium, large and capital), that give 5% bonus to the given size of weapon. (Medium Hybrid Turret skill gives 5% damage bonus, if you use Medium Railgun or Blaster.) The size naturally determines the size of ships which the weapon was designed to fight:

- **Small:** Frigate
- **Medium:** Cruiser
- **Large:** Battleship
- **Capital:** Capital

Naturally, you can ‘underfit’ your ship, or put smaller weapons on larger hulls, but you may lose the bonuses afforded by the ship, but you may gain an advantage against smaller targets.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT	NOTE
Controlled Bursts	2	4	Allows better control over the capacitor use of weapon turrets. 5% reduction in capacitor need of weapon turrets per skill level	Essential skill for Lasers and Hybrid weapons
Motion Prediction	2	4	Improved ability at hitting moving targets. 5% bonus per skill level to weapon turret tracking speeds	For All Turrets
Rapid Firing	2	4	Skill at the rapid discharge of weapon turrets. 4% bonus per skill level to weapon turret rate of fire	For All Turrets
Sharpshooter	2	5	Skill at long-range weapon turret firing. 5% bonus to weapon turret optimal range per skill level	For All Turrets
Surgical Strike	4	4	Knowledge of spaceships' structural weaknesses. 3% bonus per skill level to the damage of all weapon turrets	For All Turrets
Trajectory Analysis	5	4	Advanced understanding of zero-G physics. 5% bonus per skill level to weapon turret accuracy falloff	For All Turrets
XY Specialization	8	4	Specialist training in the operation of advanced turrets. 2% Bonus per skill level to the damage of turrets requiring XY Specialization	Only for Tech II Turrets
Weapon Upgrades	2	5	Knowledge of gunnery computer systems, including the use of weapon upgrade modules. 5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs	For All Weapons
Advanced Weapon Upgrades	6	4	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level	For All Launchers And Turrets

WEAPONS – AMMUNITION

Turrets are not much without ammunition. Ammo is the heart of your weapons. They can be divided in 12 groups, according to size (small, medium, large and extra large) and type (laser, hybrid and projectile). Every group has a short-range and long-range type. Every ammo has ten types (eight Tech I + two Tech II), which in most cases differ not only in range bonus but in damage level as well. For instance, the Antimatter Hybrid ammunition has -50% range bonus, while Iron Charges provides a 60% bonus.

The basic damage type of hybrid weapons is Thermal and Kinetic. The rate, level and range bonus are determined by the given type of ammo. Laser Crystals, like Hybrid Charges, have two types of damage: Thermal and Electromagnetic (EM). Their main advantage is (apart from Tech II and Faction crystals) that crystals are not damaged, so you do not have to carry more than one of each per turret. Naturally, be prepared for different ranges, to avoid surprises, and swap out the crystals for the situation. Another great advantage is their non-

































existent reloading time, as compared to the ten seconds dead time of other weapons. Projectile charges have a significant advantage: they are able to different damage types, up to three different kinds! It is useful to learn them, as even lower damage level ammo can hit more if the target has lower resistance for that certain type of damage. Do not forget the golden rule of projectile weapons: always have spare ammunition in your cargo bay, especially in the case of Autocannons.

TECH II AMMUNITION







Tech II ammunition needs a special approach, as aside from that they can be used only in Tech II weapons, they also have significant drawbacks. There are two types of Tech II charges for every weapon. The characteristic of these two groups is that one of them has a longer range bonus, while the other one emphasizes damage.

WEAPON		AMMUNITION	
CLASS	TYPE	NAME	DRAWBACK
LASER	BEAM	Aurora	x0.25 Tracking Speed (yes, it's a 75% negative effect)
		Gleam	x0.75 Tracking Speed, -75% Optimal Range
	PULSE	Conflagration	x0.70 Tracking Speed, +25% Capacitor Use
		Scorch	x0.75 Tracking Speed, bad damage output against armor
PROJECTILE	ARTILLERY	Quake	x0.75 Tracking Speed, -75% Optimal Range
		Tremor	x0.25 Tracking Speed
	AUTOCANNON	Barrage	x0.75 Tracking Speed
		Hail	x0.70 Tracking Speed, x0,5 Falloff Modifier
HYBRID	BLASTER	Null	x0.75 Tracking Speed
		Void	x0.75 Tracking Speed, +25% Capacitor Use
	RAILGUN	Javelin	x0.75 Tracking Speed, +25% Capacitor Use, -75% Optimal Range
		Spike	x0.25 Tracking Speed







WEAPONS – AMMUNITION

FREQUENCY CRYSTALS									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	THERMAL DAMAGE	EM DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
				Radio	0	5	60%	-15%	5
				Microwave	2	4	40%	-25%	6
				Infrared	2	5	20%	-35%	7
				Standard	3	5	0%	-45%	8
				Ultraviolet	3	6	-12.50%	-35%	9
				X-Ray	4	6	-25%	-25%	10
				Gamma	4	7	-37.50%	-15%	11
				Multifrequency	5	7	-50%	0%	12

































Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

TECH II BEAM LASER CRYSTALS									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	THERMAL DAMAGE	EM DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
			X	Gleam	7	7	-75%	0%	14
			X	Aurora	3	5	80%	0%	8







Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

TECH II PULSE LASER CRYSTALS									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	THERMAL DAMAGE	EM DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
			X	Scorch	2	9	50%	0%	11
			X	Conflagration	7.7	7.7	-50%	+25%	15.4







Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

PROJECTILE CHARGES										
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	DAMAGE EXPLOSIVE	KINETIC DAMAGE	THERMAL DAMAGE	EM DAMAGE	RANGE	TOTAL DAMAGE
				Carbonized Lead	1	4	-	-	60%	5
				Nuclear	4	1	-	-	60%	5
				Proton	-	2	-	3	60%	5
				Depleted Uranium	3	2	3	-	0%	8
				Titanium Sabot	2	6	-	-	0%	8
				Fusion	10	2	-	-	-50%	12
				Phased Plasma	-	2	10	-	-50%	12
				EMP	2	1	-	9	-50%	12

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

































TECH II ARTILLERY CHARGES										
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	DAMAGE EXPLOSIVE	KINETIC DAMAGE	THERMAL DAMAGE	EM DAMAGE	RANGE	TOTAL DAMAGE
			X	Quake	9	5	-	-	-75%	14
			X	Tremor	5	3	-	-	80%	8

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8







TECH II AUTOCANNON CHARGES										
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	DAMAGE EXPLOSIVE	KINETIC DAMAGE	THERMAL DAMAGE	EM DAMAGE	RANGE	TOTAL DAMAGE
			X	Hail	12.1	3.3	-	-	-50%	15.4
			X	Barrage	6	5	-	-	0%	11

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8







WEAPONS – AMMUNITION

HYBRID CHARGES									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	KINETIC DAMAGE	THERMAL DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
				Iron	3	2	60%	-30%	5
				Tungsten	4	2	40%	-27%	6
				Iridium	4	3	20%	-24%	7
				Lead	5	3	0%	-50%	8
				Thorium	5	4	-12.50%	-40%	9
				Uranium	6	4	-25%	-8%	10
				Plutonium	6	5	-37.50%	-5%	11
				Antimalter	7	5	-50%	0%	12

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

TECH II BLASTER CHARGES									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	KINETIC DAMAGE	THERMAL DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
			X	Null	5	6	25%	0%	11
			X	Void	7.7	7.7	-25%	-25%	15.4

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

TECH II RAILGUN CHARGES									
SMALL	MEDIUM	LARGE	EXTRA LARGE	NAME	KINETIC DAMAGE	THERMAL DAMAGE	RANGE	CAPACITOR	TOTAL DAMAGE
			X	Javelin	6	8	-75%	25%	14
			X	Spike	4	4	80%	0%	8

Small ammo size = Damage x1, Medium = Damage x2, Large = Damage x4, Extra Large = Damage x8

SMARTBOMB

A Smartbomb is an energy-discharge around your ship. Any object (not target) within the range of the Smartbomb takes the damage, friend or foe. This leads to three significant dangers:

- In high-sec, you can hit something you really should not. Then comes CONCORD and you are doomed.
- You can destroy your own drones.
- Does not spare even your corp members.

Of course, it has significant advantages as well:

- No need to target anyone, so the hostile EW modules do not bother you.
- It can destroy incoming missiles.
- It affects everything within range, so dozens of targets can be destroyed at the same time.

Due to nature of the weapon, it has a massive energy requirement, so use it with caution. The higher Meta level (named, faction, officer, Tech II) versions have longer ranges and higher damage levels.

Smartbombs are available in all four damage types and sizes:

- **Micro:** 2000m range, 25 damage
- **Small:** 3000m range, 50 damage
- **Medium:** 4000m range, 100 damage
- **Large:** 5000m range, 250 damage



ATTACK OF THE DRONES »



There is nothing better than watching your small fleet of drones kill anyone who wanders in your way, but your drones (miniature, remote-controlled spaceships) need a few things to be efficient; a good grounding of skills, a drone-specialized ship, some special equipment and, of course, the drones themselves.

The most important thing that should never be forgotten is that these small beasts are like children; small, annoying and destructive and most of the time won't pay any attention to your commands. Perhaps the last statement is the most valid, as your drones, regardless of their settings, can attack a totally different target than the one you commanded them to.

You must have at least one drone in your drone bay to access the Drone Settings menu. For that, right-click on the 'Drones x of y in Space' option just underneath the Overview window. There, you can set your drones to be either passive or aggressive.

In the first case, they only attack if you commend them. While it may seem that aggressive mode is more comfortable, as all you have to do is wait for the enemy to attack you and your drones finish him off automatically, that's only true in theory. In practice, in many cases, it is not most dangerous opponent that attacks you, but the drones will still attack the first aggressor regardless of his strength. They can also accidentally trigger whole spawns of NPCs in missions, so be careful!

Focus Fire is the most useful option. All five drones on a target is far more effective than one drone each on five targets.

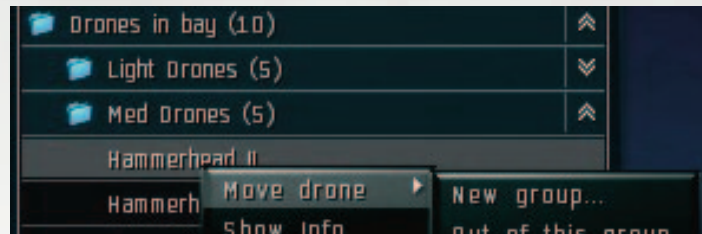
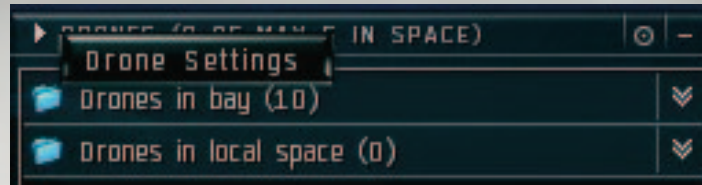
ORGANISING DRONES

It is important to see which drones are in your drone bay, and which are released. 'Drones in Bay' means those that are still inside the bay. 'Drones in Local Space' means those that currently flying. Fighter drones can also be 'Drones in Local Space', but they can also be found in 'Drones in Distant Space' if they have been assigned to other players.

It is important to organize your drones and release the proper ones, which is not possible if they are loose in your 'Drones in Bay' list. You can create groups, and navigate those groups accordingly. It makes it easier to launch them or give them a specific order in space. For that, right-click on your selected drone and you can:

- Put it in a new group, by choosing 'New Group'.
- Remove it from a certain group, using the 'Out of this Group' option.
- Move it to an already existing group.

You can use the 'Launch Drones' command on any drones or drone groups in your drone bay to launch them into the space. If you use it on a single drone, you will launch it specifically. If you use the command on a group header, you will launch the whole group. Of course, the maximum amount of drones in space is limited by your skills and by the drone bandwidth of your ship. If the group is larger than the number of drones that you can command, only the first drones will launch, until the limit is



reached. When your drones are in space, you are able to see their structure, armour and shield hitpoints bars and you can also issue commands to them.

- **Collapse:** closes the open menu.
- **Engage Target (x):** Your drones will attack your currently SELECTED target. The (x) stands for the amount of drones involved.
- **Return and Orbit:** Orders your drones to return to your side and orbit the ship; they do not dock.
- **Return to Drone Bay:** Orders your drones to return and dock.
- **Scoop to Drone Bay:** If they are close enough, you can scoop your (or anyone else's) drones to your drone bay if there is enough space. You can use drones you have stolen this way.
- **Abandon Drone (x):** You can stop controlling your drones and 'throw them away'. The drones will cease fire and stop. This could be useful if you had mining drones out, but were suddenly attacked. Instead of waiting for the mining drones to return, abandon them and launch the combat drones right away.

Mining drones do not have attack commands, but have two other options instead:

- **Mine:** The drone mines the target asteroid until its cargo hold is filled with ore. It will do this only once.
- **Mine Repeatedly:** The drone mines the target asteroid, when its cargo is full it brings the ore to your hold then returns to mining.

Very important: The area affect weapons (smartbombs and bombs) also affect drones, even if they are yours!

EW, COMBAT UTILITY AND LOGISTIC DRONES

There is no mention of electronic or combat utility drones yet. While many of these are best for PvP only, the logistics drones are excellent in team combat of larger challenges, and the target painter/stasis webifier drones can be a better usage for a drone bay than that of just using medium or a couple of heavy drones.

An excellent example is the maelstrom with 1400mm howitzers. Without the drone damage bonus, cruisers and battlecruisers took a bit of time to kill when they were higher bounty with medium drones. With only 100 m3 drone bay, one cannot fit the required light scout drones and a viable flight of combat heavies or sentries. What I did instead was try using two of the berserker SW-900 drones with a Berserker TP-900. The ability to hit the targets at close range was absolutely amazing.

The signature size increase and speed decrease allows me to speed flank targets and hit even at ranges of 10km. This was made even more apparent in missions where the enemy might start or spawn in close (as with Worlds Collide or Angels' missions). The results was that while the drones did less damage, the increase in the ability to use the massive guns on the ship resulted in much faster mission completion times (thanks to R. Jacob for that tip). Don't forget the Logistic drones, they can be very useful in tight situations, when you need armour and/or shield and your friend is in a drone ship and has a few of them.

TRAITS OF DRONES

There are a few things common to each and every drone:

- **Regardless of drone type and Tech levels:** they have 0% EM, 60% Explosive, 40% Kinetic, and 20% Thermal shield resistances. They have 60% EM, 10% Explosive, 25% Kinetic, and 45% Thermal armour resistances.
- They can have eight targets maximum.
- Except fighters (and fighter bombers) their Rate of Fire is four seconds.
- You can only control five drones maximum at the same time. Carriers and supercarriers can launch more.

The amount of drones you can control is limited by your drone bandwidth and, in the case of carriers, supercarriers and the Guardian or Vexor, by your ship bonuses. The sum of bandwidth requirement of your active drones must be less than or equal to the drone bandwidth of your ship. The following tables will list the basic attributes of your drones. They do not include any ship or skill bonuses. Tech II drones can become significantly more powerful given the proper skills.

ALL
GOOD
THINGS
MUST
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THE RISE & FALL OF
EVE ALLIANCES

FOR WHEN YOU ABSOLUTELY NEED
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«ATTACK OF THE DRONES»

DRONES

LIGHT SCOUT DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ARM OUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Hobgoblin	15	1.6x	4s	Thermal	35/75	550 m/s	2800 m/s	24	6
Hobgoblin II	15	1.92x	4s	Thermal	42/90	660 m/s	3360 m/s	28.8	7.2
Hornet	15	1.45x	4s	Kinetic	65/55	600 m/s	3200 m/s	21.75	5.44
Hornet II	15	1.74x	4s	Kinetic	78/66	720 m/s	3820 m/s	26.1	6.52
Warrior	15	1.3x	4s	Explosive	40/60	750 m/s	4200 m/s	19.5	4.87
Warrior II	15	1.56x	4s	Explosive	48/72	900 m/s	5040 m/s	23.4	5.85
Acolyte	15	1.15x	4s	EM	25/75	650 m/s	3800 m/s	17.25	4.31
Acolyte II	15	1.38x	4s	EM	30/90	780 m/s	4560 m/s	20.7	5.17
Hobgoblin	15	1.6x	4s	Thermal	35/75	550 m/s	2800 m/s	24	6

MEDIUM SCOUT DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ARM OUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Hammerhead	24	1.6x	4s	Thermal	70/150	400 m/s	1400 m/s	38.4	9.6
Hammerhead II	24	1.92x	4s	Thermal	84/180	480 m/s	1680 m/s	46.08	11.52
Vespa	24	1.45x	4s	Kinetic	130/110	425 m/s	1600 m/s	34.8	8.7
Vespa II	24	1.74x	4s	Kinetic	156/132	510 m/s	1920 m/s	41.76	10.44
Valkyrie	24	1.3x	4s	Explosive	80/120	500 m/s	2100 m/s	31.2	7.8
Valkyrie II	24	1.56x	4s	Explosive	96/144	600 m/s	2520 m/s	37.44	9.36
Infiltrator	24	1.15x	4s	EM	50/150	450 m/s	1900 m/s	27.6	6.9
Infiltrator II	24	1.38x	4s	EM	60/180	450 m/s	2280 m/s	33.12	8.28

HEAVY SCOUT DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ARM OUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Ogre	48	1.6x	4s	Thermal	140/300	250 m/s	700 m/s	76.8	19.2
Ogre II	48	1.92x	4s	Thermal	168/360	300 m/s	840 m/s	92.16	23.04
Wasp	48	1.45x	4s	Kinetic	260/220	275 m/s	800 m/s	69.6	17.4
Wasp II	48	1.74x	4s	Kinetic	312/264	330 m/s	960 m/s	83.52	20.88
Berserker	48	1.3x	4s	Explosive	160/240	350 m/s	1050 m/s	62.4	15.6
Berserker II	48	1.56x	4s	Explosive	192/288	420 m/s	1260 m/s	74.88	18.72
Praetor	48	1.15x	4s	EM	100/300	300 m/s	950 m/s	55.2	13.8
Praetor II	48	1.38x	4s	EM	120/360	360 m/s	1140 m/s	66.24	16.56

SENTRY DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ ARMOUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Garde	50	1.6x	4s	Thermal	608/800	-	-	80	20
Garde II	50	1.92x	4s	Thermal	729/960	-	-	96	24
Warden	50	1.2x	4s	Kinetic	960/448	-	-	60	15
Warden II	50	1.44x	4s	Kinetic	1152/537	-	-	72	18
Bouncer	50	1.4x	4s	Explosive	800/608	-	-	70	17.5
Bouncer II	50	1.68x	4s	Explosive	960/729	-	-	84	21
Curator	50	1.3x	4s	EM	448/960	-	-	65	16.25
Curator II	50	1.56x	4s	EM	537/1152	-	-	78	19.5

FIGHTER DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ ARMOUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Firbolg	25/50	3.5x	5.25s	Kinetic/Thermal	2500/3000	280 m/s	2250 m/s	262.5	50
DragonFly	50/25	4.25x	6.37s	Kinetic/Thermal	2750/4000	225 m/s	2000 m/s	318.75	50
Einherji	50/25	2.5x	3.75s	Explosive/Kinetic	2750/3250	300 m/s	2500 m/s	187.5	50
Templar	50/25	4x	6s	EM/Thermal	3750/4250	250 m/s	2125 m/s	300	50

FIGHTER BOMBER DRONES									
NAME	BASE DAMAGE	DAMAGE MULTIPLIER	ROF	DAMAGE TYPE	SHIELD/ ARMOUR	ORBIT VELOCITY	MAX SPEED	DAMAGE	DPS
Cyclops	3000	Compact Purgatory Torpedo I	15s	Therm	5000/6000	196 m/s	1575 m/s	3000	200
Manlis	3000	Compact Rift Torpedo I	15s	Kinetic	6000/5500	158 m/s	1400 m/s	3000	200
Tyrfing	3000	Compact Doom Torpedo I	15s	Explosive	5500/6500	210 m/s	1750 m/s	3000	200
Malleus	3000	Compact Thor Torpedo I	15s	EM	4500/7500	175 m/s	1485 m/s	3000	200

«ATTACK OF THE DRONES»

COMBAT UTILITY DRONES					
NAME	TYPE	ORBIT VELOCITY	BANDWITH	SPECIAL ABILITY	CYCLE TIME
Berserker SW-900	Heavy Webifier Drone	250 m/s	25 Mbit/s	Max. Velocity Bonus: -20%	5 sec
Acolyte EV-300	Light Energy Neutralizer Drone	350 m/s	5 Mbit/s	Energy Neutralized: 5 GJ	6 sec
Infiltrator EV-600	Medium Energy Neutralizer Drone	300 m/s	10 Mbit/s	Energy Neutralized: 10 GJ	6 sec
Prætor EV-900	Heavy Energy Neutralizer Drone	250 m/s	25 Mbit/s	Energy Neutralized: 25 GJ	6 sec

ELECTRONIC WARFARE DRONES					
NAME	TYPE	ORBIT VELOCITY	BANDWITH	SPECIAL ABILITY	CYCLE TIME
Acolyte TD-300	Light Tracking Disruptor Drone	350 m/s	5 Mbit/s	Tracking Speed/Falloff/Optimal Multiplier: 0.95x	5 sec
Infiltrator TD-600	Medium Tracking Disruptor Drone	300 m/s	10 Mbit/s	Tracking Speed/Falloff/Optimal Multiplier: 0.88x	5 sec
Prætor TD-900	Heavy Tracking Disruptor Drone	250 m/s	25 Mbit/s	Tracking Speed/Falloff/Optimal Multiplier: 0.75x	5 sec
Warrior TP-300	Light Target Painter Drone	350 m/s	5 Mbit/s	Signature Radius Bonus: 4%	5 sec
Valkyrie TP-600	Medium Target Painter Drone	300 m/s	10 Mbit/s	Signature Radius Bonus: 8%	5 sec
Berserker TP-900	Heavy Target Painter Drone	250 m/s	25 Mbit/s	Signature Radius Bonus: 20%	5 sec
Hobgoblin SD-300	Light Sensor Dampener Drone	350 m/s	5 Mbit/s	Scan. Res. / Optimal Range Bonus: 8%	5 sec
Hammerhead SD-600	Medium Sensor Dampener Drone	300 m/s	10 Mbit/s	Scan. Res. / Optimal Range Bonus: 12%	5 sec
Ogre SD-900	Heavy Sensor Dampener Drone	250 m/s	25 Mbit/s	Scan. Res. / Optimal Range Bonus: 25%	5 sec
Hornet EC-300	Light ECM Drone	350 m/s	5 Mbit/s	ECM Strength: 1	20 sec
Vespa EC-600	Medium ECM Drone	300 m/s	10 Mbit/s	ECM Strength: 1.5	20 sec
Wasp EC-900	Heavy ECM Drone	250 m/s	25 Mbit/s	ECM Strength: 2	20 sec




ELECTRONIC WARFARE DRONES					
NAME	TYPE	ORBIT VELOCITY	BANDWITH	SPECIAL ABILITY	CYCLE TIME
Light Shield Main. Bot I	Shield Maintenance Drone	350 m/s	5 Mbit/s	Shield Bonus: 12 HP	5 sec
Light Shield Main. Bot II	Shield Maintenance Drone	420 m/s	5 Mbit/s	Shield Bonus: 14,4 HP	5 sec
Medium Shield Main. Bot I	Shield Maintenance Drone	300 m/s	10 Mbit/s	Shield Bonus: 24 HP	5 sec
Medium Shield Main. Bot II	Shield Maintenance Drone	360 m/s	10 Mbit/s	Shield Bonus: 28,8 HP	5 sec
Heavy Shield Main. Bot I	Shield Maintenance Drone	250 m/s	25 Mbit/s	Shield Bonus: 60 HP	5 sec
Heavy Shield Main. Bot II	Shield Maintenance Drone	300 m/s	25 Mbit/s	Shield Bonus: 72 HP	5 sec
Light Armor Main. Bot I	Armour Maintenance Drone	350 m/s	5 Mbit/s	Armour Repaired: 12 HP	5 sec
Light Armor Main. Bot II	Armour Maintenance Drone	420 m/s	5 Mbit/s	Armour Repaired: 14 HP	5 sec
Medium Armor Main. Bot I	Armour Maintenance Drone	300 m/s	10 Mbit/s	Armour Repaired: 24 HP	5 sec
Medium Armor Main. Bot II	Armour Maintenance Drone	360 m/s	10 Mbit/s	Armour Repaired: 28 HP	5 sec
Heavy Armor Main. Bot I	Armour Maintenance Drone	250 m/s	25 Mbit/s	Armour Repaired: 60 HP	5 sec
Heavy Armor Main. Bot II	Armour Maintenance Drone	300 m/s	25 Mbit/s	Armour Repaired: 72 HP	5 sec




REQUIRED /RECOMMENDED SKILLS

In the case of drones it is very important to have the proper drone skills, because as opposed to weapons, drones are effected by lot fewer modules.

SKILL NAME	RANK	SUGGESTED MIN. SKILL LEVEL	EFFECT	NOTE
Drones	1	5	Skill at remote controlling drones. Can operate one drone per skill level	A ‘must have’ skill for drone ships
Combat Drone Operation	2	4	Skill at controlling scout drones. 5% bonus to drone damage of light and medium drones per level	Useful skill, suggested to level V
Heavy Drone Operation	5	4	Skill at controlling heavy combat drones. 5% Bonus to heavy drone damage per level	Not bad, mostly enough on level IV
Scout Drone Operation	1	5	Skill at controlling scout combat drones. Bonus: drone control range increased by 5000 meters per skill level	A drone far, far away...
Electronic Warfare Drone Interfacing	5	4	Allows operation of electronic warfare drones. Bonus: 3000m drone control range bonus per level	For ‘regular drones’ too!
Drone Interfacing	5	5	Allows a captain to better maintain its drones. 20% bonus to drone damage, drone mining yield per level	Hard to train, but ‘must have’ at level V
XY Drone Specialization	5	4	Specialization in the operation of advanced XY drones. 2% bonus to advanced XY drone damage per level	Pre-req for Tech II drones
Drone Navigation	1	5	Skill at controlling drones at high speeds. 5% increase in drone microwarpdrive speed per level	To reach their target is an important thing
Drone Sharpshooting	1	4	Increases drone optimal range	Not suggested for level V
Drone Durability	5	4	Increases drone hit points. 5% bonus to drone shield, armour and hull hitpoints per level	Not for Fighters/Fighter Bombers
Sentry Drone Interfacing	5	4	Skill at controlling sentry drones. 5% bonus to sentry drone damage per level.	Only for sentries, use if you need.
Advanced Drone Interfacing	8	4 (5)	Allows the use of the Drone Control Unit module. One extra module can be fitted per skill level. Each fitted Drone Control Unit allows the operation of one extra drone	Only for carriers and SCs
Fighters	12	4 (5)	Allows operation of fighter craft. 20% increase in fighter damage per level	Level V for carrier and SC pilots!
Fighter Bombers	12	4 (5)	Allows operation of fighter bomber craft. 20% increase in fighter bomber damage per level	Only for supercarriers

«ATTACK OF THE DRONES»

				
	NAME	DOMINIX	SIN	ISHTAR
FITTING	CPU	600	600	285
	Powergrid	9000	8800	700
	Low slots	7	6	5
	Mid slots	5	6	5
	High slots	6	7	5
	Max turrets	6	4	3
	Max launchers	0	0	0
SPECS	Cargo bay	600 m3	700 m3	460 m3
	Drone bay	375 m3	400 m3	125 m3
	Drone bandwidth	125 Mbit/s	125 Mbit/s	125 Mbit/s
	Max speed	120 m/s	112 m/s	175 m/s
ARMOUR	Base armour	3975	4968	1150
	EM resistance	50%	50%	50%
	Explosive resistance	10%	10%	10%
	Kinetic resistance	35%	45%	83.8%
	Thermal resistance	35%	35%	67.5%
SHIELD	Base shield	3500	4375	1000
	EM resistance	0%	0%	0%
	Explosive resistance	50%	50%	50%
	Kinetic resistance	40%	50%	85%
	Thermal resistance	20%	20%	60%
	Recharge rate	2000s	3125s	1000s
SHIP BONUS		Gallente Battleship Skill Bonus: 5% bonus to Large Hybrid Turret damage and 10% bonus to drone hitpoints and damage per skill level	Gallente Battleship Skill Bonus: 5% bonus to large hybrid turret damage and 10% bonus to drone hit points and damage per skill level Black Ops Skill Bonus: 5% bonus to agility and multiplies the cloaked velocity by 125% per level	Gallente Cruiser Skill Bonus: 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints and damage per skill level Heavy Assault Ship Skill Bonus: +5 km bonus to Scout and Heavy Drone operation range and +50 m3 extra Drone Bay space per level

				
	NAME	ISHKUR	VEXOR	ARBITRATOR
FITTING	CPU	155	300	300
	Powergrid	42	625	575
	Low slots	3	4	5
	Mid slots	3	3	3
	High slots	4	5	4
	Max turrets	3	4	2
	Max launchers	0	0	1
SPECS	Cargo bay	165 m3	480 m3	345 m3
	Drone bay	25 m3	100 m3	150 m3
	Drone bandwidth	25 Mbit/s	75 Mbit/s	50 Mbit/s
	Max speed	250 m/s	155 m/s	155 m/s
ARMOUR	Base armour	575	950	875
	EM resistance	50%	50%	50%
	Explosive resistance	10%	10%	20%
	Kinetic resistance	83.8%	35%	25%
	Thermal resistance	67.5%	35%	35%
SHIELD	Base shield	325	750	650
	EM resistance	0%	0%	0%
	Explosive resistance	50%	50%	50%
	Kinetic resistance	85%	40%	40%
	Thermal resistance	60%	20%	20%
	Recharge rate	500s	1000s	1000s
SHIP BONUS		Gallente Frigate Skill Bonus: 5% bonus to Small Hybrid Turret damage Assault Ships Skill Bonus: 10% bonus to Small Hybrid Turret Optimal Range per level 5m3 Drone Bay Capacity per level	Gallente Cruiser Skill Bonus: 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints, damage and mining yield per skill level	Amarr Cruiser Skill Bonus: 5% bonus to Tracking Disruptor effectiveness per skill level and 10% bonus to drone hitpoints, damage and mining yield per skill level

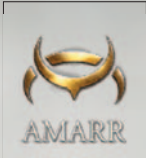
«ATTACK OF THE DRONES»

RECOMMENDED MODULES FOR DRONES

MODULE TYPE	EFFECT	ACTIVE/PASSIVE
Target Painter	A targeting subsystem that projects an electronic 'Tag' on the target thus making it easier to target and hit Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Drone Control Unit	Gives you one extra drone. You need Advanced Drone Interfacing to use this module, it gives you the ability to fit one drone control unit per level 99% Reduction in CPU requirement when fit to carriers and supercarriers	Active
Drone Link Augmentor	Increases drone control range	Passive
Drone Navigation Computer	Increases MWD speed of drones	Passive
Omnidirectional Tracking Link	Improves the optimal range and tracking of all drones Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Passive

DRONE CONTROL RANGES			
BASE RANGE	SCOUT OPERATION DRONE	ELECTRONIC WARFARE DRONE INTERFACING	DRONE LINK AUGMENTOR
20km	5km/skill lvl	3km/skill lvl	Active

«STARSHIPS OF THE RACES»



AMARR

As mentioned earlier, Amarr are the specialists of laser weapons and the masters of armour. Their ships have the best capacitor recharge potential.

	CLASS		NAME
FRIGATE	Tech I		Executioner, Inquisitor, Tormentor, Punisher, Crucifier, Magnate
	Faction		Amarr Navy Slicer
	Tech II	Assault Ship	Vengeance, Retribution
		Interceptor	Crusader, Malediction
		Covert Ops	Anathema, Purifier
		Electronic Attack Ship	Sentinel
DESTROYER	Tech I		Coercer
	Tech II	Interdictor	Heretic
CRUISER	Tech I		Arbitrator, Augoror, Omen, Maller
	Faction		Omen Navy Issue, Augoror Navy Issue
	Tech II	Heavy Assault Ships	Zealot, Sacrilege
		Recon Ship	Pilgrim, Curse
		Heavy Interdictor	Devoter
		Logistic	Guardian
	Tech III	Strategic Cruiser	Legion
BATTLECRUISER	Tech I		Prophecy, Harbinger
	Tech II	Command Ship	Absolution, Damnation
BATTLESHIP	Tech I		Armageddon, Apocalypse, Abaddon
	Faction		Apocalypse Navy Issue, Armageddon Imperial Issue, Apocalypse Imperial Issue
	Tech II	Black Ops	Redeemer
		Marauders	Paladin
INDUSTRIAL	Tech I		Sigil, Bestower
		Freighter	Providence
	Tech II	Transport Ship	Impel
		Blockade Runner	Prorator
		Jump Freighter	Ark
CAPITAL	Tech I	Carrier	Archon
		Dreadnought	Revelation
		Supercarrier	Aeon
		Titan	Avatar

«STARSHIPS OF THE RACES»



CALDARI

They are specialists in missiles, hybrid weapons, electronic warfare and shields.

	CLASS		NAME
FRIGATE	Tech I		Bantam, Condor, Griffin, Kestrel, Merlin, Heron
	Faction		Caldari Navy Hookbill
	Tech II	Assault Ship	Hawk, Harpy
		Interceptor	Crow, Raptor
		Covert Ops	Buzzard, Manticores
		Electronic Attack Ship	Kitsune
DESTROYER	Tech I		Cormorant
	Tech II	Interdictor	Flycatcher
CRUISER	Tech I		Osprey, Blackbird, Caracal, Moa
	Faction		Caracal Navy Issue, Osprey Navy Issue
	Tech II	Heavy Assault Ships	Cerberus, Eagle
		Recon Ship	Falcon, Rook
		Heavy Interdictor	Onyx
		Logistic	Basilisk
	Tech III	Strategic Cruiser	Tengu
BATTLECRUISER	Tech I		Ferox, Drake
	Tech II	Command Ship	Nighthawk, Vulture
BATTLESHIP	Tech I		Scorpion, Raven, Rokh
	Faction		Raven Navy Issue, Raven State Issue
	Tech II	Black Ops	Widow
		Marauders	Golem
INDUSTRIAL	Tech I		Badger, Badger Mark II
		Freighter	Charon
	Tech II	Transport Ship	Bustard
		Blockade Runner	Crane
		Jump Freighter	Rhea
CAPITAL	Tech I	Carrier	Chimera
		Dreadnought	Phoenix
		Supercarrier	Wyvern
		Titan	Leviathan



GALLENTE

They use drones and hybrid weapons, and prefer armour tanking.

	CLASS		NAME
FRIGATE	Tech I		Alron, Imicus, Incursus, Maulus, Navitas, Tristan
	Faction		Gallente Navy Comet
	Tech II	Assault Ship	Ishkur, Enyo
		Interceptor	Ares, Taranis
		Covert Ops	Helios, Nemesis
		Electronic Attack Ship	Keres
DESTROYER	Tech I		Catalyst
	Tech II	Interdictor	Eris
CRUISER	Tech I		Exequror, Celestis, Vexor, Thorax
	Faction		Exequror Navy Issue, Vexor Navy Issue
	Tech II	Heavy Assault Ships	Ishtar, Deimos
		Recon Ship	Lachesis, Arazu
		Heavy Interdictor	Phobos
		Logistic	Oneiros
	Tech III	Strategic Cruiser	Proteus
BATTLECRUISER	Tech I		Brulix, Myrmidon
	Tech II	Command Ship	Astarte, Eos
BATTLESHIP	Tech I		Dominix, Megathron, Hyperion
	Faction		Megathron Navy Issue, Megathron Federate Issue
	Tech II	Black Ops	Sin
		Marauders	Kronos
INDUSTRIAL	Tech I		Iteron, Iteron Mark II, Iteron Mark III, Iteron Mark IV, Iteron Mark V
		Freighter	Obelisk
	Tech II	Transport Ship	Occator
		Blockade Runner	Viator
		Jump Freighter	Anshar
CAPITAL	Tech I	Carrier	Thanatos
		Dreadnought	Moros
		Supercarrier	Nyx
		Titan	Erebus

«STARSHIPS OF THE RACES»



MINMATAR

True jacks of all trades, many of their ships are specialized in shields, others armour. Minmatars prefer speed, artillery and autocannon.

	CLASS		NAME
FRIGATE	Tech I		Burst, Slasher, Vigil, Breacher, Rifter, Probe
	Faction		Dramiel, Republic Fleet Firetail
	Tech II	Assault Ship	Jaguar, Wolf
		Interceptor	Stiletto, Claw
		Covert Ops	Cheetah, Hound
		Electronic Attack Ship	Hyena
DESTROYER	Tech I		Thrasher
	Tech II	Interdictor	Sabre
CRUISER	Tech I		Scythe, Bellicose, Stabber, Rupture
	Faction		Stabber Fleet Issue, Scythe Fleet Issue
	Tech II	Heavy Assault Ships	Vagabond, Muninn
		Recon Ship	Huginn, Rapier
		Heavy Interdictor	Broadsword
		Logistic	Scimitar
	Tech III	Strategic Cruiser	Loki
BATTLECRUISER	Tech I		Cyclone, Hurricane
	Tech II	Command Ship	Sleipnir, Claymore
BATTLESHIP	Tech I		Typhoon, Tempest, Maelstrom
	Faction		Tempest Fleet Issue, Tempest Tribal Issue
	Tech II	Black Ops	Panther
		Marauders	Vargur
INDUSTRIAL	Tech I		Wreathe, Hoarder, Mammoth
		Freighter	Fenrir
	Tech II	Transport Ship	Mastodon
		Blockade Runner	Prowler
		Jump Freighter	Nomad
CAPITAL	Tech I	Carrier	Nidhoggur
		Dreadnought	Naglfar
		Supercarrier	Hel
		Titan	Ragnarok

PIRATE FACTION AND O.R.E. SHIPS

Each of the four main empires has its own ‘terrorist’ or pirate enemy, and these pirate factions have their own specialized ship designs. Pirates often mix technologies from multiple races, which can give them an edge, but these tend to have very high skill requirements. Such ships are also very expensive.



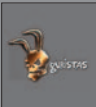
ANGEL CARTEL (MINMATAR/GALLENTÉ)

SHIP CLASS	SHIP NAME
Frigate	Dramiel
Cruiser	Cynabal
Battleship	Machariel



BLOOD RAIDERS (AMARR/MINMATAR)

SHIP CLASS	SHIP NAME
Frigate	Cruor
Cruiser	Ashimmu
Battleship	Bhaalgorn



GURISTAS (CALDARI/GALLENTÉ)

SHIP CLASS	SHIP NAME
Frigate	Worm
Cruiser	Gila
Battleship	Rattlesnake



SANSHA'S NATION (AMARR/CALDARI)

SHIP CLASS	SHIP NAME
Frigate	Succubus
Cruiser	Phantas
Battleship	Nightmare



SERPENTIS (GALLENTÉ/MINMATAR)

SHIP CLASS	SHIP NAME
Frigate	Daredevil
Cruiser	Vigilant
Battleship	Vindicator



O.R.E. (SPECIAL, MINING SHIP SKILLS)

SHIP CLASS	SHIP NAME
Mining Barge	Procurer, Retriever, Covefor
Exhumer	Skiff, Mackinaw, Hulk
Industrial Command Ship	Orca
Capital Industrial Ship	Rorqual
Standard Industrial Ship	Nocits, Primea

MINING

» INTRODUCTION

» MINING 101

» THE BEGINNING OF THE BUSINESS

» REFINING / RECYCLING

» MINING BARGE OR BATTLESHIP?

» MINING LASER CRYSTALS

» PERFECT MINING

» THE MIGHTY HULK

» MINING DRONES

» ICE & MERCOXIT

» MINING FOREMAN LINKS & IMPLANTS

» CAPITAL MINING

» LOGISTICS – ON THE MOVE!



[THE MINING LIFE]

➡ A tall, elegant man stood in a dark room. The numerous computer displays and gauges cast blue shadows upon his serious face, his eyes piercing among the darkness, overseeing the work of his engineers.

One of the workers came running to the officer.

“Commander, one of our strip miner is malfunctioning. We are getting abnormal readings from the buffer. The transport stream isn’t compensating.”

“Deactivate the system and replace the crystal, Mister Dupuis,” grinned the tall man. Commander Velour wasn’t fond of this recent technology. He had been an engineer for 35 years, and he always referred to his earlier years, when mechanical grips were still the sharp edge of technology. Now they had bidirectional laser stream transport technology, advanced crystal enhancements, drones and who knows what else. Despite his annoyance towards his ship’s occasional hiccups, he always retained the most immense patience and understanding toward his workers. His very nature was what commanded huge respect from his crew members. He preferred to be in the engineering room than the bridge, to be with his crew, to let them know he was there for them. He knew the job was hard; long hours, little rest and tiring work shifts. He was indeed very proud to command such a capable fleet of men and women.

His nano transponder emitted a sharp beep.

“Commander, the fleet has reached its harvesting objectives and is awaiting your orders, sir.”

“Very well, lieutenant. Inform the Yamato to open a jump portal to Isenan, and have the fleet enter hyperspace formation.” The Commander smiled; he was pleased with the results of this last trip.

“Very well sir, right away.”

From the window, the Commander saw a huge, beautiful Erebus-class titan. A gigantic ball of blue light erupted from its head, and a gush of lightning illuminated the vastness of space.

“Lieutenant, inform the Yamato to close the jump portal once my ship steps through and to meet the fleet at the rendezvous coordinates. Order the jump, Mister Delair.”

A long chain of Hulks and Occators entered the giant hole, disappearing into the event horizon of the portal. The Admiral would be very pleased; they had mined enough mineral to complete the Nyx. The Commander’s Rorqual entered the portal last and the Yamato jumped away in a gush of bright white light, leaving behind an empty asteroid field: the true testament of hard work and labour.



[MINING 101 »]

➡ Since the dawn of human civilization, the need for materials to building something new has always been high. Mining is one of the basic industries which shapes our world and is the backbone for every other industry.

Because of mining, humans have found clay, rock, iron, coal, silver and gold, precious gems, oil and much more, and has made our civilization as it is now. Without mining, we would have difficulties finding these goods, and many would not even been known to us.

There have always been men and women obsessed with digging

the ground for more material to fuel the hunger of civilization. Mining is the fundament of the pyramid of the EVE Online economy system. Everyone needs materials to build, so they can mine more, build more, and shoot more.

Mining is a profession with a steady income. A professional miner can become quite wealthy if he knows what to mine and where. Because EVE is a massively multiplayer online game, there are always possibilities to get others to join your venture, making it even better, bigger and wealthier. Whatever path you take, the game has a vast arsenal to aid you on your journey.



➡ HE HAD BEEN AN ENGINEER FOR 35 YEARS, WHEN MECHANICAL GRIPS WERE STILL THE SHARP EDGE OF TECHNOLOGY. NOW THEY HAD BIDIRECTIONAL LASER STREAM TRANSPORT TECHNOLOGY, ADVANCED CRYSTAL ENHANCEMENTS, DRONES AND WHO KNOWS WHAT ELSE

« MINING 101 »

THE BASICS

Mining in EVE is very simple; in every solar system you can find asteroid belts which are (mostly) full of rocks. With mining lasers, you can mine until the cargo hold of your ship is full. After refining the ore you’ve collected, you can use the minerals to build ships or ship modules. In Empire space, in any region with a security status between 1.0 and 0.5, the most common ores are: Veldspar, Scordite and Pyroxeres. These ores contain the most common minerals: Tritanium, Pyerite, and Mexallon.

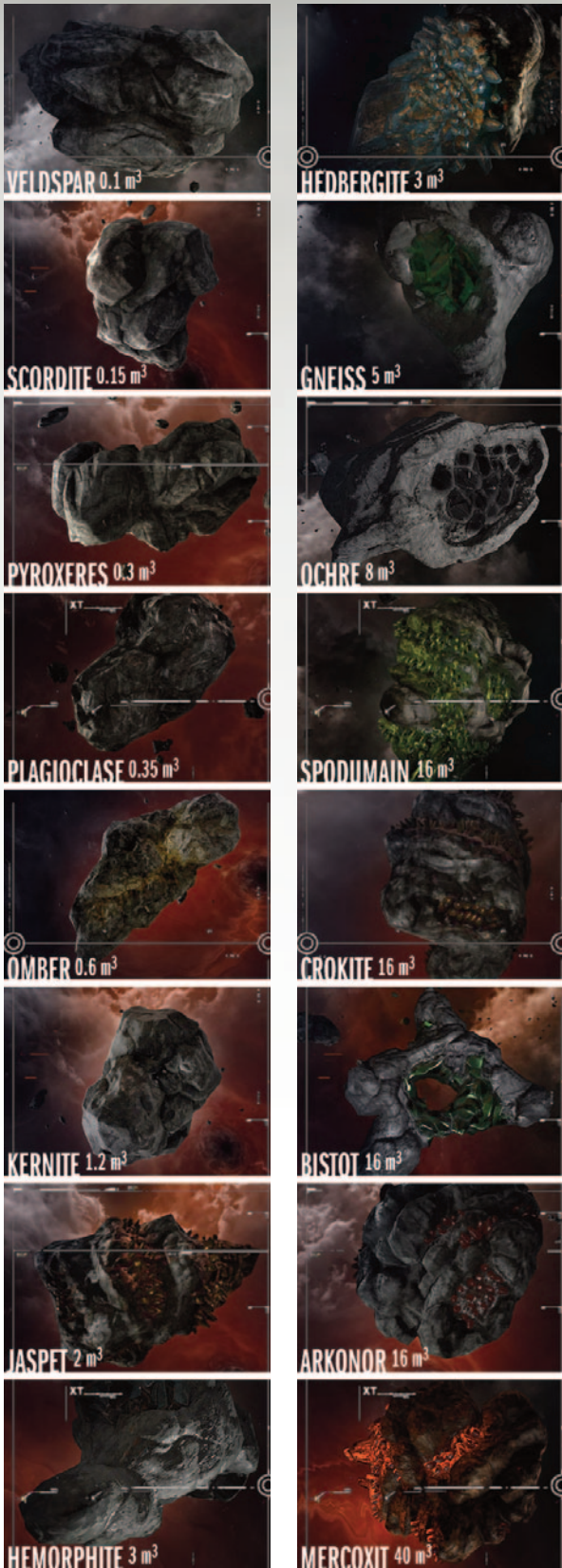
The amount of minerals you gain from refining ores depends on your skills and your standing towards the corporation owning the station where you want to refine. This sounds complicated for the moment, but all will be explained in due time. Every ship with a turret hardpoint and a mining laser fitted (at least one, but better with more) can mine ore from asteroids.

ASTEROID BELTS AND ORES

Every solar system has asteroid belts. Some have more and some have less. The basic rule is the lower the security status of a system, the bigger the value of the ores you can mine there. But beware! If you are still new to EVE, do not wander into low-sec (security status 0.4-0.1). There is no CONCORD to protect you and no one is going to bother if someone scratches the paint on your ship (unless you are in a corporation and they come to help you). The purpose of this section of the guide is not to teach you how to live in low-sec or 0.0, only to show you the tricks and trades, which you can learn and use.

Just a reminder: you are relatively safe in high-sec systems. This is where CONCORD will come to your aid if you are attacked. But be warned, no one protects you from ore thieves or ‘suicide gankers’ who sacrifice their own ‘cheap’ ships, blowing you out of your fancy ride, along with your ore and equipment. They can attack you even in 1.0 systems.

The ore you can get in 1.0-0.1 systems are called ‘low-end’ ores. The really good ores are in 0.0; these are the ‘high-end’ ores. These ores have the best value in the universe of EVE (Bistot, Arkonor, Mercxit, Gneiss and Crokite). It does not mean that the low-end ores are worthless, just have different prices. Lastly, you can mine ice in special ice fields in 0.7 systems and below. Some ore types can be found in certain regions – Jaspert can only be found in Gallente and Amarr space in 0.4 systems and below, for instance. Because of this, you will never find Jaspert in Caldari or Minmatar space. However, every kind of ore can be found in 0.0 systems, from Veldspar to Mercxit (not in every system though).



MINERALS

Minerals are the products you get by refining ores. There are eight types of minerals in EVE, three of these are high-end and five are low-end. High-end minerals are: Zydrine, Megacyte and Morphite. Tritanium, Pyerite, Mexallon, Isogen and Nocxium are low-end minerals. High-end minerals come from high-end ores, which are mostly found in 0.0 space, but a few can be found in low-sec too. This also shows why they cost more than the low-end ores.

BATCHES

Batches refer to the amount of ore you need to mine to be able to refine it. You can see the ‘Batch Value’ in the columns of the minerals in the Ore Refining table in the Refining/Recycling chapter. It means the amount of minerals you gain from perfect refining. Let’s see how it goes in practice.

Let’s say you have mined 3,467 units of Omber and transported it to the station to refine it. After every 500 units of Omber with a 100% refining rate (yes, you can have that rate) you gain:

- 307 units of Tritanium
- 123 units of Pyerite
- 307 units of Isogen

3,467 units of Omber can be refined into six batches of minerals, and there will be 467 units of Omber left over. This sounds easy, but do not forget that you are going to need a lot of skills and quite a bit of reputation with the corporation that owns the station (+6.7 standing should be necessary) or you have to pay taxes (meaning you gain less minerals from refining).

⇒ THE BASIC RULE IS THE LOWER THE SECURITY STATUS OF A SYSTEM, THE BIGGER THE VALUE OF THE ORES YOU CAN MINE THERE

WHAT TO MINE

The prices of the minerals change every day according to the supply and demand of the market. No one can tell you to mine this ore or that, or that a particular type of ore has the best price of all and will be that way forever! EVE-Central (www.eve-central.com) can help you in finding which mineral had what price during the past 180 days. So if you think that this is your trade (take note, that sometimes it can be very risky and/or expensive), or you just want to have a price check of the goods you want to sell or buy, this link will be useful to you. No matter what you are going to mine, there will ALWAYS be someone who will buy it.

ToxicFire Ore Map (www.fluidorbit.co.uk) is a great tool to find out where types of ore can be located. It can even help select a place for a mining colony. Be advised that there are three types of every ore; the basic, a variant that contains +5%, and another variant that contains +10% of the minerals compared to the basic type.



THE BEGINNING OF THE BUSINESS »

➡ By this stage you already know now what you can mine, but the know-how is still missing. If you ask “what now?” while sitting in your rookie ship, do not be afraid. This is where we start to help you figure it out.

BASIC SKILLS FOR MINING

Let’s start with some basic skills (those skills that are useful for almost every ship). Every skill in a certain ‘Skill Group’ builds on its fundamental basic skill (for instance, Energy Systems Operation requires Engineering level V). However, if you do not use drones, do not learn the required skills.

NAME	EFFECT
Astrogeology	+ 5% bonus to mining turret yield per skill level
Drone Durability	+ 5% bonus to drone shield, armour and hull hitpoints per level
Drone Interfacing	+ 20% bonus to drone damage, drone mining yield per level
Drone Navigation	+ 5% increase in drone microwarpdrive speed per level
Drones	Can operate one drone per skill level (five drones at level V)
Electronics	+ 5% Bonus to ship CPU output per skill level
Energy Management	+ 5% bonus to capacitor capacity per skill level
Energy Systems Operation	+ 5% reduction in capacitor recharge time per skill level
Engineering	+ 5% Bonus to ship's powergrid output per skill level
Exhumers	Skill for the operation of elite mining barges
Hull Upgrades	+ Grants a 5% bonus to armour hitpoints per skill level
Mechanic	+ 5% bonus to structure hitpoints per skill level
Mining	+ 5% bonus to mining turret yield per skill level
Mining Barge	Skill at operating ORE mining barges (level V is pre-req for exhumers)
Mining Upgrades	- 5% reduction per skill level in CPU penalty of mining upgrade modules
Refining	- 2% reduction in refinery waste per skill level
Refinery Efficiency	- 4% reduction in refinery waste per skill level
Scrapmetal Processing	- 5% reduction in alloy, ship and module refining waste per skill level
[ORE] Processing	- 5% reduction in [ORE] refining waste per skill level

MINING FRIGATES

The best mining ship for rookies is definitely the Caldari Bantam. However, the Bantam is not the sole mining frigate available, it’s just the best. Each race has one. To find the ship you need, check that it has a specific bonus for mining on its ‘Show Info’ screen.

If you choose the Caldari race, you will need the following skills: Caldari Frigate II and Mining I. Once you have them, train them both to level IV. Since the Caldari Frigate Skill gives a bonus if you mine with this ship (20% per level), it is easy to understand why it is worth learning Caldari Frigate Skill to level IV. Its learning time is around a day. After training Mining IV, you will be able to use Tech II Mining Lasers, which are much better than the Tech I or ‘named’ versions.

By now, you probably you have two Miner Is fitted to your Bantam. You can put almost any module in the mid slots, but some kind of shield tank is advised. Tank means protection against the NPC pirates that appear in the belts in 0.8 systems and below regularly, just to make your time more interesting there. If you don’t prepare for them, they are going to chew you up and you will have to start again, buying and fitting another ship. Also, train Mining Upgrades to level I so you can fit a Mining Laser Upgrade to the low slot of your ship. It improves the efficiency of the mining lasers by 5%, so you can mine more ore in less time. Whether you are able to fit this module is determined by your Electronics skill level (Electronics: +5% CPU/level).

Use this ship until you reach Caldari Frigate IV and Mining IV. After that, you’ll be ready for a mining cruiser.



YOUR FIRST MINING CRUISER

Frigates are a good start, but when your skills are starting to improve – along with your wallet – you are going to feel they are too small. You can start learning how to fly a cruiser once you have the frigate skill of the specific race up to level IV. Cruisers have bigger cargo holds and have more turret hard points. By this stage you should have Caldari Frigate up to level IV. Go ahead and train Caldari Cruiser level I. You will have to buy the Caldari Cruiser skill book to learn this skill but it’s worth it as the Caldari have a good mining cruiser in the Osprey. Sure, it’s not only a mining ship, it can be used for logistics too, but that’s another topic.







If, instead, you mine with Gallentean ships, my advice is to use the Vexor. It is a very good mining ship, specializing in drones. With trained skills and some Tech II mining drones, you could mine quite a bit.







The Osprey, like the Bantam, has a +20% yield bonus on mining lasers with every trained skill level. It is a good idea to learn the skill up to level III or IV (you are going to need it anyway), but do not forget to train your Electronics and Engineering skills as well, because you have to fit your ship and the powergrid is simply not enough in most cases. The Osprey is bigger than the Bantam, and is also more solid than its little brother. You can put better protection in the mid slots and bring some drones along with you as well. You can also fit a few Heavy Missile Launchers for self-defense. Remember, though, that each slot taken by a launcher cannot be taken by a mining laser. Put as many Mining Upgrade modules as you can in the low slots. Learning Electronics level V and Mining Upgrades level IV will help you here.

The next step should be learning the Astrogeology skill to level IV as this gives a 5% bonus (totalling 20% by level IV) for every mining laser you have, and is a required skill for mining barges. After reaching level IV you have to choose: stay on the path of using warships to mine (and have a bit better survival ability in lower security systems), or go for the mining barges (and become a professional miner). If you choose the first path, you should train your Cruiser skill up to level IV and then start to learn Battleships (we will discuss them later). If you choose the second path you can concentrate on your industrial skills more. We will help you decide on the ‘Barge vs. Battleship’ question in a later chapter, showing the pros and cons of both.



«THE BEGINNING OF THE BUSINESS»

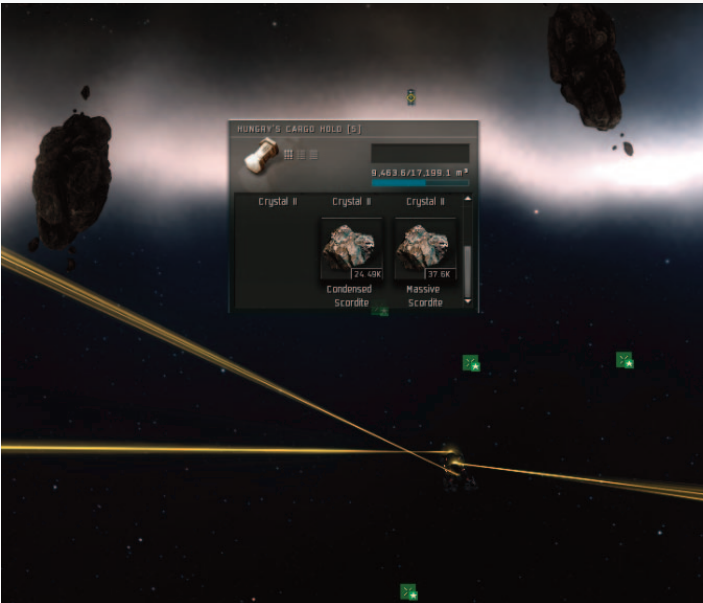
					
Ship Class		Frigate	Cruiser	Frigate	Cruiser
Ship Name		Tormentor	Arbitrator	Bantam	Osprey
Cargo bay		235 m3	345 m3	235 m3	485 m3
Drone bay		5 m3	150 m3	5 m3	20 m3
Skill bonus		Amarr Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level Role Bonus: -60% mining laser capacitor use	Amarr Cruiser Skill Bonus: 5% bonus to Tracking Disruptor effectiveness per skill level and 10% bonus to drone hitpoints, damage and mining yield per skill level	Caldari Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level Role Bonus: -60% mining laser capacitor use	Caldari Cruiser Skill Bonus: 20% bonus to mining laser yield and 10% bonus to capacitor use of shield transporters per level Role Bonus: 500% bonus to range of shield transporters
Pre-req skills		Spaceship Command I, Amarr Frigate II	Spaceship Command III, Amarr Cruiser II (Amarr Frigate IV)	Spaceship Command I, Caldari Frigate II	Spaceship Command III, Caldari Cruiser I (Caldari Frigate IV)
Ship Skill level IV, Mining level IV	Mining Yield	259 m3	144 m3	259 m3	389 m3
	Cargo bay	282 m3	345 m3	282 m3	485 m3
Ship Skill level IV, Mining level IV, Astrogeology level IV	Mining Yield	311 m3	173 m3	311 m3	467 m3
	Cargo bay	282 m3	345 m3	282 m3	485 m3
Ship Skill level IV, Mining level IV, Astrogeology level IV, Mining Drone Op. level V, Drone Interfacing level IV	Mining Yield	343 m3	567 m3	345 m3	692 m3
	Cargo bay	282 m3	345 m3	282 m3	485 m3
					

					
Ship Class		Frigate	Cruiser	Frigate	Cruiser
Ship Name		Navitas	Vexor	Burst	Scythe
Cargo bay		215 m3	480 m3	225 m3	440 m3
Drone bay		5 m3	100 m3	-	5 m3
Skill bonus		Gallente Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level Role Bonus: -60% mining laser capacitor use	Gallente Cruiser Skill Bonus: 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints, damage and mining yield per skill level	Minmatar Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level Role Bonus: -60% mining laser capacitor use	Minmatar Cruiser Skill Bonus: 20% bonus to mining laser yield and 3.5% bonus to tracking links per level Role Bonus: 500% bonus to range of tracking links
Pre-req skills		Spaceship Command I, Gallente Frigate II	Spaceship Command III, Gallente Cruiser II (Gallente Frigate IV)	Spaceship Command I, Minmatar Frigate II	Spaceship Command III, Minmatar Cruiser I (Minmatar Frigate IV)
Ship Skill level IV, Mining level IV	Mining Yield	259 m3	288 m3	259 m3	389 m3
	Cargo bay	258 m3	480 m3	270 m3	440 m3
Ship Skill level IV, Mining level IV, Astrogeology level IV	Mining Yield	311 m3	346 m3	311 m3	467 m3
	Cargo bay	258 m3	480 m3	270 m3	440 m3
Ship Skill level IV, Mining level IV, Astrogeology level IV, Mining Drone Op. level V, Drone Interfacing level IV	Mining Yield	345 m3	739 m3	311 m3	523 m3
	Cargo bay	258 m3	480 m3	270 m3	440 m3
					

«THE BEGINNING OF THE BUSINESS»

BASIC MINING TECHNIQUES

- There are two basic techniques:
- **Shuttling:** The first is to mine until the cargo hold of your ship is full, take it to the station and then move your ship back to the field again. The advantage of this method is that it is safe against ore thieves. The disadvantage is that transporting takes more time than mining itself.
 - **JetCan:** The second technique is jetcan mining. This means that you jettison the mined ore from your cargo into space. After that, you collect your ore in the can that appeared next to you. The advantage is that you can mine a whole lot more ore (a container can hold up to 27,500m³ of ore) and if someone helps you hauling the stuff back, they can access it freely. Note that a jetcan can float for two hours. After that, it will disappear, taking everything in it away (or it will disappear if you remove everything from it). The disadvantages of this procedure is, anybody can open your cargo container and steal your ores. If this happens, he will be blinking on the overview with red colour, and you can shoot at him without any CONCORD involvement. Unfortunately, this pilot also open fire at you, and if you are in a Fleet, only your Corporation members (and nobody else) can open fire at him freely. The thief can be helped by his mates with remote repair things, but this doesn't mean the free shoot. Prepare yourself, you must have somebody with you all the time, who can take the ores away, when somebody appears, who is approaching and suspicious. Think: is it worth to lose your ship for few hundred cubic metres of ores? Probably not. Run Forest, run!



PROJECT: STRIP MINE

Strip Mining is pretty common in Empire space. It is a kind of space invasion of locusts: the miners descend on a belt and start to mine on one end of the asteroid field. They mine everything all the way to the other end, literally consuming all the rocks on the way. Because there is little difference in prices among the low-end ores, it is quite profitable and the miners do not have to move around a lot. They just mine everything within reach, then move to mine more. Tactical hint: create bookmarks in the belts (right-click on an asteroid then 'Add Bookmark'). You can cover the whole belt with bookmarks in 25-28km distance from each other. Practically, four or five bookmarks are enough to mine the whole belt. (It is useful to create the bookmark on the asteroid, thus avoiding unnecessary travelling in the belt.)

MINING LASERS

These are the common mining lasers. They can be fitted on any ships with a turret slot:

NAME	META GROUP	META LEVEL	MINING AMOUNT	CYCLE TIME	ACTIVATION COST	CPU	PG	'OPTIMAL' RANGE
Miner I	Tech I	-	40 m3	60 sec.	10 GJ	60 If	2 MW	10 km
EP-S Gaussian Excavation Pulse	Tech I	1	42 m3	60 sec.	10 GJ	51 If	2 MW	10 km
Dual Diode Mining Laser I	Tech I	2	44 m3	60 sec.	10 GJ	54 If	2 MW	11 km
XeCl Drilling Beam I	Tech I	3	47 m3	60 sec.	10 GJ	48 If	2 MW	11 km
Cu Vapor Particle Bore Stream I	Tech I	4	49 m3	60 sec.	10 GJ	57 If	2 MW	12 km
Miner II	Tech II	5	60 m3	60 sec.	90 GJ	80 If	4 MW	12 km
ORE Miner	Faction	6	60 m3	60 sec.	90 GJ	80 If	4 MW	14 km
Gallente Mining Laser	Storyline	8	40 m3	60 sec.	10 GJ	59 If	2 MW	10 km

The 'Deep-core' mining lasers are specialized to mine Mercxit ore and can be fitted on any ship. The Modulated Deep Core Miner II can use crystals to increase efficiency:

NAME	META GROUP	META LEVEL	MINING AMOUNT	CYCLE TIME	ACTIVATION COST	CPU	PG	'OPTIMAL' RANGE'	CRYSTAL BONUS
Deep Core Mining Laser I	Tech I	-	40 m3	60 sec.	240 GJ	150 If	2 MW	5 km	-
Modulated Deep Core Miner II	Tech II	5	120 m3	180 sec.	90 GJ	80 If	3 MW	10 km	120 m3
ORE Deep Core Mining Laser	Faction	6	40 m3	60 sec.	240 GJ	150 If	2 MW	7 km	-

Strip Miners are the 'weapons' of the Mining Barges and Exhumers. The Modulated Strip Miner II can use mining crystals to increase efficiency, but only the deep-core variant can use Mercxit crystals:

NAME	META GROUP	META LEVEL	MINING AMOUNT	CYCLE TIME	ACTIVATION COST	CPU	PG	'OPTIMAL' RANGE'	CRYSTAL BONUS
Strip Miner	Tech I	-	540 m3	180 sec.	90 GJ	60 If	10 MW	15 km	-
Modulated Deep Core Strip Miner II	Tech II	5	250 m3	180 sec.	90 GJ	60 If	12 MW	15 km	250 m3
Modulated Strip Miner II	Tech II	5	360 m3	180 sec.	120 GJ	60 If	12 MW	15 km	360 m3
ORE Strip Miner	Faction	6	540 m3	180 sec.	90 GJ	60 If	10 MW	17 km	-

«THE BEGINNING OF THE BUSINESS»

Arsenal of the Ice miners (can be fitted on Mining Barges and Exhumers only):

NAME	META GROUP	META LEVEL	MINING AMOUNT	CYCLE TIME	ACTIVATION COST	CPU	PG	'OPTIMAL' RANGE
Ice Harvester I	Tech I	-	1000 m3	600 sec.	10	60 lf	10 MW	10 km
Ice Harvester II	Tech II	5	1000 m3	500 sec.	15	66 lf	10 MW	10 km
ORE Ice Harvester	Faction	6	1000 m3	500 sec.	15	66 lf	10 MW	12 km

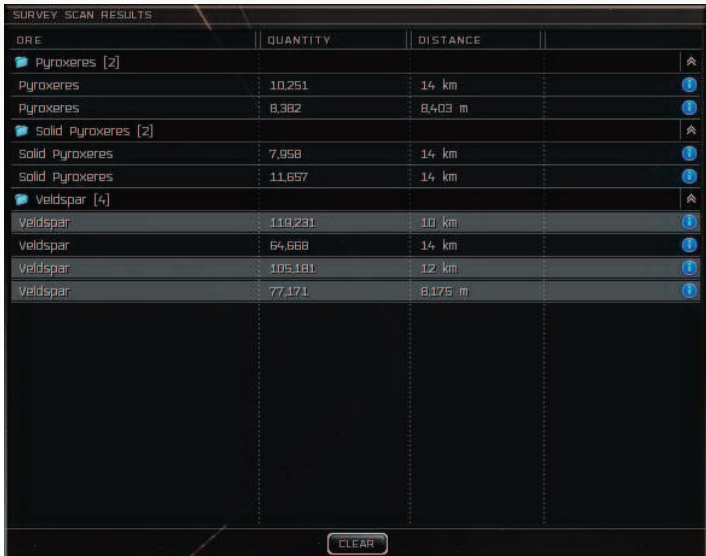
Last but not least, tools for collecting gas:

NAME	META GROUP	META LEVEL	MINING AMOUNT	CYCLE TIME	ACTIVATION COST	CPU	PG	'OPTIMAL' RANGE
Gas Cloud Harvester I	Tech I	-	10 m3	30 sec.	10 GJ	40	2 MW	1500 m
'Crop' Gas Cloud Harvester	Tech I	1	10 m3	30 sec.	10 GJ	48	2 MW	1500 m
'Pillow' Gas Cloud Harvester I	Tech I	1	10 m3	30 sec.	10 GJ	30	2 MW	1500 m
Gas Cloud Harvester II	Tech II	5	20 m3	40 sec.	15 GJ	70	5 MW	1500 m
Syndicate Gas Cloud Harvester	Faction	6	10 m3	30 sec.	10 GJ	26	2 MW	1500 m

THE SURVEY SCANNER

There is one particular module which comes handy on every mining ship (especially on mining barges and exhumers). It is called Survey Scanner. This module scans the surrounding asteroid rocks for their content. Of course, you already know what is inside from the name of the rock, but you also want to know how much ore is in the rock. The three reasons why it is necessary to know are:

- You can see the quantity of the ore, thus stop the mining lasers to avoid idling, because the cycle keeps running even if the ore is already extracted from the rock.
- It is important to preserve the ore in 0.0 and low-sec systems, to avoid it disappearing. For example, completely mine a Bistot rock, and after downtime, you may find Veldspar in its place. If the Bistot was left with even one unit, it will grow again during downtime, like well-fed pigs on a farm.
- Easy to find the rocks that you seek to mine, as the scanner window categorizes them by types into groups.



FITTING HINTS

These are some ideas on how to fit ships for mining. These are not golden rules, and you can deviate as you see fit. It is only a guide for you to see all the possibilities. As was mentioned earlier, the Survey Scanner is recommended, especially in 0.0, where you do not want to mine an Arkinor, Bistot or Crokite rock to nothing, as it may respawn as something useless.

HULK 0.0 TANK SETUP	
	3x T2 Strip Miner
	1x Gistii-A Small Shield Booster
	1x Eutectic Cap Recharger
	2x Gist-B damage specific hardener
	2x MLU

OSPREY SETUP	
	3 x Miner II
	1 x Survey Scanner
	1x MLU
	2x Co-Processor I

ROKH MINING SETUP	
	8x Miner II
	1x Survey Scanner
	1x Co-Processor II
	4x MLU

COVETOR/RETRIEVER MINING SETUP	
	3x T2 Strip / 2x T1 Strip
	1 x Survey Scanner
	1x MLU
	1x PDU2

BANTAM SETUP	
	2x Miner I
	1x Survey Scanner
	1x MLU
	1x Co-Processor I

DOMINIX 0.0 TANKING SETUP	
	6x Miner II
	5x Eutectic Cap Recharger
	2x Capacitor Power Relay
	2x Large 'Accommodation' Armor Repairer
	3x Nanite Microcell damage specific hardener

DOMINIX MINING SETUP	
	6x Miner II
	1x Survey Scanner
	5x MLU
	2x Co-Processor I



SKIFF/MACKINAW MINING SETUP	
	1x MDC5M2/ 2x Ice Harvester II
	1x Survey Scanner
	2x MLU / 2x IHU

REFINING/RECYCLING »

➡ Refining and recycling (known as ‘reprocessing’, when you recycle ships, ship modules, or anything you are able to find) is quite simple. The outcome can be improved through the following factors:

- The level of your Refining skill
- The level of your Refinery Efficiency skill (Refining level V is required)
- Your standing toward the corporation owning the station
- The efficiency of the refining plant of the station
- The level of your Scrapmetal Processing skill (only at reprocessing)

The implants below reduce waste during refining. Unfortunately, Cybernetics level V is required for the implant with 4% bonus, but it is indispensable to reach 100% efficiency on 35% stations and outposts.

	TYPE	NAME	EFFECT
	Skill	Refining	2% reduction in refinery waste per skill level
	Skill	Refinery Efficiency	4% reduction in refinery waste per skill level
	Skill	[ORE] Refining	5% reduction in [ORE] refining waste per skill level
	Skill	Scrapmetal Processing	5% reduction in ship and module refining waste per skill level
	Implant	Hardwiring – Zainou ‘Beancounter’ H40 (Slot 8)	1% reduction in refinery waste
	Implant	Hardwiring – Zainou ‘Beancounter’ H50 (Slot 8)	2% reduction in refinery waste
	Implant	Hardwiring – Zainou ‘Beancounter’ H60 (Slot 8)	4% reduction in refinery waste

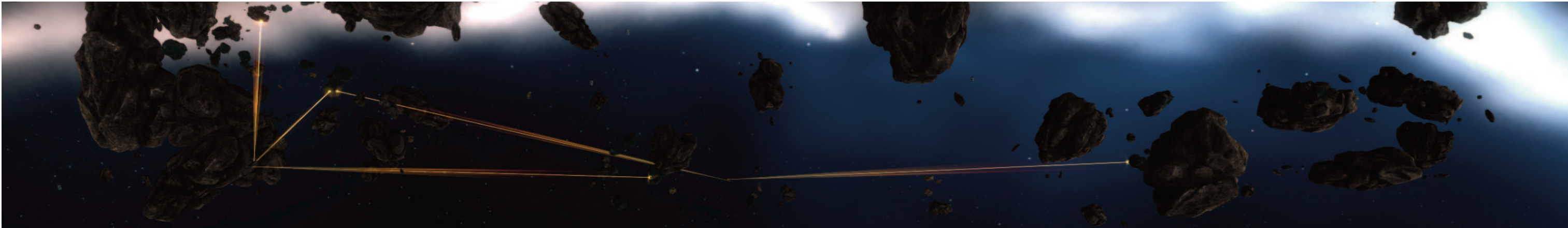
CALCULATING THE REFINING EFFICIENCY

To calculate the refining efficiency, use the following formula:

- (The efficiency of the refining plant) + 0.375
x (1 + [Refining skill] x 0.02) x (1 + [Refinery Efficiency skill] x 0.04) x (1 + [Ore Processing skill] x 0.05)
= The amount of mineral you gain from the ore

The refining plants in stations vary between 25-50% efficiency. 50% can be obtained on outposts, but it is costly for the outpost owner, as it costs 100 billion ISK for the service. Fortunately, the 100% efficiency can be obtained without implants, using only your skills, if you find a station with 40% efficiency. Unfortunately, if you only have a station with 35%, then you are going to need those implants to further improve your maximized skills. You can find an online refining efficiency calculator at eve.podzone.net/refining.php. Unless you want to refine on a ‘weak’ station or on an outpost in 0.0, you do not have to train Refinery Efficiency to level V. Training it, however, will give you access to the Scrapmetal Processing skill, which takes the place of Ore Processing skill in the calculation above when you want to reprocess modules, ships and loot of drones.

If you want to know how much the refining efficiency of the station is, open the Refinery window on the station panel and check the columns on the right-hand side (marked on the picture below). The yellow box shows the refining efficiency of the station as a percentage. If your standing is not high enough (green mark) toward the owner of the station, then you are going to pay the amount of tax after your refined ores indicated by the red mark. It is always taken from the minerals gained by the ores. The Net Yield (total efficiency), indicated with blue mark, sums up the combined efficiency of your skills, implants (if used) and the efficiency of the station, and the amount (indicated by the blue mark below) lost if this combined number is not 100%. The quantity in the column ‘You Receive’ is the amount you actually receive. Whenever we talk about refining yield, tax is never included. On the picture, the Base Yield (%) is always shown as the status without skills. If you want to refine on an NPC station without paying taxes, you are going to need at least 6.7 in standing towards the owner corporation. On outposts and player owned stations, tax is always taken. On the following pages, we’ll show refining efficiency tables with various levels of Base Yield:



« REFINING/RECYCLING »

THE SURVEY SCANNER

REFINING SKILL LEVEL	0	1	2	3	4	5	5	5	5	5	5
Refinery Efficiency Skill level	0	0	0	0	0	0	1	2	3	4	5
Refining Yield	87.50%	88.25%	89%	89.75%	90.50%	91.25%	92.90%	94.55%	96.20%	97.85%	99.50%
Ore Processing skill level I	-	-	-	-	-	-	95.04%	96.77%	98.51%	100.24%	101.97%
Ore Processing skill level II	-	-	-	-	-	-	97.19%	99%	100.82%	102.63%	104.45%
Ore Processing skill level III	-	-	-	-	-	-	99.33%	101.23%	103.13%	105.02%	106.92%
Ore Processing skill level IV	-	-	-	-	-	-	101.48%	103.46%	105.44%	107.42%	109.40%
Ore Processing skill level V	-	-	-	-	-	-	103.62%	105.68%	107.75%	109.81%	111.87%

REFINING YIELD ON 50% BASE YIELD STATION

REFINING SKILL LEVEL	0	1	2	3	4	5	5	5	5	5	5
Refinery Efficiency Skill level	0	0	0	0	0	0	1	2	3	4	5
Refining Yield	77.50%	78.25%	79.00%	79.75%	80.50%	81.25%	82.90%	84.55%	86.20%	87.85%	89.50%
Ore Processing skill level I	-	-	-	-	-	-	85.04%	86.77%	88.51%	90.24%	91.97%
Ore Processing skill level II	-	-	-	-	-	-	87.19%	89.00%	90.82%	92.63%	94.45%
Ore Processing skill level III	-	-	-	-	-	-	89.33%	91.23%	93.13%	95.02%	96.92%
Ore Processing skill level IV	-	-	-	-	-	-	91.48%	93.46%	95.44%	97.42%	99.40%
Ore Processing skill level V	-	-	-	-	-	-	93.62%	95.68%	97.75%	99.81%	101.87%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H50						91.12%	93.05%	94.99%	96.92%	98.86%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H50						93.31%	95.32%	97.34%	99.36%	101.38%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H50						95.49%	97.60%	99.70%	101.80%	103.91%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H60						92.90%	94.88%	96.85%	98.82%	100.80%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H60						95.13%	97.19%	99.25%	101.31%	103.37%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H60						97.37%	99.51%	101.66%	103.80%	105.95%

REFINING YIELD ON 35% BASE YIELD STATION

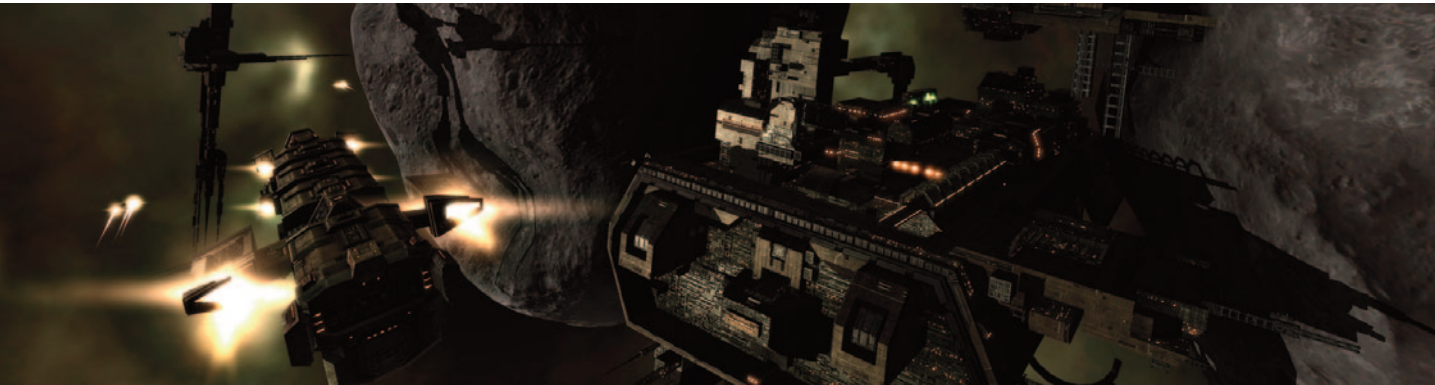
REFINING SKILL LEVEL	0	1	2	3	4	5	5	5	5	5	5
Refinery Efficiency Skill level	0	0	0	0	0	0	1	2	3	4	5
Refining Yield	72.50%	73.25%	74%	74.75%	75.50%	76.25%	77.90%	79.55%	81.20%	82.85%	84.50%
Ore Processing skill level I	-	-	-	-	-	-	80.04%	81.77%	83.51%	85.24%	86.97%
Ore Processing skill level II	-	-	-	-	-	-	82.19%	84.00%	85.82%	87.63%	89.45%
Ore Processing skill level III	-	-	-	-	-	-	84.33%	86.23%	88.13%	90.02%	91.92%
Ore Processing skill level IV	-	-	-	-	-	-	86.48%	88.46%	90.44%	92.42%	94.40%
Ore Processing skill level V	-	-	-	-	-	-	88.62%	90.68%	92.75%	94.81%	96.87%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H50						86.02%	87.95%	89.89%	91.82%	93.76%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H50						88.21%	90.22%	92.24%	94.26%	96.28%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H50						90.39%	92.50%	94.60%	96.70%	98.81%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H60						87.70%	89.68%	91.65%	93.62%	95.60%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H60						89.93%	91.99%	94.05%	96.11%	98.17%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H60						92.17%	94.31%	96.46%	98.60%	100.75%

REFINING YIELD ON 30% BASE YIELD STATION

REFINING SKILL LEVEL	0	1	2	3	4	5	5	5	5	5	5
Refinery Efficiency Skill level	0	0	0	0	0	0	1	2	3	4	5
Refining Yield	67.50%	68.25%	69.00%	69.75%	70.50%	71.25%	72.90%	74.55%	76.20%	77.85%	79.50%
Ore Processing skill level I	-	-	-	-	-	-	75.04%	76.77%	78.51%	80.24%	81.97%
Ore Processing skill level II	-	-	-	-	-	-	77.19%	79.00%	80.82%	82.63%	84.45%
Ore Processing skill level III	-	-	-	-	-	-	79.33%	81.23%	83.13%	85.02%	86.92%
Ore Processing skill level IV	-	-	-	-	-	-	81.48%	83.46%	85.44%	87.42%	89.40%
Ore Processing skill level V	-	-	-	-	-	-	83.62%	85.68%	87.75%	89.81%	91.87%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H50						80.92%	82.85%	84.79%	86.72%	88.66%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H50						83.11%	85.12%	87.14%	89.16%	91.18%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H50						85.29%	87.40%	89.50%	91.60%	93.71%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H60						82.50%	84.48%	86.45%	88.42%	90.40%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H60						84.73%	86.79%	88.85%	90.91%	92.97%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H60						86.97%	89.11%	91.26%	93.40%	95.55%

REFINING YIELD ON 25% BASE YIELD STATION

REFINING SKILL LEVEL	0	1	2	3	4	5	5	5	5	5	5
Refinery Efficiency Skill level	0	0	0	0	0	0	1	2	3	4	5
Refining Yield	62.50%	63.25%	64.00%	64.75%	65.50%	66.25%	67.90%	69.55%	71.20%	72.85%	74.50%
Ore Processing skill level I	-	-	-	-	-	-	70.05%	71.78%	73.51%	75.24%	76.98%
Ore Processing skill level II	-	-	-	-	-	-	72.19%	74.01%	75.82%	77.64%	79.45%
Ore Processing skill level III	-	-	-	-	-	-	74.34%	76.23%	78.13%	80.03%	81.93%
Ore Processing skill level IV	-	-	-	-	-	-	76.48%	78.46%	80.44%	82.42%	84.40%
Ore Processing skill level V	-	-	-	-	-	-	78.63%	80.69%	82.75%	84.81%	86.88%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H50						75.82%	77.76%	79.69%	81.63%	83.56%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H50						78.01%	80.03%	82.05%	84.07%	86.09%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H50						80.20%	82.30%	84.41%	86.51%	88.61%
Ore Processing skill level III	Hardwiring - Zainou 'Beancounter' H60						77.31%	79.28%	81.26%	83.23%	85.20%
Ore Processing skill level IV	Hardwiring - Zainou 'Beancounter' H60						79.54%	81.60%	83.66%	85.72%	87.78%
Ore Processing skill level V	Hardwiring - Zainou 'Beancounter' H60						81.77%	83.92%	86.06%	88.21%	90.35%



« REFINING/RECYCLING »




REFINING YIELD AND REALITY

Now that you know the efficiency of your refining, you can calculate how many units of mineral you actually gain. If you already calculated that your efficiency will be 100% and you do not have to pay taxes, the picture is quite simple. As we know, life is not that easy.




Let's use Omber as an example. With 100% efficiency, you gain from every batch of Omber:

100% EFFICIENCY:	
	307 Tritanium
	123 Pyrite
	307 Isogen

Let's say, your efficiency is only 88%; then you have to multiply the numbers above by 0.88:

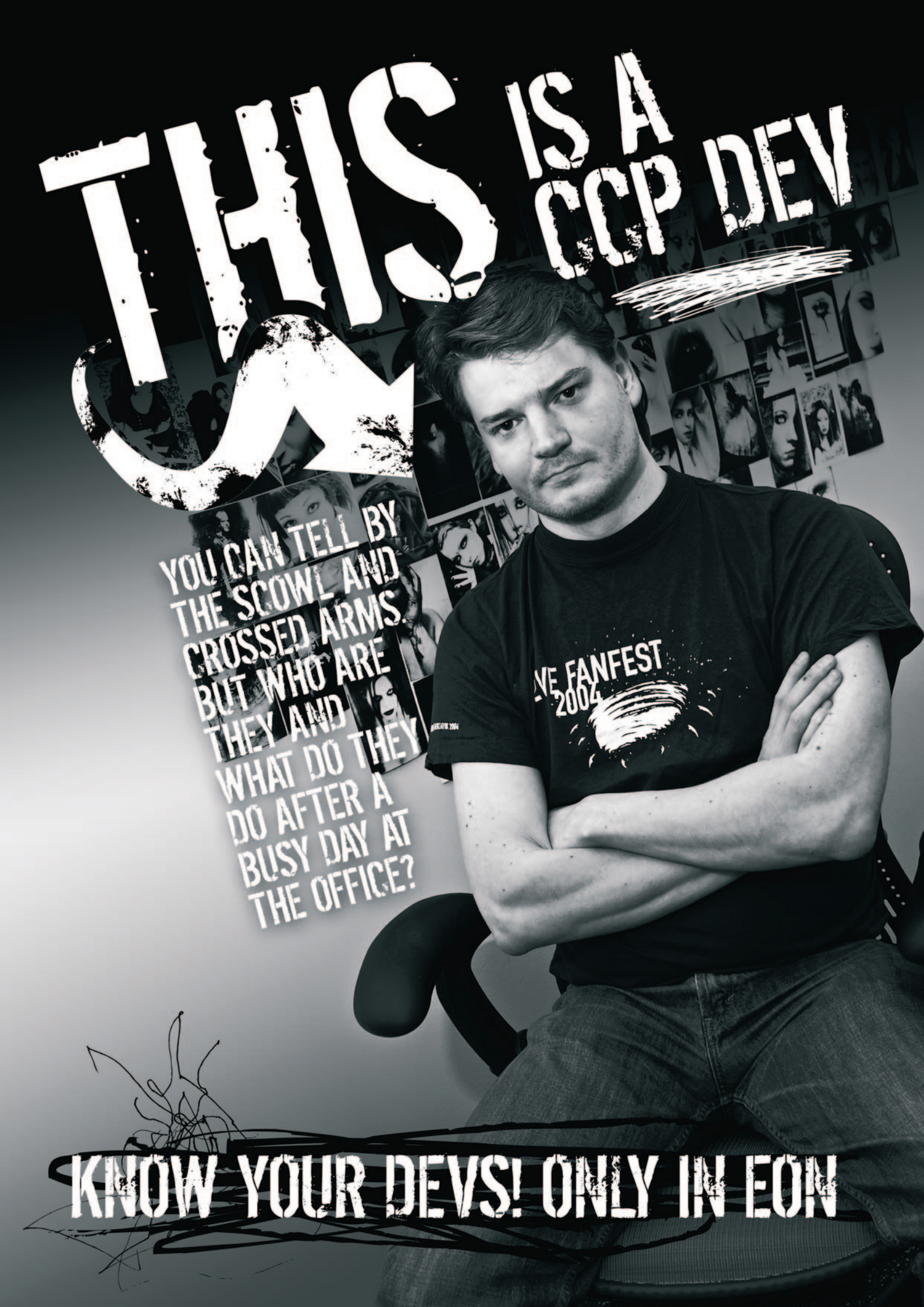
88% EFFICIENCY			
	307	*0.88 (Yield)	270.16 = 270 Tritanium
	123	*0.88 (Yield)	108.24 = 108 Pyrite
	307	*0.88 (Yield)	270.16 = 270 Isogen

Unfortunately, EVE always rounds the numbers down. Even from 270.98, you get 270 and not 271. If you have to pay taxes as well, then the table will change (with 10% tax rate):

















88% EFFICIENCY WITH 10% TAX				
	307	*0.88 (Yield)	-10% (Tax)	243 Tritanium
	123	*0.88 (Yield)	-10% (Tax)	97 Pyrite
	307	*0.88 (Yield)	-10% (Tax)	243 Isogen























If you mined an advanced type of Omber (let's pick the Silvery Omber, which contains +5% more mineral than a normal Omber), we have to add +5% to the formula:

88% EFFICIENCY WITH 10% TAX					
	307	* 1.05 (ore modifier)	*0.88 (Yield)	-10% (Tax)	243 Tritanium
	123	* 1.05 (ore modifier)	*0.88 (Yield)	-10% (Tax)	97 Pyrite
	307	* 1.05 (ore modifier)	*0.88 (Yield)	-10% (Tax)	243 Isogen



« REFINING/RECYCLING »

ORE REFINING TABLE		M3 [1]	BATCH	TRITANIUM	PYERITE	MEXALLON	ISOGEN	NOCXIUM	ZYDRINE	MEGACYTE	MORPHITE
	Veldspar	0.10	333	1000	-	-	-	-	-	-	-
	Concentrated Veldspar	-	-	1050	-	-	-	-	-	-	-
	Dense Veldspar	-	-	1100	-	-	-	-	-	-	-
	Scordite	0.15	333	833	416	-	-	-	-	-	-
	Condensed Scordite	-	-	875	437	-	-	-	-	-	-
	Massive Scordite	-	-	916	458	-	-	-	-	-	-
	Pyroxeres	0.30	333	844	59	120	-	11	-	-	-
	Solid Pyroxeres	-	-	886	62	126	-	12	-	-	-
	Viscous Pyroxeres	-	-	928	65	132	-	12	-	-	-
	Plagioclase	0.35	333	256	512	256	-	-	-	-	-
	Azure Plagioclase	-	-	269	538	269	-	-	-	-	-
	Rich Plagioclase	-	-	282	563	282	-	-	-	-	-
	Omber	0.60	500	307	123	-	307	-	-	-	-
	Silvery Omber	-	-	322	129	-	322	-	-	-	-
	Golden Omber	-	-	338	135	-	338	-	-	-	-
	Kernite	1.2	400	386	-	773	386	-	-	-	-
	Luminous Kernite	-	-	405	-	812	405	-	-	-	-
	Fierly Kernite	-	-	425	-	850	425	-	-	-	-
	Jaspert	2	500	259	437	518	-	259	8	-	-
	Pure Jaspert	-	-	272	458	544	-	272	8	-	-
	Pristine Jaspert	-	-	285	481	570	-	285	9	-	-
	Hemorphite	3	500	650	260	60	212	424	28	-	-
	Vivid Hemorphite	-	-	683	273	63	223	445	29	-	-
	Radiant Hemorphite	-	-	717	286	66	233	466	31	-	-
	Hedbergite	3	500	-	290	-	708	354	32	-	-
	Vitric Hedbergite	-	-	-	305	-	743	372	34	-	-
	Glazed Hedbergite	-	-	-	319	-	779	389	35	-	-
	Spodumain	16	250	3190	410	-	-	-	-	140	-
	Bright Spodumain	-	-	3350	431	-	-	-	-	147	-
	Gleaming Spodumain	-	-	3509	451	-	-	-	-	154	-
	Gneiss	5	400	171	-	171	343	-	171	-	-
	Iridescent Gneiss	-	-	180	-	180	360	-	180	-	-
	Prismatic Gneiss	-	-	188	-	188	377	-	188	-	-
	Dark Ochre	8	400	250	-	-	-	500	250	-	-
	Onyx Ochre	-	-	263	-	-	-	525	263	-	-
	Obsidian Ochre	-	-	275	-	-	-	550	275	-	-
	Crokite	16	250	331	-	-	-	331	663	-	-
	Sharp Crokite	-	-	348	-	-	-	348	696	-	-
	Crystalline Crokite	-	-	364	-	-	-	364	729	-	-
	Bistot	16	200	-	170	-	-	-	341	170	-
	Triclinic Bistot	-	-	-	179	-	-	-	358	179	-
	Monoclinic Bistot	-	-	-	187	-	-	-	375	187	-
	Arkonor	16	200	300	-	-	-	-	166	333	-
	Crimson Arkonor	-	-	315	-	-	-	-	174	350	-
	Prime Arkonor	-	-	330	-	-	-	-	183	366	-
	Mercorite	40	250	-	-	-	-	-	-	-	530
	Magma Mercorite	-	-	-	-	-	-	-	-	-	557
	Vitreous Mercorite	-	-	-	-	-	-	-	-	-	583

ORE REFINING TABLE		M3 [1]	BATCH	TRITANIUM	PYERITE	MEXALLON	ISOGEN	NOCXIUM	ZYDRINE	MEGACYTE	MORPHITE
											
	Condensed Alloy	1	1	160	40	10	-	-	-	-	-
	Crystal Compound	1	1	-	-	24	6	-	-	-	-
	Precious Alloy	1	1	-	128	-	8	-	-	-	-
	Gleaming Alloy	1	1	768	-	-	-	3	-	-	-
	Sheen Compound	1	1	512	128	-	8	2	-	-	-
	Lucent Compound	1	1	-	192	48	12	3	-	-	-
	Dark Compound	1	1	-	-	-	32	8	-	-	-
	Molley Compound	1	1	-	-	-	40	10	-	-	-
	Lustering Alloy	1	1	-	-	192	48	12	3	-	-
	Plush Compound	1	1	4096	1024	-	64	-	4	-	-
	Glossy Compound	1	1	-	-	384	-	24	-	1	-
	Opulent Compound	1	1	-	-	-	-	-	-	-	2



« REFINING/RECYCLING »

MATHS!

Math has very interesting rules in EVE, like fractions rounding. Until now, we have been easy on math – it was not our favourite subject in school. But it is time to take it seriously! The only way to compare ships is to look at their mining yield and the skill bonus, and for that math will be needed. Relax! There is nothing too complicated!

In EVE, the benefits of skills stack. Regardless of the skill, they take effect accumulatively. For example, if you train the Mining skill to level IV, then calculated the 5% per level, it totals: $4 \times 5\% = 20\%$ bonus. The effects of the different skills multiply differently: Astrogeology level IV (5%/skill level to the yield of the mining laser), means 20%, such as the Mining level IV, so: basic yield $\times 1.20 \times 1.20 =$ net yield. Using a Mining Laser II it means: $60 \times 1.20 \times 1.20 = 86.4 \text{ m}^3/\text{cycle}$.

CYCLE TIMES

The mining cycle determines the time required by your mining laser to gain the ore. The ore appears in the cargo of your ship at the end of the cycle. As you saw in the tables in Chapter 24, the cycle of the named Tech I and Tech II mining lasers is 60 seconds, while it is 180 seconds (yes, three minutes) for Strip Miners (both Tech I and Tech II versions) and Modulated Deep Core Mining Lasers II.

Unfortunately, no matter when the asteroid becomes empty, it only disappears at the end of the cycle. A Survey Scanner is highly recommended, as it shows the quantity of the ore left in the rock. So, if your yield is 1000 units of ore per minute and there are only 500 units of ore left in the asteroid, then you should deactivate your laser at 30 seconds.

Ice mining differs a bit (more about it in Chapter 31), because ice is gained only at the end of the cycle. You must complete the cycle to get any ice.

Before we go any further, some notes about strip miners. You can only fit them on mining barges and exhumers. Many are confused by the length of the cycle time, and do not understand why it is good or bad if it is longer. Well, most of your time you drag the ore from the cargo to the jetcan. It doesn't matter whether you do it 60 times or 20 times in an hour. If one of the lasers 'catches up' with the other (for instance, the asteroid is depleted) and you do not have the time to empty your cargo, then the ore that does not have free room in cargo is wasted. It can also happen if a huge amount of ore mined by the strip miners comes at the same time. It is recommended to activate the lasers one after another, leaving time between activations. First, you save capacitor, and second, you can avoid ore waste.



MINING CYCLE AND MINING YIELD

The mining cycle and the mining yield have a direct connection to each other. Because the different lasers have different cycles and different ship's bonuses, it seems difficult to compare a mining battleship with a barge, but it is not impossible! You can divide the cycle of the barge to see how much it can mine in one minute or multiply the yield of both ships to see that yield projected in one hour. But since EVE rounds down, the value would not be accurate. The strip miner has 20 cycles in one hour while the plain lasers have 60, so based on that you can get more accurate data.

FROM YIELDS TO ORES

A lot of people cannot determine how much ore (in quantity) they gain with their lasers in a cycle, but it is quite easy to calculate. While you are mining, right-click on one of your lasers and select 'Show Info' to see its yield. Divide that number by the volume of the given ore you are mining, then round it down.

	ORE	SIZE
	Veldspar	0.1 m3
	Scordite	0.15 m3
	Pyroxeres	0.3 m3
	Plagioclase	0.35 m3
	Omber	0.6 m3
	Kernite	1.2 m3
	Jaspert	2 m3
	Hemorphite	3 m3

	ORE	SIZE
	Hedbergite	3 m3
	Gneiss	5 m3
	Dark Ochre	8 m3
	Spodumain	16 m3
	Crokite	16 m3
	Bistol	16 m3
	Arkonor	16 m3
	Mercorite	40 m3

Let's take a theoretical $1,789.67 \text{ m}^3 / \text{cycle}$ yield. As you mine Omber, divide that yield by 0.6 m^3 ($1,789.67/0.6=2,982.78$). So, you gain 2,982 pieces of Omber per cycle. Every time your cycle finishes there will be 2,982 pieces of Omber in your cargo. Quite simple, isn't it?

MINING BARGE OR BATTLESHIP? »



It is a frequently asked question. The simple answer is both, because you will not always mine, but which one should be first? Most of the skills used for mining are not ship-specific (Mining, Astrogeology, etc.), so the question is: do you want to PvP or do agent missions as well? If you do, you are going to need those battleship skills. But if you only want to mine all of your life, you can reach the level of a professional miner only choosing the barge. Note that a few battleships can mine as much or a bit more as the middle-class mining barge (the Retriever), but it depends on your skills and on the ship. If you have chosen the barge route, the Retriever is recommended right at the beginning. It is the best until you reach the level of the exhumers. Now, let's see how good you are at EVE-math.

THE BATTLESHIP RETURNS

The two most popular battleships for mining are the Apocalypse (Amarr, Tier 2) and the Rokh (Caldari, Tier 3). For a long time the 'Golden Banana' Apocalypse has been the best mining battleship, but lately the new king of the jungle is the 'Police Baton' Rokh. The reason is simple: mining requires a lot of CPU and the latter one has a lot more, which means the Rokh can fit +1 Mining Laser Upgrade, thus it has bigger yield. So far, there are no battleships with a skill bonus for mining. What matters are the turret hard points and the CPU.

Hopefully, you already have Mining IV and Astrogeology IV. Unless you specialize in Mining Barge, you are going to need Mining Upgrades IV to be able to put more MLU on to improve the efficiency of your ship. You should already have Electronics V, since most fitting setups depend strongly on the CPU of the ship. The MLU is key to your battleship mining output, making it competitive with the Retriever or the Hulk.

THE MAJESTIC GOLDEN BANANA

The Apocalypse can be fitted with eight Miners IIs and three MLUs (four Co-Processor IIs are required as well). The problem is that there is little CPU (and space) left for protection modules. Anyway, let's see how much it can do:

$60 \times 1.2 \times 1.2 \times 1.05^3 = 100.0188 \text{m}^3$ per cycle; with Omber, it is going to be $100.0188 / 0.6 = 166.698$; 166 pieces of Omber per cycle. As there are eight mining lasers on the ship, 1,328 pieces of Omber per cycle means 79,680 pieces of Omber per hour.

The 75m^3 drone bay is useful for bringing along five medium and five mining drones, which is the universal solution for either defence or mining.



THE POLICE BATON

The Rokh is relatively new battleship, and is well suited for mining. You can fit a shield tank on it (a shield booster and shield extender) as well as four MLUs. You can choose a stronger tank, but then only three MLUs can be fitted. Do not forget about the nice drone bay that it has.

No doubt about it: the Rokh is way better than the Apoc in the field of mining. Let's dive into the specifics and check the numbers: $60 \times 1.2 \times 1.2 \times 1.05^3 = 105.01974 \text{m}^3$ per cycle when Omber mining, means $105.01974 / 0.6 = 175.0329$; 175 pieces of Omber per cycle (per laser). With eight lasers, it is going to be 1,400 pieces of Omber per cycle, which is 84,000 pieces of Omber every hour. This is slightly better than the Apoc and it even has a tank and the CPU necessary to run the mining lasers without need for extra CPUs.

THE WAY OF THE MINING BARGE

- **The Procurer:** This little ship has only one turret slot, small cargo and low bonuses. Because of this, its appearance in the guide is minimal, like its worth. Don't bother with one.
- **The Retriever:** This is the most used mining barge in the universe of EVE. The required skills are relatively easy to train. It is much cheaper than any battleship and does almost the same yield as them. Because strip miner lasers can be fitted on, you do not have to move the ore as many times from the cargo bay into the can.

The necessary skills are: Mining Barge skill level IV, as it gives 3% bonus to yield per level. Although the ship only requires level III, the bonus is worth the time. Also Astrogeology level V is strongly recommended, firstly because it is required for the Covetor (and the exhumers); and secondly it also helps the yield (20% bonus per skill level).

A pro miner cannot live without Mining level V. Let's see the yield with another MLU fitted on (unfortunately two MLUs can only be fitted on the Retriever, regardless of skills). As it was mentioned earlier, Mining Barges require Mining Upgrades level I, and if you mine Omber you get $540 \times 1.25 \times 1.25 \times 1.12 \times 1.05 = 992.25 \text{m}^3$ per cycle. This is 992.25 per 0.6 = 1,653.75, which is 1,653 pieces of Omber per cycle, or 66,120 pieces of Omber per hour. This is 20.51% lower than the Apoc and 0.36% more than the Domi. As you can see, the Retriever and the Domi are on the same level with respect to mining. Only the Apoc and Rokh competes with them.

These differences will only make you smile in about a month time, when you're sitting in a Covetor or Hulk. Apocs and Rokhs are good enough for occasional miners, but those who take mining as a serious business should train the Exhumer skill to level V, because 3% bonus is 3% bonus.



ALL ABOUT EVE

SINCE 2005



« MINING BARGE OR BATTLESHIP? »

- **The Covetor:** This ship is much cheaper than any battleship (four to five times cheaper than an Apoc). Let’s see what it can do. Although it requires a rather long training time, it is really worth the time.

The main reason of its success is the third strip miner. Because of it, the yield is:

- $540 \times 1.25 \times 1.25 \times 1.05 \times 1.15 = 1,018.83\text{m}^3$ per cycle with Omber: $1,018.83 / 0.6 = 1,698.05 \rightarrow 1,698$ pieces of Omber every cycle (per strip miner laser). With all three lasers, this will increase up to 5,094 pieces per cycle, which is 101,880 pieces of Omber every hour. This is a very nice increase! It is 54.08% bigger than that of the Retriever and 27.86% bigger than the yield of the Apoc.



SHIP	MLU	OMBER PER HOUR	DIFFERENCE IN %
Retriever	1	66,120	0%
Dominix	5	65,880	-0.36%
Apocalypse	3	79,680	20.51%
Rokh	4	83,664	25.51%
Covetor	1	101,880	54.08%
Hulk	2	181,920	175.13% (OMG, isn't it?)

The numbers of the MLU are not valid in 0.0 space, because there you *have to* fit a tank on your ship. It is possible that a tank is not needed, but only in fleet mining operations, where other ships take care of the NPC pirates.

« MINING LASER CRYSTALS »

➡ Every ore has its appropriate Tech I and Tech II mining laser crystal. The Mercxite crystal is a bit different to the others, but that kind of ore will be discussed in Chapter 31. Ice and gas do not have crystals.

ORE/CRYSTAL NEEDED			TECH I SKILLS NEEDED	TECH II SKILLS NEEDED
Veldspar			Refining IV, Industry I, Veldspar Processing III, Science III, Mining I	Refining IV, Industry I, Veldspar Processing IV, Science III, Mining I
Scordite			Refining IV, Industry I, Scordite Processing III, Science III, Mining I	Refining IV, Industry I, Scordite Processing IV, Science III, Mining I
Pyroxeres			Refining IV, Industry I, Pyroxeres Processing III, Science III, Mining I	Refining IV, Industry I, Pyroxeres Processing IV, Science III, Mining I
Plagioclase			Refining IV, Industry I, Plagioclase Processing III, Science III, Mining I	Refining IV, Industry I, Plagioclase Processing IV, Science III, Mining I
Omber			Refining V, Industry I, Omber Processing III, Science III, Mining I	Refining V, Industry I, Omber Processing IV, Science III, Mining I
Kernite			Refining V, Industry I, Kernite Processing III, Science III, Mining I	Refining V, Industry I, Kernite Processing IV, Science III, Mining I
Jaspert			Refining V, Industry I, Jaspert Processing III, Science III, Mining I	Refining V, Industry I, Jaspert Processing IV, Science III, Mining I
Hemorphite			Refining V, Industry I, Hemorphite Processing III, Science III, Mining I	Refining V, Industry I, Hemorphite Processing IV, Science III, Mining I
Hedbergite			Refining V, Refinery Efficiency IV, Metallurgy III, Industry I, Hedbergite Processing III, Science IV, Mining I	Refining V, Refinery Efficiency IV, Metallurgy III, Industry I, Hedbergite Processing IV, Science IV, Mining I
Spodumain			Refining V, Refinery Efficiency IV, Metallurgy III, Industry I, Spodumain Processing III, Science IV, Mining I	Refining V, Refinery Efficiency IV, Metallurgy III, Industry I, Spodumain Processing IV, Science IV, Mining I
Gneiss			Refining V, Refinery Efficiency IV, Metallurgy III, Gneiss Processing III, Industry I, Science IV, Mining I	Refining V, Refinery Efficiency IV, Metallurgy III, Gneiss Processing IV, Industry I, Science III, Mining I
Dark Ochre			Refining V, Refinery Efficiency IV, Metallurgy IV, Industry I, Dark Ochre Processing III, Science IV, Mining I	Refining V, Refinery Efficiency IV, Metallurgy IV, Industry I, Dark Ochre Processing IV, Science III, Mining I
Crokite			Refining V, Refinery Efficiency V, Metallurgy IV, Crokite Processing III, Industry I, Science IV, Mining I	Refining V, Refinery Efficiency V, Metallurgy IV, Crokite Processing IV, Industry I, Science IV, Mining I
Bistot			Refining V, Refinery Efficiency V, Metallurgy IV, Bistot Processing III, Industry I, Science IV, Mining I	Refining V, Refinery Efficiency V, Metallurgy IV, Bistot Processing IV, Industry I, Science IV, Mining I
Arkonor			Refining V, Refinery Efficiency V, Metallurgy IV, Arkonor Processing III, Industry I, Science IV, Mining I	Refining V, Refinery Efficiency V, Metallurgy IV, Arkonor Processing IV, Industry I, Science IV, Mining I
Mercxite			Refining V, Refinery Efficiency V, Metallurgy IV, Mercxite Processing III, Industry I, Science IV, Mining I	Refining V, Refinery Efficiency V, Metallurgy IV, Mercxite Processing III, Industry I, Science IV, Mining I

« MINING LASER CRYSTALS »

Using the crystals is simple: load them in a Tech II strip miner, or in a MDCM2 (this can be fitted on any ship, if you remember). In theory, the Tech I crystals give a 62.5%, while the Tech II give a 75% increase to the yield (with the right crystal). The actual increase will not be this high, however.

Crystal-using lasers or strip miners have a lower yield unloaded than their Tech I variant. It is not worth it to use a laser unloaded. Use Tech I versions while you train crystals. Comparing an unloaded laser with a Tech I laser, the later has a significantly higher yield. Tech I crystals require (Ore) Processing level III (Omber Processing level III, for instance), while Tech II crystals require level IV. The following chart will show you the different yield of the different types of laser crystals.



TYPE	BASE MINING YIELD (M3)	WITH TECH I CRYSTAL (62.5% BONUS)	WITH TECH II CRYSTAL (75% BONUS)
Modulated Strip Miner II	360	585	630
Modulated Deep Core Miner II	120	195	210

The basic yield of a Tech I strip miner is 540m³. So the Tech II variant gives 16.17% increased yield compared to the Tech I. Let's see the numbers.

Take the Covetor, loaded with Tech II crystals: $360 \times 1.25 \times 1.25 \times 1.05 \times 1.15 \times 1.75 = 1188.63 \text{m}^3$ per cycle; in case of Omber it is: $1,188.63 / 0.6 = 1,981.05 \rightarrow 1,981$ pieces of Omber per cycle per strip miner; with three strip miners that's 5,943 pieces of Omber, which is 118,860 pieces of Omber every hour.

As we said before, this is a 16.17% increase compared to the Tech I variant, not 75%.

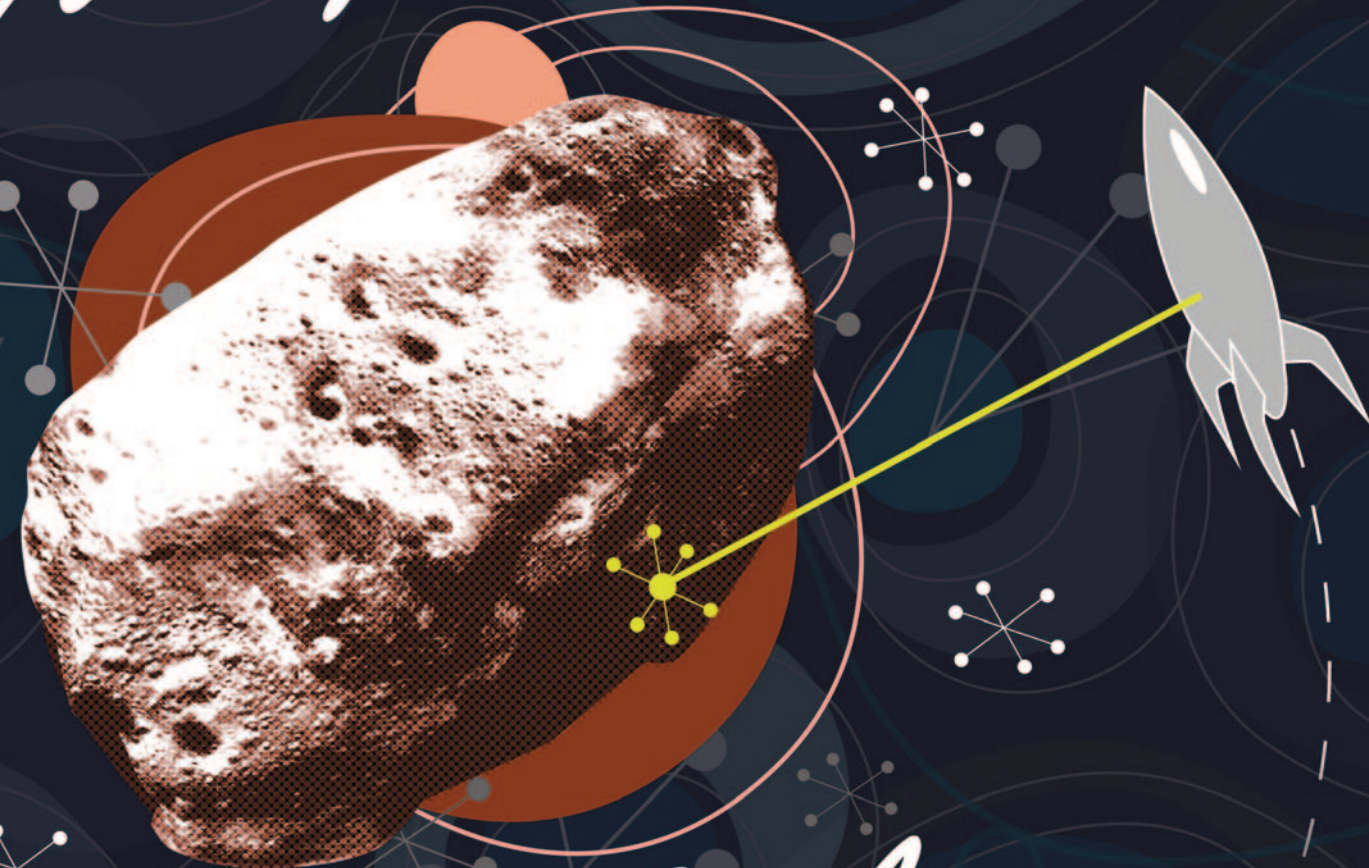
HOW MUCH IS MY YIELD?

Unfortunately, the EVE database is not as sufficient as it could be. Do not depend on it too much regarding the yield of the Tech II strip miner. Nevertheless, by selecting 'Show Info' on your fitted laser, you can obtain the required information. It can be confusing though. Your current yield is indicated by the 'Specialty Crystal Mining Amount'. Ignore the data at the 'Mining Amount' when using a Tech II module. It is important to note that this value contains the skill bonuses. The ship bonuses and the fleet bonuses are added only when the Show Info happens in space.

If you aim to fly a Hulk, then you are going to need crystals to be really efficient. Crystals also can be fitted on battleships, so the knowledge of them will always be useful.

STRIP MINER INFORMATION	FREQUENCY MINING LASER INFORMATION
<p>STRIP MINER I</p> <p>DESCRIPTION ATTRIBUTES FITTING PREREQUISITES VARIATIONS</p> <p>VOLUME 100.0 M3</p> <p>ACTIVATION COST 90 Energy</p> <p>TECH LEVEL 1</p> <p>MINING AMOUNT 1115.859375 M3</p> <p>OPTIMAL RANGE 15 km</p> <p>ACTIVATION TIME / DURATION 180.00 SEC.</p>	<p>MODULATED STRIP MINER II</p> <p>DESCRIPTION ATTRIBUTES FITTING PREREQUISITES VARIATIONS</p> <p>CAPACITY 50.0 M3</p> <p>VOLUME 5.0 M3</p> <p>CHARGE SIZE 5M0</p> <p>ACTIVATION COST 95 Energy</p> <p>TECH LEVEL 2</p> <p>MINING AMOUNT 743.90625 M3</p> <p>SPECIALTY CRYSTAL MINING AMOUNT 1,208.84765625 M3</p> <p>OPTIMAL RANGE 15 km</p> <p>ACTIVATION TIME / DURATION 180.00 SEC.</p> <p>META LEVEL 5</p> <p>USED WITH (CHARGE GROUP) Mining Crystal</p>

A night boring...



Needn't be a Boring Night!

"Mine's" an EON!



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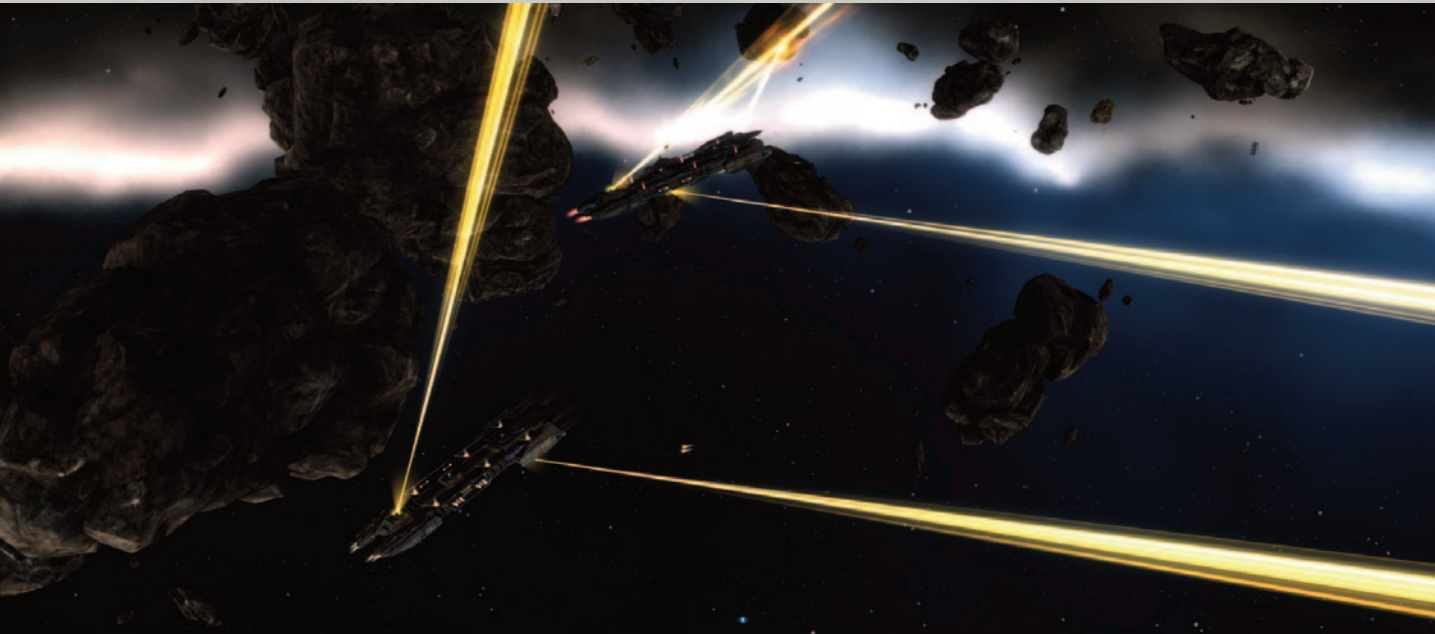
[PERFECT MINING]>>

➡ There are many skills and modules which can increase your mining yield. It is possible to gain the ‘Perfect Miner’ title, by training every skill to its maximum level and having the best modules, implants, ship, equipment and assisting group. The Perfect Miner has reached the top, and there is nothing else which could increase the yield any higher than what he already has.

The Mining Foreman Links and gang modules are not on the list, because they cannot be fitted on battleships or barges. The gang modules will be shown in a later chapter.

The Mining Foreman V skill is on the list because it can be easily provided by an alt (a secondary character, ‘alter ego’), or a friend or corporation member. You only need to be in the same fleet and the one with the skill needs to be the fleet-booster. Be advised that the implant slots are shared between the mining yield increasing, ice mining implants and fleet-booster implants and you only have one head. The Michi implant can be obtained in COSMOS. That is the reason for its high price, and why it is so difficult to acquire.

	TYPE	NAME	EFFECT	NOTE
	Skill	Mining	5% bonus to mining turret yield per skill level	
	Skill	Astrogeology	5% bonus to mining turret yield per skill level	
	Skill	Mining Barge	3% bonus to mining turret yield per skill level	Barges and Exhumers
	Skill	Exhumer	3% bonus to mining turret yield per skill level	Exhumers only
	Skill	Mining Foreman	Grants a 2% bonus to fleet members' mining yield per level	Note: The fleet bonus only works if you are the assigned fleet booster
	Skill	Mining Director	100% bonus to effectiveness of Mining Foreman link modules per level after level II is trained	
	Skill	Drone Interfacing	20% bonus to drone damage, drone mining yield per level	
	Skill	Mining Drone Operation	5% Bonus to mining drone yield per skill level	
	Crystal	Crystals – Tech I and Tech II	+8.33% (Tech I) or +16.17% (Tech II) mining yield bonus	
	Module	Mining Laser Upgrade – Tech I, Tech II and faction	Increases the yield on mining lasers, but causes them to use up more CPU	
	Implant	‘Yeli’ BX-0 (Slot 10)	Yields a 1% decrease in ice harvester cycle time	
	Implant	‘Yeli’ BX-1 (Slot 10)	Yields a 3% decrease in ice harvester cycle time	
	Implant	‘Yeli’ BX-2 (Slot 10)	Yields a 5% decrease in ice harvester cycle time	
	Implant	HX-0 Highwall (Slot 10)	1% bonus to mining yield	
	Implant	HX-1 Highwall (Slot 10)	3% bonus to mining yield	
	Implant	HX-2 Highwall (Slot 10)	5% bonus to mining yield	
	Implant	Michi Excavation (slot 7)	5% bonus to mining yield	
	Implant	Mining Foreman Mindlink (slot 10)	50% increase to the command bonus of Mining Foreman Link modules	



O.R.E. – OUTER RING EXCAVATIONS

It is the father of all miner corporations and every ship specialized in mining is its invention; barges, exhumers, the Orca and the Rorqual. You probably noticed the O.R.E. miners appearing amongst the lasers in the charts. Their common feature is their increased range. In every other way, they are equivalent to the Tech II modules. The only problem is that it is nearly impossible is to obtain them. Likewise, the ‘Harvest’ implant set is very difficult to find. This implant set increases the range of the mining lasers, and is also a low-grade implant set (grants +2 to the basic attributes). Both can be obtained in the O.R.E. Loyalty Point (LP) store. Why is it nearly impossible to get them? Take a look on the map, and you will find out: The entire Outer Ring region is deep in 0.0 space.

What’s the LP Store? After finishing the agent missions, you will receive Loyalty Points which can be redeemed in the LP Store on any station owned by the NPC corporation you are working for. The offers at the LP stores can be found here: www.ellatha.com/eve/LP_Stores.asp.

MINDLINK IMPLANT

The Mining Foreman Links are very useful implants, because:

- They increase the Mining Foreman skill efficiency by 50% (on level V the bonus is 10% x 1.5 = 15%).
- They increase all the Mining Foreman Link (gang modules) efficiency by 50%. Important: you only get the bonus if you are in the fleet and the squadron/wing/fleet commander or the booster has these implants/skills.

Everyone gets the first bonus in the fleet regardless what kind of ship you are flying. The second bonus is only applied to those who are flying a battlecruiser or a command ship and they have an active Mining Foreman Link gang module. The nature of the bonus is that either the Highwall or the Mindlink takes effect (both to be put in the same implant slot). The Highwall gives a flat-out 5% increase, while the Mindlink increases the effect of the Mining Foreman skill level 5%. Additional 5% bonus can be earned with the Michi implant, but this one is rather expensive at the moment (600-750 million ISK).


It is also possible that the Mindlink implant is in another character, who ‘helps’ mining. If you have trained every skill to the maximum level and you have the previously mentioned implants too, along with a good ship and equipment, and you also have a pilot with Mindlink implants at your disposal, then you have reached the Perfect Miner title. Using a Covetor for example: 360*1.25*1.25*1.15*1.15*1.05*1.05*1.05*1.75=1,507.03m³ per cycle in case of Omber it totals: 1,507.03/0.6=2,511.72 -> 2,511 pieces of Omber per cycle per strip miner and 150,660 pieces of Omber every hour. This is 26.75% increase to the previously mentioned Covetor, where you used Tech II strip miners with Tech II crystals.

You must be asking yourself whether it is worth spending that much time to learn those skills. Well, it is 89.08% more yield when compared to the Apoc and 127.86% better than the efficiency of the Retriever. If mining is your career, then yes it does!

« PERFECT MINING »

UPGRADES THAT MAKE YOU RICH

The following modules can increase the efficiency your mining lasers at the cost of increased CPU usage:

	UPGRADE NAME	META GROUP	META LEVEL	MINING YIELD BONUS	CPU-PENALTY	CPU	PG
	Mining Laser Upgrade I	Tech I	–	5%	10%	30 lf	1 MW
	Erin Mining Laser Upgrade	Tech I	1	6%	9%	31 lf	1 MW
	Elara Mining Laser Upgrade	Tech I	2	7%	8,5%	33 lf	1 MW
	Carpo Mining Laser Upgrade	Tech I	3	8%	8%	35 lf	1 MW
	Aoede Mining Laser Upgrade	Tech I	4	9%	7,5%	37 lf	1 MW
	Mining Laser Upgrade II	Tech II	5	9%	12,5%	40 lf	1 MW

You can even fit two MLU IIs on a Hulk, but you are going to need the Mining Upgrades level IV skill. Do not forget about the ‘Gypsy’ KMB-X implant, which improves the CPU of the ship (#50 with 3%, the #75 with 5%) so even two MLUs can be fitted on a Covetor.

THE PERFECT MINER

As it was mentioned a few charts before, the best way to mine is in a Hulk with Tech II crystals, mining drones, implants and a command ship pilot providing the Mining Foreman Links for you. The money that you could earn this way is nearly 40,000,000.00 ISK per hour, although for that you need to mine Arkonor. Many young pilots rush down in to low-sec or 0.0 in the hope of earning big piles of ISK there, but without experience and a stable background, most of them return shortly with a sour taste in their mouths. Do not rush! Your actions have consequences here, so think before doing anything. You may never know when your hard-earned ship and equipment might blow up, because you went to earn some extra ISK, right where PvP pilots go when they have a bad day. It is possible to make a fortune in weeks, earning millions. The key for that is the corporation. As soon as you are able, go and find a corp that is the closest to your playing style. Sooner or later you will find one.



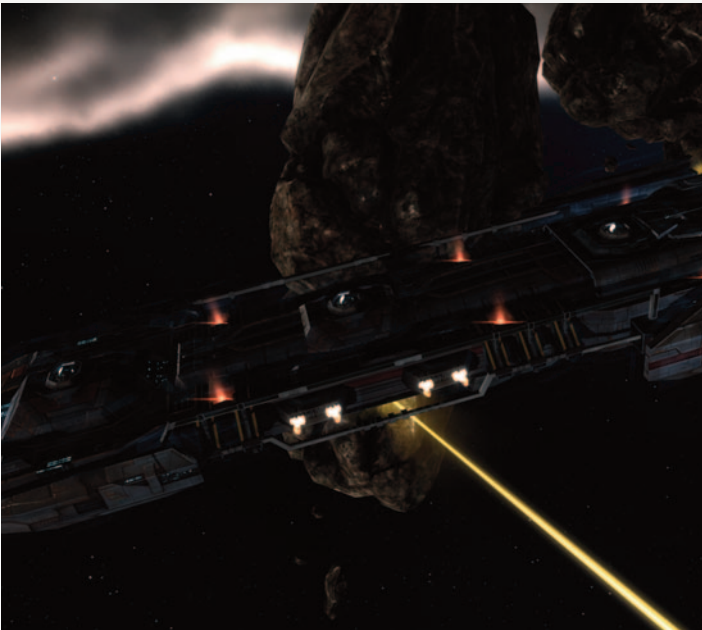
« THE MIGHTY HULK »

➡ Here we are, the ‘king’ of the asteroid fields: the Hulk. When the exhumers were introduced to the game, mining became a profitable occupation again. These beauties were only a couple of days of training if you could already fly the Covetor. All three exhumers have a specialty: the Mercoxit-expert Skiff, the ice-pick Mackinaw, and the ominous omnivorous Hulk.

The second big question after battleship vs. barge is whether the Hulk is worth its money? It’s not cheap. Ideally, you only have to buy one. Unfortunately, due to some particularly aggressive players, there is an event which targets this ship class as a favourite target for PvP. ‘Hulkaggedon’ is a contest for PvP players to see who can destroy the most Hulks during a set time. Watch the forums for mention of the event, and fly something else on those days. You’re a big target during ‘Hulkaggedon’.

Compared to the Covetor, the Hulk gets a 20% increased yield and quite strong protection. There are actually frigates and interceptors on the killboards shot down by Hulks! Where does that 20% come from? The answer is Exhumer skill level V (+15%) and it can be fitted with one more mining upgrade. Math again (based on the ‘maxed out’ Covetor):

- 360*1.25*1.25*1.15*1.15*1.15*1.05*1.05*1.05^2*1.75 = 1,819.75m³ per cycle (Omber). This means 1,819.75/0.6 = 3,032.92 -> 3,032 pieces of Omber per cycle per strip miner.
- Having three strip miners fitted means: 9,096 pieces of Omber per cycle, which is 181,920 pieces of Omber every hour. This is a 20.74% increase when compared to the ‘maxed’ Covetor and it is also 175.14% increase to the yield of the Retriever. The result of those three months training is 175.14% (among others). The Hulk IS the king!



«THE MIGHTY HULK»

THE MONSTER'S HULK

The Hulk not only the best mining ship, it is also very sturdy. With a good fitting setup (worth only a few billion ISK), you could even mine in 0.0 alone, tanking the rats. Of course, this tank protects you against the NPC rats only. A roaming gang or other PvP group will have no trouble popping you at all, and they will. It is highly recommended not to mine alone in 0.0, especially if you fly with a billion in fittings, because if you lose it, you lose lots of money within moments. The following fitting setups might be good to compare if you still insist on mining the best ore in the game.

WITH +5% CPU IMPLANT (MAXIMUM YIELD, MODERATE TANK)	WITHOUT IMPLANT (MAXIMUM TANK, MODERATE YIELD)
MLU II x 2	Damage Control II
Gistii A-Type Small Shield Booster	Power Diagnostic System II
Caldari Navy Photon Scattering Field	Gistii A-Type Small Shield Booster
Caldari Navy Heat Dissipation Field	2 x Caldari Navy Invulnerability Field
Cap Recharger II	Caldari Navy Shield Boost Amplifier
3 x Modulated Strip Miner II + Mining Crystal	3 x Modulated Strip Miner II + Mining Crystal
2 x Medium Core Defence Field Purger I	2 x Medium Core Defence Field Purger I
5 x Mining Drone II	5 x Mining Drone II
5 x Hobgoblin II	5 x Hobgoblin II

Without implants you have two alternatives:

- Sacrifice one MLU for the sake of the tank.
- Instead of hardeners, fit resistance amplifiers.

With resistance amplifiers, the tank will be weaker. It will not work without the appropriate Engineering skills; your capacitor will simply run out. Unfortunately, the Tech II Cap Rechargers cannot be fitted on; you have to use the best Tech I version. Electronics V and the skills affecting the capacitor are required to at least level IV. This fitting setup takes every unit of CPU (if it is not enough, train a couple more levels in the Mining Upgrades skill). Faction equipment is required to be able to fit your ship ('Faction' is the equipment of pirate NPCs that is better than Tech II). The key is the Gistii booster! Do not forget the miners should be activated

every 20 seconds, and not at once, to avoid draining your cap. If it is still not enough, use Tech I strip miners or train some more capacitor skills in the Engineering skill group (Energy Management, Energy Systems Operation, etc.). Finally, do not be afraid to change one of the MLUs with a Power Diagnostic System 2 or a better Faction PDU from True Sansha or Dark Blood (PDU stands for Power Diagnostic Upgrade – the original name for the Power Diagnostic System). If you are not able to fit these modules on, do not mine alone in 0.0. It will be better with a team. At least there will be someone who transports or takes the damage for you. Even a spawn of three battleships and a cruiser escort can be tanked, but do not forget, not even the Hulk is invincible.

PAYBACK TIME!

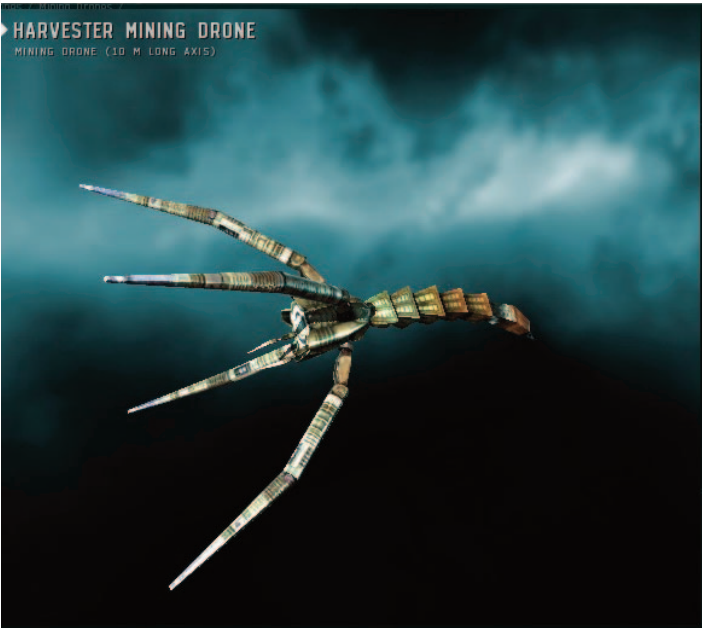
Before buying a ship, you have to ask yourself when the returns from mining will pay for it? There will be many hours of mining until your expenditure is recovered, and only then can you start to earn some profit. The basic Hulk is only 21% better than the Covetor but the price difference is five times more expensive. The time of return depends on what you mine and for how long. Understandably, this investment pays off in a much shorter time period in low-sec or 0.0, but it has significantly greater risks. You can calculate this time by dividing the price of your ship with the amount of ISK of the ore you mine in one hour. One unit of Bistot is worth about 10,000 ISK. It would be more, but take into consideration, that transporting the ore up to high-sec without refining it is senseless, and refining it in low-sec is questionable. The following table shows the time of return for both the Covetor and the Hulk.

SHIP	MINING YIELD (M3 PER CYCLE)	BISTOT PER CYCLE	BISTOT PER HOUR
Covetor	1507.03	94	5640
Hulk	1819.75	113	6780
Difference:	312.72	19	1140

The price difference is significant, because the price of the Covetor is about one fifth that of the Hulk. As the table shows, the Covetor pays off almost immediately. However, you do not have to be in the belts for long if you bought the Hulk, either. The price of the equipment is a different story, because it depends on your skills, the accessible equipment and the dangers of the zone you are mining in. It does not mean that the Hulk is for 0.0 Bistot mining exclusively. It pays off in Empire space as well, where it is more secure (well, apart from the Hulkageddon), but instead of mining for up to two hours, it may take weeks mining only Veldspar.

SKILL REQUIREMENTS

The ideal skills for the Hulk are: Exhumer IV, Mining Barge V, Astrogeology V, Mining V, Mining Foreman V, Refining V, Refinery Efficiency V, Metallurgy IV, [Type of Ore] Processing IV.



[MINING DRONES]

➡ Drones should not be ignored, because your rate of ISK per hour can be improved significantly by using them. We are, of course, talking about mining drones, but it is not a bad idea to keep some combat drones in the drone bay as well, in case some unpleasant company appears.

The golden rule about mining drones is: DO NOT USE THE HARVESTING MINING DRONES!

As was mentioned earlier, there are two skills that effect the mining yield of drones: Mining Drone Operations and Drone Interfacing. Note that drones are not able to mine Ice or Mercoxit. Let’s see what kinds of mining drones are available:

DRONE TYPE	SPEED (M/S)	BASE MINING YIELD (M3 PER CYCLE)	MINING CYCLE (SECONDS)
Tech I Mining Drone	400	15	60
Tech II Mining Drone	500	25	60
Harvester Mining Drone	250	30	60

The basic yield of the Harvester drone is double that of the Tech I variant, and just a bit more than the Tech II version (requires Mining Drone Operations V), but the Tech II drone has double speed. Why is this important? You cannot sit less than 1,500m from any asteroid you mine. Drones must travel back and forth, to transport the ore into the ship cargo then back again to the asteroid. Their cycle is 60 seconds, then they take the ore to the cargo of your ship. The cycle time does not include the time necessary to travel. It is easy to calculate that if you are 10kms from the rock, the Harvester drone will take 40 seconds to travel to the rock, while the Tech II drone will take 20 seconds. Calculated with a small rounding, as the drones put their ore into the cargo hold:

- **Tech II drone:** 20s travel time + 60s mining time + 20s travel time (1 cycle) = 100s
- **Harvester:** 40s travel time + 60s mining time + 40s travel time (1 cycle) = 140s

The Tech II drone is in the middle of its next cycle already when the Harvester actually starts going back to the asteroid! The Harvester drone is simply not recommended. Although its yield is 20% better, than that of the Tech II drone, its speed is only half, so the slowness is not balanced with efficiency. As the above example shows, the Tech II drone is quicker with 40% on 10kms, so more efficient with 20% as well. Also the Harvester costs at least 100 times as much ISK. They are very hard to find, but if you find

some, it’s better to sell them for a good profit and use Tech II mining drones. You’ll be better off.

YIELD OF THE MINING DRONES

Counting the yield of the mining drones is the same as of the mining lasers: rounding down and in pieces. Having Mining Drone Operation V (+25%) and Drone Interfacing V (+100%), the yield of a Tech II drone is: $25 \cdot 1.25 \cdot 2 = 62.5 \text{m}^3$ per cycle. With Omber, $62.5 / 0.6 = 104.17 \rightarrow 104$ pieces of Omber per cycle per drone. Since you can control a maximum of five drones, it totals 520 pieces of extra Omber per cycle or 31,200 pieces per hour. This does not include the time required for the drones to travel back and forth to the rock.

The only problem with the high-end ores is that their size is bigger, so a given drone cannot carry as much of them. As we can see, it is rounded down as well. For example, Drone Interfacing level V does not improve your yield if you mine this type of ore. Why is that? Let’s see through the example of Bistot: with perfect drone skills you receive 62.5 m^3 per cycle, which is $62.5 / 16 = 3.90 \rightarrow 3$ pieces of Bistot per cycle per drone. Unfortunately you gain only three and not four pieces of Bistot. Drone Mining Augmentator rigs improve this a bit, so that you might acquire +1 Bistot. However, consider carefully the type of rig you choose, as other rigs might be more useful.

DRONE TRAVELLING TIMES

The best way to mine with drones is if you are as close to the rock as you can be. It is rare that you can stay this close, however. Eventually, you will exhaust the rock, and you will have to move to the next. Also, consider the hazard of hanging up on the rock should you need to warp out due to danger. You may find yourself stuck, and then dead.

So while the theory is nice, reality is different. The minor increase in ore in 0.0 systems by mining with drones is minimal compared to the danger. You don’t want to wait while your drones return in an emergency, or leave behind five expensive drones that cost you more than the ore was worth.

As you can see, with drones your yield will not grow significantly, but every little bit has its worth. That is why you should not neglect them, but do not make it your primary objective to train and use them. Veterans could maximize their yield by using drones, but do not train them until there is nothing else to train. As always, the choice is yours. It is entirely up to you what you do, just consider the advantages and disadvantages.

RIGS FOR MINING

The Drone Mining Augmentator (and its Tech II version) can be thought of as implants for the ship, and they work the same way as the pilot versions: knocking them out will destroy them. They will also be destroyed if the ship is shot out or is repackaged. The disadvantage of the Drone Mining Augmentator is that it reduces the free CPU capacitor of the ship.

However, it might help your drones to take in one more piece of ore, so you should not dismiss it immediately before doing the math. Make sure the rig will not make your ship unusable. It might prevent fitting the mining lasers, for instance, and that would be silly. If you decide to use them, train the Drones Rigging past level I (-10% for the rig penalty, so the starting 10% can be reduced to 5% at Drones Rigging level V). Unfortunately, there’s no free CPU capacitor remaining with the earlier mentioned Hulk fitting setup, so the rig cannot be used there.

RIG NAME	EFFECT
Drone Mining Augmentator I	This ship modification is designed to increase a ship’s mining drone yield (10%) at the expense of the ship’s CPU capacity (10% without skills)
Drone Mining Augmentator II	This ship modification is designed to increase a ship’s mining drone yield (15%) at the expense of the ship’s CPU capacity (10% without skills)


「ICE & MERCOXIT」






Ice mining has an altogether different line of skills than that of the traditional ore mining. Instead of increasing the yield, skills decrease the time necessary for a whole cycle (one block of ice is 1,000m³, and that is fixed). So better skills means that you can reach more cycles per hour, which means more ice. The only lasers able to mine ice are the Ice Harvester (a strip miner) and its Tech II version (there is an O.R.E. type as well, but it is as easy to get as the other O.R.E. lasers – i.e. next to impossible). The ice mining equipment can only be fitted on barges or exhumers. Their difference is only in their cycle times, which are less in the case of Tech II version.

Every time the cycle ends, you get a block of ice, but only at the end. You will not get any if you cancel the cycle before it ends (or if you are disconnected from the net, or you get too far from the ice). The only exception is the Mackinaw, which gains two blocks of ice per cycle, and if the cycle reaches its halfway point, one of the ice blocks will be gained even if the cycle is cancelled.

The only skill that modifies your yield is Ice Harvesting. It reduces the cycle time, so that you gain more ice per hour. The module equivalent to an MLU is the IHU (Ice Harvester Upgrade) that also reduces the cycle time by 5%. The following implants are also helpful when you are mining ice:

	TYPE	NAME	CYCLE TIME (SECONDS)	SHIP
	Module	Ice Harvester I	600	Mackinaw
	Module	Ice Harvester II	500	'Other' barges & exhumers

	TYPE	NAME	EFFECT
	Module	Ice Harvester Upgrade I	Decreases the cycle time on Ice Harvester (5%) but causes them to use up more CPU (10% without skill)
	Module	Ice Harvester Upgrade II	Decreases the cycle time on Ice Harvester (9%) but causes them to use up more CPU (10% without skill)
	Skill	Ice Harvesting	5% reduction per skill level to the cycle time of ice harvesters
	Implant	Inherent Implants 'Yeti' BX-0 (Slot 10)	Yields a 1% decrease in ice harvester cycle time
	Implant	Inherent Implants 'Yeti' BX-1 (Slot 10)	Yields a 3% decrease in ice harvester cycle time
	Implant	Inherent Implants 'Yeti' BX-2 (Slot 10)	Yields a 5% decrease in ice harvester cycle time

HULK, COVETOR OR MACKINAW?

Since the Covetor does not gain an ice mining bonus, one of the three possible ships is already eliminated. The Hulk gets 3% of exhumers levels bonus. In the case of the Ice Harvester II, that becomes: $500\text{sec} \times 0.75 \times 0.85 \times 0.95^2 = 287.67\text{sec}$, which is more than 12 cycles per hour. With the three strip miners of the Hulk, it will be 36 ice blocks per hour.


















The Mackinaw has a 25% penalty on the cycle of Ice Harvester Lasers, but the Exhumer skill gives a bonus of +5% per level, so at level V it negates the penalty. The reason this ship is called the 'Fast Freezer' is that it gains two ice blocks per cycle. It can only fit two miners, which is: $500\text{sec} \times 1.25 \times 0.75 \times 0.75 \times 0.95^2 = 317.28\text{sec}$ per hour. One hour is 3,600 sec, so $3,600 / 317.28 = 11.34 = 11$ cycles per hour, but with the ship bonus: $2 \times 2 =$ four ice blocks per cycle, meaning 44 ice blocks per hour.

The usefulness of the Hulk in ice harvesting is its vast cargo hold. With Cargo Expander modules and rigs, you can get 17,200m³ and with suitable protection, it is suitable for AFK (Away From Keyboard) ice mining. In practice, it means that in 30 minutes you should be able to take the ice you mined (six cycles = 18 ice blocks, or due to the maximum capacity of the cargo hold, you will have 17, losing only one).

The Mackinaw has 'only' 12,000m³ maximum cargo hold capacity so a much shorter time is required to fill it. It is worth following the principle of "less is more". You should dock more often, but the yield is higher. You do not have to do much during ice mining. The ice, as an asteroid, has unlimited capacity, so you do not have to change rocks or be afraid of depleting one if you did not pay attention. Five Medium Combat Drones can take care of your ship during mining, so AFK ice mining is generally the norm.



«ICE & MERCOXIT»

		M3 (1)	BATCH	HEAVY WATER	LIQUID OZONE	STRONTIUM CLATHRATES	OXYGEN ISOTOPEs	NITROGEN ISOTOPEs	HELIUM ISOTOPEs	HYDROGEN ISOTOPEs
										
	Blue Ice	1000	1	50	25	1	300	-	-	-
	Thick Blue Ice	1000	1	75	40	1	350	-	-	-
	Clear Icicle	1000	1	50	25	1	-	-	300	-
	Enriched Clear Icicle	1000	1	75	40	1	-	-	350	-
	Glacial Mass	1000	1	50	25	1	-	-	-	300
	Smooth Glacial Mass	1000	1	75	40	1	-	-	-	350
	White Glaze	1000	1	50	25	1	-	300	-	-
	Pristine White Glaze	1000	1	75	40	1	-	350	-	-
	Krystallos	1000	1	100	250	100	-	-	-	-
	Gelidus	1000	1	250	500	75	-	-	-	-
	Glare Crust	1000	1	1000	500	25	-	-	-	-
	Dark Glitter	1000	1	500	1000	50	-	-	-	-

⇒ ICE MINING HAS AN ALTOGETHER DIFFERENT LINE OF SKILLS THAN THAT OF THE TRADITIONAL ORE MINING. INSTEAD OF INCREASING THE YIELD, SKILLS DECREASE THE TIME NECESSARY FOR A WHOLE CYCLE

MINING MERCOXIT

Before the era of RMR (the Red Moon Rising patch), Mercoxit was the most expensive ore of all, because the mineral Morphite can only be refined from Mercoxit (apart from the Opulent Compound that was dropped from drones). The reason for its high price was the difficulty of Mercoxit mining. It required crystals and many skills to be trained. The 40m3 of size of the ore made it worse, as it is difficult to transport as it takes up so much space.

The addition of the Skiff solved most of the problems, and this caused the price of the ore to drop considerably. It is still a good business, but not as good as before. Those, who stopped playing before RMR, and returned later, might ask what happened to the goose that laid their golden egg!

If you can mine other ores, you need only more one skill to mine Mercoxit and that is Deep Core Mining level II. Training it further would be waste of time. True, poisonous gas clouds can develop which can inflict your ship, but if someone with a laser with a range 15km range goes to 5km of a gas cloud (that is the range of the lethal effects of gas clouds), he deserves his fate. In short, do not go closer than 5km and there is no chance of any danger from the cloud. The required modules are as follows:



NAME	BASE MINING YIELD (M3)	WITH TECH II CRYSTAL
Modulated Deep Core Miner II	120	140
Modulated Deep Core Strip Miner II	250	437.5

While the MDCM2 can be used with any kind of crystal and can be fitted on any kind of ship with a turret slot, it is not as efficient as the MDSCM2. The normal Tech II strip miner cannot use the Mercoxit crystal, and although the MDSCM2 can use any type of crystal, the basic yield of the later one is less with 110, than MSM2 (250 vs. 360), so that is not the ideal choice.

The big bonus that the Skiff offers is the +60% bonus when mining Mercoxit, per every Exhumer skill level, which is 300% bonus if you have Exhumer to level V. It is well worth that 20 plus days of training from level IV to V. It is a very good investment concerning the low price of the ship (about 20m ISK). For the sake of numbers (and since you have already trained your skills to maximum because of the Hulk – hint, hint):

- 250*1.25*1.25*1.15*1.15*4*1.05*1.375*1.05^2=3,289.17m³ per cycle.

With the size of the Mercoxit, which is 40m3, it means 3,289.17/40 = 82.229; 82 pieces of Mercoxit per cycle. A Skiff is the only ship that can fit an MDSCM2, so the yield is about 1,640 pieces of Mercoxit per hour (20 cycles are calculated as with the other strip miners). Another useful feature of the ship is that it has + 2 Warp Strength, thus it is more survivable in nullsec, which literally can save your life!

MINING FOREMAN LINKS & IMPLANTS »

➡ Fleet modules can greatly affect the yield of a fleet’s ships, as the following table shows:

MODULE NAME	EFFECT
Mining Foreman Link – Harvester Capacitor Efficiency	Decreases the capacitor need of mining lasers, gas harvesters and ice harvesters
Mining Foreman Link – Laser Optimization	Decreases mining lasers/gas harvester and ice harvester duration
Mining Foreman Link – Mining Laser Field Enchantment	Increases the range of the fleet’s mining lasers, gas harvesters and ice harvesters

If you are the fleet booster, you will improve not only your own yield, but those of every miner in the fleet. There are other skills required, but only the Mining Director effects the yield for everyone. If you remember the Mining Foreman Mindlink mentioned earlier, this implant is really worth it now! The effects of the modules along with its skills trained to maximum are shown in the following table:

If you have the Mining Director V, Warfare Link Specialist V and the Mining Foreman Mindlink the effect will be a 2%*5*1.5*1.5=22.5% bonus!

There are many misunderstandings regarding the Mining Director skill. Simply, the bonus is 500% at level V, so it should be multiplied by five and not six, as many do (there is no bonus for level 0).

SKILL/MODULE NAME	EFFECT
Mining Director	100% bonus to effectiveness of Mining Foreman link modules per level after level II is trained
Warfare Link Specialist	Boosts effectiveness of all warfare link and mining foreman modules by 10% per level
Mining Foreman Mindlink	50% increase to the command bonus of Mining Foreman Link modules. Replaces mining foreman skill bonus with fixed 15% mining yield bonus



Mining Foreman Link - Harvester Capacitor Efficiency

Decreases the capacitor need of mining lasers, gas harvesters and ice harvesters.

Foreman Links are dedicated mining operation systems designed to assist foremen in coordinating their operations. While only one of these units can normally be operated at any given time, certain advanced units allow the use of multiple systems.

Note: The fleet bonus only works if you are the assigned fleet booster.

Best price in region is:
999,999.00 ISK

Units available: 1 - 1 jump away

BUYVIEW DETAILS



Mining Foreman Link - Laser Optimization

Decreases mining lasers' gas harvester and ice harvester duration.

Foreman Links are dedicated mining operation systems designed to assist foremen in coordinating their operations. While only one of these units can normally be operated at any given time, certain advanced units allow the use of multiple systems.

Note: The fleet bonus only works if you are the assigned fleet booster.

Best price in region is:
1,449,000.99 ISK

Units available: 30 - 16 jumps away

BUYVIEW DETAILS



Mining Foreman Link - Mining Laser Field Enchantment

Increases the range of the fleet's mining lasers, gas harvesters and ice harvesters.

Foreman Links are dedicated mining operation systems designed to assist foremen in coordinating their operations. While only one of these units can normally be operated at any given time, certain advanced units allow the use of multiple systems.

Note: The fleet bonus only works if you are the assigned fleet booster.

Best price in region is:
1,399,000.99 ISK

Units available: 20 - 16 jumps away

BUYVIEW DETAILS

MINING FOREMAN LINK – HARVESTER CAPACITOR EFFICIENCY

Capacitor is essential for successful operations as the ship has to maintain not only the mining lasers, but some kind of protection as well. This module does not improve the energy system of the ship, but reduces the required energy of the mining equipment. As can be seen in the above example, with maximum level of skills with the appropriate modules, it is 2%*5*1.5*1.5=22.5% reduction. In the case of strip miners, it is ‘only’ 73.47 capacitor consumption per activation instead of 90. The gain with the use of ice harvesters and/or a gas cloud harvester is also minimal, however it is significant with the Deep (Hard) Core mining modules: 240-195.92=44 units of cap. Not too much, but can mean the difference between capacitor stability and capacitor drain. With the use of the Mining Foreman Link, the capacitor efficiency modules (Cap Recharger, Capacitor Power Relay and Power Diagnostic Unit) can be changed to other, more useful, yield or tank enhancing modules.

MINING FOREMAN LINK – LASER OPTIMIZATION

The Laser Optimization Link reduces the cycle time of the ice and gas harvesters, instead of increasing the direct yield. This means 22.5% reduction in cycle time, meaning yield is: 1/(1-0.225)=1.29 (+29%). Yes, one highly trained (industrial) command ship pilot increases the yield of the fleet by 29%! Let’s return to our fully skilled Hulk pilot who is mining Omber:

360*1.25*1.25*1.15*1.15*1.15*1.05*1.05*1.05^2*1.75*1.29)/0.6)*3=>11,736 pieces of Omber per cycle, which is 234,720 pieces of Omber every hour. Since there are three Miners on the ships: 11,736 pieces of Omber per cycle or 234,721 pieces Omber per hour. Comparing it to the yield of the solo Hulk, the increase is 29%, and to the Retriever is 254.99%.

SHIP	OMBER PER HOUR	M3 OMBER PER CYCLE	OMBER PER CYCLE
Hulk (w/o link)	181920	1819	9096
Hulk (with active link)	234720	2347	11736

As we know, the cycle is reduced by 22.5%, but how much extra cycle is that in the case of ice harvesters? Some math again: 500sec*1.25*0.75*0.75*0.95^2*0.775=245.9sec. This is roughly 15 cycles, which is +4 cycles.

SHIP (LASER OPTIMIZATION LINK IS ACTIVE)	ICE PER HOUR	CYCLE (SECONDS)	CYCLE PER HOUR
Mackinaw	60	245.90	14.64/15
Covefor	39	276.09	13.03/13

As you can see, the Mackinaw mines 16 blocks of ice extra in every hour! If it does not seem like much, calculate this as being in a fleet and every Mackinaw gains this bonus.

SHIP (LASER OPTIMIZATION LINK IS ACTIVE)	ICE PER HOUR	CYCLE (SECONDS)	CYCLE PER HOUR
Mackinaw	44	317.28	11.34/11
Covefor	30	356.25	10.11/10

« MINING FOREMAN LINK IMPLANTS »

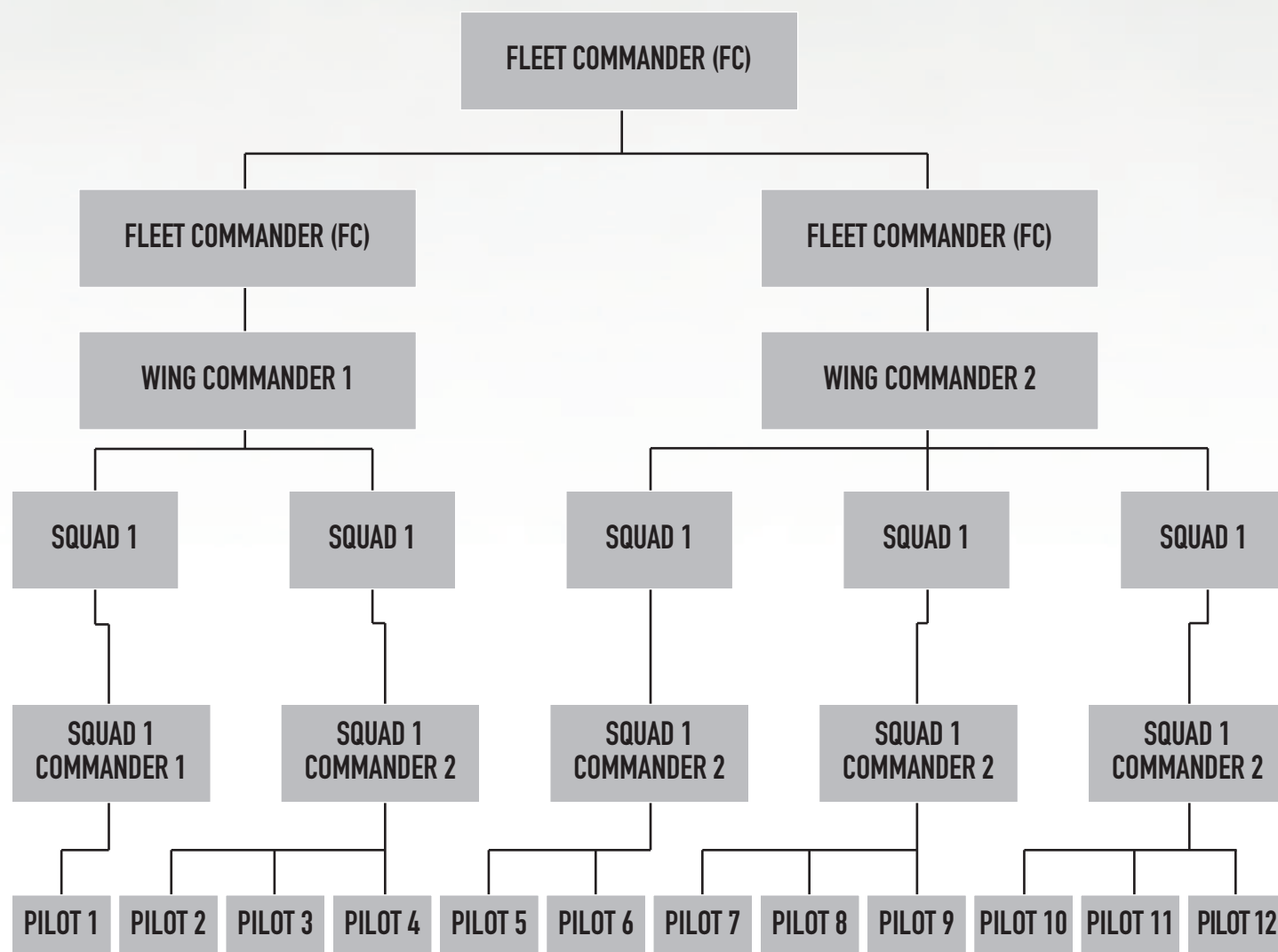
MINING FOREMAN LINK – MINING LASER FIELD ENCHANTMENT

This is probably the least used link, and it is not accidental. The 4.5% per level mining laser range, which can be 50.63% maximum (with the above mentioned fully trained Commander) can increase the optimal range by 15.1km, which is not that useful. With a strip miner, its optimal range is 22.6km after bonus. Using the O.R.E. strip miner, a Harvest Implant set and having a boosting Fleet Commander, the range can be increased up to 34.3km. My advice is that you might want to put something more useful, and leave this Link to the lazy who don't want to move much in a belt.

LET'S WORK TOGETHER

There are two ways to boost others with these links:

- You are the designated fleet booster and so, you are giving the bonus to everyone regardless of the level of your Leadership/Wing Command/Fleet Command skill and your position in the fleet.
- You need Leadership/Wing Command/Fleet Command skills. With the Leadership skill (and as the squad leader), you can boost your squadron. Beware! If your squadron has more members than your leadership skill can provide bonus for, all of you will lose the bonus. With the Wing Command skill (and as the Wing Commander), you can boost every squadron that is in your wing. With the Fleet Command skill (and as the Fleet Commander), you give the bonus to everyone in the fleet.



「 CAPITAL MINING 」



This pretty creature is one of the newcomers of the capital family of the EVE Universe. Produced by Outer Ring Excavation, it was originally meant for the deepest parts of 0.0 space to make mining possible in the deeper systems, far from a home station. It is an expensive ship, not only for the ship itself, but also the skills required to fly and use it. The capital ship skillbook alone can cost 500m ISK.

The Rorqual is not a solo mining ship. Rather, it is designed for supporting a fleet mining operation. It can be highly effective along with some Hulks and carriers.

- **Capital industrial ship skill bonuses:** 5% reduction in fuel consumption for Industrial Core per level, 10% bonus to effectiveness of Mining Foreman gang links per level when in deployed mode, 50% bonus to the range of Capital Shield Transporters per level, 20% bonus to drone damage and hitpoints per level.

- **Ship (role) bonuses:** 900% bonus to the range of survey scanners, 200% bonus to the range of cargo scanners, 99% reduction CPU to Industrial Reconfiguration modules, 99% reduction CPU to Capital Tractor Beams, 99% CPU to Clone Vat Bay, 99% reduction in CPU need for Gang Link Modules, Can use three Gang Link modules simultaneously.
- **Useful data:** 40,000m³ Cargo Hold (with rigs, skills, fits, you can reach 137,294m³), 30,000m³ Corp Hangars, 10,000m³ Fuel Bay, 250,000m³ Ore Bay (minerals can not be placed in it), 1,000,000m³ Ship Maintenance Bay, 300m³ Drone Bay (125Mbit bandwidth), Three low slots, seven medium slots, six high slots and three slots for the rigs.



«CAPITAL MINING»

THE INDUSTRIAL CORE

The Industrial Core is the ‘siege mode’ of the Rorqual, which can be used in space, even inside a force field of a POS, by activating the Industrial Core I module. It requires Heavy Water and its main advantage is that the ship can compress ore. All that is required is the BPO (Blueprint Original) for the compressed ore. You can buy each for about 100,000 ISK on the market. The efficiency of the compression can be 1:40 for the low-end ores; 1:20 for the high end ores and 1:10 for ice. Executing the compression requires a batch of ore. Compression takes one minute or it can be reduced to 48 seconds with Industry level V.

Supposing that the Capital Industrial Ships level IV skill is already learned, you will need 750 units of Heavy Water per activation (minus 50 per Industrial Reconfiguration skill level trained). The cycle of the Industrial Core is 300 seconds, and you have time for six compressions within each activation, but do not forget that you can put on more jobs than six in five minutes because you have four slots. The ‘jobs’ can be run simultaneously on your slots, if you have the BPOs.

ORE	ORE SIZE	ORE NEED FOR COMPRESSION	SIZE W/O COMPRESSION	COMPRESSED SIZE	COMPRESSION RATE 1:XX
Compressed Veldspar	0.10 m3	166,500.00	16,650.00 m3	417.00 m3	39.93
Compressed Scordite	0.15 m3	99,900.00	14,985.00 m3	375.00 m3	39.96
Compressed Pyroxeres	0.30 m3	49,950.00	14,985.00 m3	375.00 m3	39.96
Compressed Plagioclase	0.35 m3	33,300.00	11,655.00 m3	292.00 m3	39.91
Compressed Omber	0.60 m3	25,000.00	15,000.00 m3	750.00 m3	20.00
Compressed Kernite	1.20 m3	12,000.00	14,400.00 m3	720.00 m3	20.00
Compressed Jaspert	2.00 m3	7,500.00	15,000.00 m3	750.00 m3	20.00
Compressed Hemorphite	3.00 m3	5,000.00	15,000.00 m3	750.00 m3	20.00
Compressed Hedbergite	3.00 m3	5,000.00	15,000.00 m3	750.00 m3	20.00
Compressed Gneiss	5.00 m3	4,000.00	20,000.00 m3	1,000.00 m3	20.00
Compressed Dark Ochre	8.00 m3	2,000.00	16,000.00 m3	800.00 m3	20.00
Compressed Spodumain	16.00 m3	1,250.00	20,000.00 m3	1,000.00 m3	20.00
Compressed Crokite	16.00 m3	1,250.00	20,000.00 m3	1,000.00 m3	20.00
Compressed Bistot	16.00 m3	1,000.00	16,000.00 m3	800.00 m3	20.00
Compressed Arkonor	16.00 m3	1,000.00	16,000.00 m3	800.00 m3	20.00
Compressed Mercoril	40.00 m3	500.00	20,000.00 m3	1,000.00 m3	20.00
Compressed Ice	1,000.00 m3	1.00	1,000.00 m3	100.00 m3	10.00

Some Useful Information

- The maximum capacity of the cargo is two cycles of ore. One BPO is required, but runs two times and the result is two compressed blocks.
- If the job is still running, when the Industrial Core deactivates the job will finish its cycle but you cannot take it until the Industrial Core is activated again.

Due to the Foreman Link bonus increase (supplied by the ship), the earlier seen 22.5% increase (which was 29% of actual yield increase) with the Capital Industrial level IV skill is: 2% x 5 x 1.5 x 1.5 x 1.4 = 31.5%. Re-counting it: 1/ (1-0.27) = 1.4598. It means a 46% actual yield increase bonus. So the ship increases the yield over other methods by 17%, and can compress ore. It is quite a nice addition to a mining fleet.

CAPITAL TRACTOR BEAM

Despite the name, you can’t fit the Capital Tractor Beam on any capital ship other than the Rorqual. This beam has a 200km range, which can help a lot in transporting the ore in jetcans that have been mined out in the asteroid belt. However, a Rorqual in an asteroid belt is a rare sight, as it is a two million megaton pirate magnet. Because of the vulnerability of the ship, the most common place you can find one is under the protective shields and guns of a POS. When inside the POS shield, you cannot target an object, so the tractor beam is pretty much useless.

CLONE VAT BAY

This module makes the ship a cloning station (i.e. you can store jump clones here). With a well-organized POS, it can become a useful module. Miners across the galaxy can jump into their clones stored here and get to their mining ships to start their work, or other pilots can jump in and have their stored vessels to assist in. It is also handy for corporation members who do not have standing with an NPC corporation and who need to make jump clones. The jump clones can be made at the Rorqual, just as if you had .8 standing with a corp at a station.

FIT THE RORQUAL

The Rorqual has six high, seven mid, three low and three rig slots. Capacitor Control Circuit rigs (CCCs) are highly recommended, so

you can maintain a suitable shield tank. Regardless of whether the Rorqual is in a belt or under the force field of a POS, it still needs protection.

- **High slots:** You have to fit an Industrial Core first. Next, fit the best Mining Foreman Link you can find. The last four slots are for a Clone Vat bay, maybe a Capital Tractor Beam (but if you are sitting under a POS, forget it), and some Remote Hull/Shield/Armour repair modules (depends on the need of your fleet and your skill). Experience shows that a strong capacitor recharge rate is highly advisable, because you need huge amounts of capacitor at every jump (70% of the maximum). Remember that a shield tank and remote repairers require capacitor as well.
- **Mid slots:** One Capital Shield Booster and the best EM and Thermal Shield Hardeners you can get. With four Cap Recharger IIs and three CCC rigs you can run the Shield Boost.
- **Low slots:** Because of the high capacitor need of jumping, people argue about having Capacitor Power Relays in the low slot. Of course, they can improve your capacitor a lot, but your shield booster will be less effective. Probably the best you can have is a Damage Control II, to further increase the protection of the ship and two Power Diagnostic Units (Tech II or faction variant).



«CAPITAL MINING»

STRATEGY

There are many methods for using the Rorqual, but all of them pretty much lead to one of the following:

- Using the Rorqual in Belt
- Using the Rorqual under POS

While you are in the belt, you can use the 200km tractor beam, thus saving time for the haulers. You won't need as many haulers, so several can change ships and join the mining.

However, because the ship is rather vulnerable, this method is used in 100% safety. Otherwise, it is not guaranteed that after the five minutes activation time to come out of siege mode that you will still be alive to escape. The Rorquals, much like freighters, are very attractive targets. You can almost be positive that if you fly a Rorqual in a belt, sooner or later pirates will appear in the neighbourhood. Add to that the fact that the ship is as agile as a brick – a quick change of course and position is almost impossible. Even a well-placed interceptor can keep it pinned down until the 'big guns' arrive to finish off the prey.

If you are under POS protection, you do not really need to do anything other than compress, and do not have to worry about anything. However, this method requires hauling ships, a well-fitted POS and more people as the haulers have to haul and can't mine.

A FAR AWAY MINING COLONY

Check out EVE Strategic Maps. These make it possible to find a one-entrance system relatively quickly, which is a suitable location to establish a mining colony. As a reminder, the closer the absolute security status of a system is to -1.0 the more valuable and better the ores located there are. You should look for a system with relatively low traffic, many belts and a suitable security status. Also, go there with a scout ship first, and make a survey of the local traffic and ores that can be mined. If it looks feasible, start the fun!

One of the most popular ways of harnessing the resources of the target system is building a POS as the headquarters of the colony. A medium-sized POS with a Corporate Array, Ship Maintenance Array, some hardeners and some weapons is a popular selection. If you are in the sovereign territory of your alliance, a Cyno Generator or Jammer is highly recommended.

That was the boring part. Now comes the FUN! When the POS is ready, you can fit and store the ships in the Ship Maintenance Array. The Corporate Arrays are useful for storing the crystals, modules, ores, BPOs and fuel. Regarding refining: why do you need it if you have a compressing Rorqual? Well, you don't, unless you don't have a Rorqual. You will need to jump the Rorqual or use a jump freighter to move the compressed ore to a station with better refining.

With a POS with a clone vat bay, miners can store jump clones (preferably ones with specialized mining implants) and all the necessary ships and modules to mine at their maximum efficiency. The miners jump there, launch their ships, fit them and can mine.

ORCA – ONE BIG WHALE

One of the newest toys for the industrial corps is this pretty capital industrial ship. The Orca was also developed by the Outer Ring Excavators, and its primary role is to support high-sec miners. It is relatively slow, and misses many of the 'positive' features of its big brother, the Rorqual, but its undisputable advantage is that it can move in high-sec through gates. Its skill requirement (50m ISK for the book) and the price of the ship is relatively moderate. You do not have to spend billions just for skills. Although it is a capital ship, it does not require the Capital Ship skill. Unfortunately, this means you cannot gain the bonuses from that skill (mainly boosts to your agility).

- **Industrial command ship skill bonus:** 5% bonus to cargo, capacity per level, 3% bonus to effectiveness of mining foreman gang links per level
- **Ship (role) bonus:** 250% bonus to tractor beam range, 100% bonus to tractor beam velocity, 500% bonus to survey scanner range, 99% reduction in CPU need for Gang Link modules, Can use three gang link modules simultaneously
- 30,000m³ Cargo Hold (with skills and fitted you can reach 90,000m³+))
- 40,000m³ Corp Hangar
- 50,000m³ Ore Bay (unfortunately not suitable for minerals)
- 400,000m³ Ship Maintenance Bay
- 75m³ Drone Bay (50Mbit bandwidth)
- Two low slots, three mid slots, three high slots and three slots for the rigs

- **Skill requirements:** Industrial Command Ships I, Spaceship Command V, Mining Barge V, Mining Foreman V, Mining Director I

The Orca is a command ship, designed to help the miners. Its advantage is that Industrial Core is not required to access the Fleet link bonus, only the skill/module is necessary. Since there is no 'deployed' mode, you can go to the belt to help the others with the use of the tractor beam (the regular tractor beam, unfortunately, but the ship does double its range to 40km).

Another huge advantage is its enormous cargo hold, which combined with the tractor beam (and the bonus received) makes it able to manage the role of transportation of the ore. It is a shield tanking ship, so fit it accordingly. The 75 m³ drone bay can hold five medium and five mining (or light) drones.

A rigged Orca with several Cargohold Expander IIs and Industrial Command Ship level V, with a GSC can have a cargo hold of 119,714 m³. It is worth noting that if you deliver a cargo of high value, this ship has a corporate hangar and a ship hangar, which cannot be scanned by other ships.

The Orca is capable of mining operations in a 'complex'. There are complexes where exhumers are not able to enter due to restrictions, but an Orca can. Since the Orca can carry two fitted Hulks in its ship hangar, you can get miners in. A whole mining fleet can be brought in with more rounds of transport. A nice example is the Sansha Military Base, which has about 300,000 Monoclinic Bistot 20-25 km from the gate, concentrated in eight to ten asteroids. Not bad for a high-sec mining op!



«CAPITAL MINING»

USING CARRIERS (FOR MINING)

In my opinion, carriers are more like guardians, and serve as support in a fleet rather than as solo miners. Nevertheless, the available drone capacity and big cargo hold makes a carrier a useful mining ship. Moreover, a carrier can defend itself against smaller pirate attacks. They do tend to attract pirates like a magnet though, and without an escort, the carrier can be an easy prey.

If you want to mine with a carrier, ensure you have the Carrier skill to level IV for the given race. Add four Drone Control Units (DCUs), and you can control 13 drones in total. That's great for mining drones, but also good in case of attack, by switching to combat drones. You can earn about 24m ISK per hour mining Arkonor, but that is a lot of investment for a relatively small return, and the risk is huge.

If your purpose is support in a mining operation, and the chance of PvP combat is low, it is possible to help with the mining, but monitor your scouts continuously and always be prepared. If a fight occurs, do not send the mining drones as support by accident. Remember to recall them and send out the combat drones. Be prepared! Better safe, than sorry.

A fully-trained carrier pilot with a carrier rigged with mining drone rigs has about 1,200m³ ore yield, not counting the travelling time of the drones. According to the previous tables, there are lots of better solutions that are less costly, not to mention the skill requirements. Summing it up, you can mine with a carrier, but it is only recommended while supporting in a fleet, because a Hulk is way better than the carrier.



LOGISTICS — ON THE MOVE »



Every time you need to move goods (be they ore, ice, or refined products) from point A to point B for any reason, you need a hauler ship. For this, you have four real choices:

INDUSTRIAL HAULERS

Every race has its own set of industrial ships. Fortunately, using them is not limited to that certain race. Although Caldari have the best mining frigate, they do not own the best industrials. The Minmatar Mammoth and the Gallente Iteron are both very good.

The capacity of the Mammoth can be raised up to 16,686 m3 with four Expanded Cargoholds and four Giant Secure Containers in its cargo hold. Why GSCs? The container only takes 3,000 m3 but can hold 3,900 m3 of space. So you gain 900 m3 of extra space for every container. There is no other industrial hauler which has a bigger cargo hold among the Tech I ships, except for the Iteron Mark V. The only disadvantage is that this ship requires the Gallente Industrial V skill, which is not the primary object of a beginner.

If you choose the Mammoth, then the required skills are Minmatar Frigate III and Minmatar Industrial IV.

TRANSPORT SHIPS

The more advanced technology Tech II versions of the previous ships are called transport ships. Their main feature is that they are tougher than the Tech I types and their cargo hold (with rigs and fittings) are bigger as well, but they come with a higher price tag.

The Crane, Prorator, Prowler and Viator are able to use Covert Ops Cloak, thus can warp while in stealth mode. They are also able to use the cyno portals generated by black ops battleships. The Bustard, Impel, Mastodon and the Occator receive +2 warp strength bonuses, making them much harder to warp scramble.



FREIGHTERS

Whales! They are big, slow, have a huge cargo hold capacity and need a lot of skills when compared to other large ships (Industrial level V of the given race, Advanced Spaceship Command level I, and Freighter skill I-V of the given race). They are very expensive, very slow and are easy prey if the pilot wanders somewhere the hospitality is not friendly. NEVER go alone with freighter to low-sec or 0.0; you will lose your ship and your cargo, guaranteed. Important: these ships cannot be fitted (i.e. you cannot put any modules on the ship) and are not able to load and unload in space, but only at a POS or in a station.

JUMP FREIGHTERS

These are simply more advanced freighters with a few modifications. One of their characteristics is that they are unbelievably expensive (we are talking about billions of ISK) and have a lot less cargo capacity than the basic freighters. Their skill requirement is also massive (Advanced Spaceship Command level IV, Freighter skill of the given race to level IV, Jump Drive Calibration level I, Jump Freighters levels I-V).






So the obvious question is what are they good for? Basically, jump freighters can use jump portals (just like capital ships) and are more resistant than the plain Tech I Freighters.






It is strongly recommended that you train the Jump Drive Calibration skill to at least level IV if you're going to fly one. It will reduce the number of jumps necessary for long-range movement, and that means more safety. The ship can also use gates, and can enter high-security space, but it cannot jump there (you cannot open a cynosaural field in high-sec). The ships also have a 10,000 m3 fuel bay to store the fuel necessary to jump.



« LOGISTICS — ON THE MOVE »

INDUSTRIAL HAULERS

		LOW SLOTS	BASE CAPACITY M3	LEVEL V SHIP SKILLS	EXPANDED CARGOHOLD I	TYPE-D ALTERED EXPANDED CARGO	EXPANDED CARGOHOLD II
	Cargo Bonus/Module			25%	17.5%	22.5%	27.5%
	Bestover	4	4800	6000	11,436.8	13,511.3	15,855.9
	Sigil	5	3000	3750	8398.9	10,344.6	12,635.2
	Impel	7	4000	5000	15,460.9	20,697.7	27,386.8
	Prorator	4	2500	3125	5956.6	7037.1	8258.3
	Providence	-	735,000	918,750	-	-	-
	Ark	-	275,625	344,531.3	-	-	-
	Badger	2	4125	5156.3	7118.8	7737.6	8382.1
	Badger Mark II	3	5250	6562.5	10,645.9	12,063.6	13,601.9
	Bustard	5	5500	6875	15,397.9	18,965	23,164.5
	Crane	2	3500	4375	6040.2	6565.2	7112.1
	Charon	-	785,000	981,250	-	-	-
	Rhea	-	294,375	367,968.8	-	-	-
	Iteron Mark I	2	3000	3750	5177.3	5627.3	6096.1
	Iteron Mark II	2	3750	4687.5	6471.7	7034.2	7620.1
	Iteron Mark III	3	4875	6093.8	9885.5	11,201.9	12,630.3
	Iteron Mark IV	3	5250	6562.5	10,645.9	12,063.6	13,601.9
	Iteron Mark V	5	6000	7500	16,797.7	20,689.1	25,270.4
	Occator	6	5000	6250	16,447.8	21,120.1	26,849.8
	Viator	3	3000	3750	6083.4	6893.5	7772.5
	Obelisk	-	750,000	937,500	-	-	-
	Anshar	-	281,250	351,562.5	-	-	-
	Hoarder	3	5100	6375	10,341.7	11,718.9	13,213.3
	Mammoth	4	5625	7031.3	13,402.4	15,833.5	18,581.2
	Wreathe	2	3300	4125	5695.1	6190.1	6705.7
	Mastodon	5	5250	6562.5	14,698	18,103	22,111.6
	Prowler	2	3250	4062.5	5608.8	6096.3	6604.1
	Fenrir	-	720,000	900,000	-	-	-
	Nomad	-	270,000	337,500	-	-	-
	Orca	2	30,000	37,500	51,773	56,273	60,961
	Rorqual	3	40,000	40,000	64,889	73,531	82,907

		GSC CAPACITY	CAPACITY WITH GSCS	CARGOHOLD OPTIMIZATION I	GSC CAPACITY	CAPACITY WITH GSCS	RIG SLOTS
	Cargo Bonus/Module			15%			
	Bestover	5	20,355.9	24,114.9	8	31,314.9	3
	Sigil	4	16,235.2	19,216.6	6	24,616.6	3
	Impel	9	35,486.8	36,219	12	47,019	2
	Prorator	2	10,058.3	10,921.6	3	13,621.6	2
	Providence	-	-	-	-	-	-
	Ark	-	-	-	-	-	-
	Badger	2	10,182.1	12,748.2	4	16,348.2	3
	Badger Mark II	4	17,201.9	20,686.8	6	26,086.8	3
	Bustard	7	29,464.5	30,635.1	10	39,635.1	2
	Crane	2	8912.1	9405.8	3	12,105.8	2
	Charon	-	-	-	-	-	-
	Rhea	-	-	-	-	-	-
	Iteron Mark I	2	7896.1	9271.4	3	11,971.4	3
	Iteron Mark II	2	9420.1	11,589.2	3	14,289.2	3
	Iteron Mark III	4	16,230.3	19,209.2	6	24,609.2	3
	Iteron Mark IV	4	17,201.9	20,686.8	6	26,086.8	3
	Iteron Mark V	8	32,470.4	38,433.1	12	49,233.1	3
	Occator	8	34,049.8	35,508.9	11	45,408.9	2
	Viator	2	9572.5	10,279.2	3	12,979.2	2
	Obelisk	-	-	-	-	-	-
	Anshar	-	-	-	-	-	-
	Hoarder	4	16,813.3	20,095.8	6	25,495.8	3
	Mammoth	6	23,981.2	28,259.7	9	36,359.7	3
	Wreathe	2	8505.7	10,198.5	3	12,898.5	3
	Mastodon	7	28,411.6	29,242.6	9	37,342.6	2
	Prowler	2	8404.1	8733.9	2	10,533.9	2
	Fenrir	-	-	-	-	-	-
	Nomad	-	-	-	-	-	-
	Orca	20	78,961	92,714	30	119,714	3
	Rorqual	27	107,207	126,091	42	165,891	3

AGENTS

- »» RUNNING MISSIONS
- »» MISSION TYPES
- »» REWARDS
- »» STANDINGS
- »» COSMOS



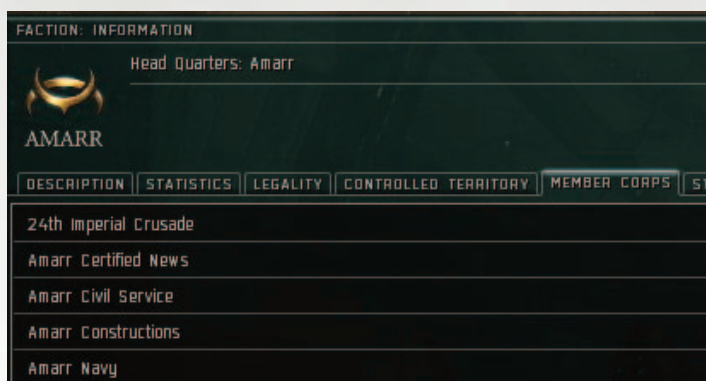
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➡ Running missions is one of the most popular ways to make ISK in the game. You work for NPC agents in return for equipment, loot, ISK and Loyalty Points. You can hate it, you can like it, but you should never ignore the opportunity. In many missions, there are even mineable minerals which can be turned into a profit. Another reward you will be given is called Standing (towards the agent, the agent's NPC corporation and towards the faction, to whom the NPC corporation belongs to).

Running missions can be a simple task, but at higher levels, it can be dangerous, even exciting. One bad shot, or a wrongly chosen fitting setup, can be enough to cause the failure of the mission or worse, the loss of your valuable ship.





















FACTION-STANDINGS RELATIONS





















In the universe of EVE there are friends and enemies among the races, corporations and factions. As you play, you'll get many friends and connections, and also many enemies. It is important to know that if you choose a side and start working for them, your standing will grow toward that agent, the NPC corporation and the faction as well (especially in the case of storyline missions), while you will lose standing toward the factions that oppose each of these. If you start working for the enemy, then your friends and their friends will start to dislike you. The tables on the following pages show the relationships of the factions towards each other.



➡ **RUNNING MISSIONS AT HIGHER LEVELS CAN BE DANGEROUS, EVEN EXCITING. ONE BAD SHOT, OR A WRONGLY CHOSEN SETUP, CAN BE ENOUGH TO FAIL THE MISSION, OR WORSE, LOSE YOUR VALUABLE SHIP**

«RUNNING MISSIONS»

	AMARR	AMATAR	ANGEL CARTEL	CALDARI	CONCORD	GALLENTÉ	GURISTAS	JOVE DIRECTORATE	KHANID KINGDOM	MINMATAR
	10.00	9.00	-	5.00	3.00	-2.00	-7.00	-0.50	-0.50	-5.00
	9.00	10.00	-2.00	6.00	3.00	-3.00	-6.00	-0.50	0.50	-6.00
	-	-2.50	10.00	-	-1.00	-7.00	-2.00	-	-0.25	-8.00
	7.00	4.00	-	10.00	3.00	-5.00	-9.00	1.75	4.50	-2.00
	-	-	-1.00	-	10.00	-	-2.00	-	-	-
	-2.00	-2.00	-8.00	-5.00	3.00	10.00	-	-0.25	-1.00	8.00
	-7.00	-0.75	-3.00	-	-2.00	-	10.00	-	-2.00	-
	-0.50	-0.50	-	1.75	-	-0.25	-	10.00	-1.00	2.50
	6.00	0.50	-	6.00	3.00	-2.00	-3.00	-1.00	10.00	-4.00
	-5.00	-3.00	-9.00	-2.00	3.00	8.00	-	2.50	-5.00	10.00
	5.00	0.25	-0.75	9.00	3.00	-3.00	-7.00	0.75	1.00	-2.00
	-3.00	-1.00	-3.00	-2.00	3.00	5.00	-	1.00	-3.75	4.00
	-7.00	-5.00	-2.00	-7.00	-3.00	-	3.00	-	-5.00	-
	-	-1.00	8.00	-	-1.00	-9.00	-1.00	-	-2.00	-6.00
	-8.00	-4.50	-2.00	-7.00	-2.00	-	5.00	-	-3.00	-
	0.25	0.75	-3.50	1.50	9.00	3.00	-2.00	1.25	0.75	1.25
	-1.00	-0.50	-7.00	-0.25	5.00	8.00	-1.00	2.00	-0.25	4.00
	-0.25	-0.25	-0.75	1.00	-	1.50	-1.00	9.00	0.25	2.00
	-	-3.00	5.00	-	-	-6.00	-2.00	-1.00	-1.00	-5.00
	-4.00	-7.00	7.00	-3.00	-	-2.00	-2.00	0.25	-2.50	-2.00

	MORDU'S LEGION	O.R.E.	SANSHA'S NATION	SERPENTIS	BLOOD RAIDERS	INTERBUS	SISTERS OF EVE	SOCIETY OF CONSCIOUS THOUGHT	INTAKI SYNDICATE	THUKKER TRIBE
	5.00	-1.25	-8.00	-	-8.00	0.25	-1.00	-0.25	-2.00	-5.00
	4.00	-1.00	-7.00	-	-9.00	0.75	-0.50	-0.25	-3.00	-7.00
	-	-9.00	-2.00	8.00	-4.00	-3.50	-2.00	-0.75	4.00	7.00
	9.00	-2.00	-7.00	-	-7.00	1.50	-0.25	1.00	-2.00	-2.00
	-	-	-3.00	-1.00	-2.00	-	-	-	-	-
	-2.00	2.00	-	-9.00	-	3.00	8.00	1.50	-2.50	-1.00
	-8.00	-	7.00	-3.00	4.00	-2.00	-	-1.00	-1.00	-2.00
	0.75	1.00	-	-	-	1.25	2.00	9.00	-1.00	-2.00
	6.00	-2.00	-6.00	-	-7.00	0.75	-0.25	0.25	-1.00	-3.00
	-4.00	4.00	-	-7.00	-	1.25	2.50	2.00	-1.00	-2.00
	10.00	-	-4.00	-	-	1.50	-	1.50	-6.00	-1.00
	-	10.00	-	-6.00	-	0.50	0.25	-1.50	-1.00	-1.00
	-5.00	-	10.00	-2.00	5.00	-1.75	-	-1.75	-1.00	-3.00
	-	-7.00	-2.00	10.00	-4.00	-1.00	-3.00	-1.25	5.00	3.00
	-6.00	-	4.50	-2.00	10.00	-3.00	-	-1.50	-1.00	-2.00
	1.50	0.50	-1.75	-1.00	-3.00	10.00	5.00	1.50	-1.00	-0.25
	-	3.00	-4.00	-7.00	-3.00	5.00	10.00	6.00	-3.00	-2.00
	1.50	-1.50	-1.75	-1.25	-1.50	1.50	6.00	10.00	-3.00	-0.50
	-6.00	5.00	-1.00	7.00	-1.00	-1.00	-3.00	-3.00	10.00	4.00
	-1.00	-1.00	-3.00	3.00	-4.00	-0.25	-1.00	-0.50	5.00	10.00

«RUNNING MISSIONS»

AGENT LEVELS

In the next chapter we'll go over the types of missions that can be given by an agent of a certain division, but first let's talk about what makes one agent better than another. Each agent has a level and (effective) quality. These attributes determine, respectively, the difficulty of the missions and the payment you will receive from the agent upon completion.

Levels

- Level 1: Very easy, designed for beginners to learn the basics of PvE.
- Level 2: Easy for a relatively young character as well, although more attention is required.
- Level 3: Medium difficulty missions; can be completed with a battlecruiser.
- Level 4: Designed for experienced pilots with good ships and solid setups.
- Level 5: Reachable in low-sec areas only, which are usually occupied by pirates to haunt the unsuspecting agent runners. Completing them is almost impossible alone. Experienced pilots with very expensive equipment are required for these missions, and so they are recommended for smaller groups. The 'back door' is that some level 5 agents reside next to a high-sec system, so they can give missions there. This gives you the opportunity to decline the mission (but only once every four hours) before you are sent to the secure area.

The level of the agent also determines the type of ship that should be used in the mission:

- Level 1: Frigate/Destroyer
- Level 2: Destroyer/Cruiser
- Level 3: Battlecruiser
- Level 4: Battleship
- Level 5: Fleet (or highly experienced pilot/very strong ship)

In most cases, higher class ships can be used as well. It is generally not worth the trouble though, because it can cause problems like trying to shoot frigates with cruise missiles.

AGENT QUALITY

Agent quality varies between -20 and +20; the higher the number the more it pays when the level of the agents is the same, and they are located in the same security status system (e.g. both agents are level 2 and located in 0.6 systems).

'Effective quality' is one of the most important attributes an agent can have, but what does it determine and what is it determined by?

It is determined by:

- The basic quality of the agent (between -20 and +20).
- The effective personal standing (plus any related skills:

Connections, Criminal Connections and Diplomacy). It is only the effective standing between the agent and the character that matters (to a maximum of +10), not the standing between the character and the agent's associated factions.

- Negotiation (+5 effective quality per level, to a maximum of +25).
- Most importantly (but never seemingly emphasized enough and not shown in the numbers) is the security status of the system the agent is located in. The difference is about 10 effective qualities per system security level. The lower the system security, the higher the effective quality of the agent.

So, the theoretical perfect agent that gives you the maximum reward is a level 5 agent with a quality rating of +20 located in a 0.0 system. The effective standing would be 10.00, your Negotiation skill at level V.

The effective quality determines:

- The amount of Loyalty Points, reward (financial) and the 'time bonus' (also financial) received upon completing a mission.
- The amount of Research Points gained in the case of R&D agents.

Since the effective quality is more important than the agent level when Research Points (RP) are calculated, a 'high' effective quality level 3 R&D agent can give more RP than a 'low' effective quality level 4 agent.

The formula for calculating this: $RP \text{ per day} = \text{Field multiplier} * ((1 + (\text{Effective Quality}/100)) * ((\text{Relevant XXX Engineering skill level} + \text{Agent Level})^2))$

Effective Quality Does Not Determine:

- The difficulty, and thus the loot and the bounty, of the mission.
- What standings increases/decreases you will get for completing a mission.

DECLINING MISSIONS

You can decline one mission (which you have NOT already accepted) per agent, per hour without a penalty. If you decline another mission for that agent before a four-hour interval, you will get a penalty to your standing towards both the agent and the corp. There will be a notice about this and the time you are allowed to decline it without any penalty.

Accepting a mission, then giving it back will result in a serious standing loss. Failing a storyline mission results in a huge standing loss, not just towards the agent and the corp, but also to the faction!



«RUNNING MISSIONS»

USEFUL MISSION SKILLS

Aside from the ‘agent negotiation’ skills, there are two others that might come in handy for serious mission runners to have trained:

Hacking: Allows access to some confidential data, only for specific cans and structures. This skill allows you the knowledge to get confidential data, and is required in sites that can be scanned in Cosmos areas and missions.

Skill Requirements:

- Science level III
- Electronics Upgrades level III
- Electronics level I
- Engineering level I

A Codebreaker module is required to be fitted to one of the mid slots of your ship. Approach the container or the building, and then activate the module. If you are successful, it can be opened and its contents accessed. Hacking level I is enough to use the module, while the Tech II version requires level IV to be trained.



MODULE NAME	META GROUP	META LEVEL	ENERGY NEEDS	BONUS	CPU	PG	CYCLE TIME	OPTIMAL RANGE
Codebreaker I	Tech I	-	20 GJ	5%	20 If	1 MW	10 sec.	5000 m
Codebreaker II	Tech II	5	20 GJ	7%	25 If	1 MW	10 sec.	6000 m

Archaeology: Ancient ruins and secrets. Almost the same as the Hacking skill, but here you excavate ‘long-lost technology’ from old buildings and rusty containers. The Analyzer module works just like the Codebreaker. You only need level I of this skill to fit an Analyzer, and level IV to fit the Tech II version.





Skill Requirements:

- Science level III
- Survey level III
- Electronics level I

MODULE NAME	META GROUP	META LEVEL	ENERGY NEEDS	BONUS	CPU	PG	CYCLE TIME	OPTIMAL RANGE
Analyzer I	Tech I	-	20 GJ	5%	20 If	1 MW	10 sec.	5000 m
Analyzer II	Tech II	5	20 GJ	7%	25 If	1 MW	10 sec.	6000 m





RACE ADVANTAGES/DISADVANTAGES

Every race has its own characteristics regarding agent running, coming mostly from the bonus of their ships, the weaponry used and their tank.

RACE	ADVANTAGES	DISADVANTAGES
 AMARR	Does not need supplies of Tech I ammo (lenses do not break, even after long-term usage); has decent tanking capability and is especially effective against Sansha's Nation and Blood Raiders	Damage output is rather weak compared to the other factions, also is very much dependent on the capacitor
 CALDARI	Have the advantage of missiles (can do all types of damage); also very good shield tanking ability and can do great damage from distance	Defender missiles have weak DPS; any missile damage is not instant, but must wait for impact
 GALLENTÉ	Excellent drone support, accompanied by good hybrid weapons	Drones are like children: small, annoying, destructive and rarely pay attention to you
 MINMATAR	Capacitor-free weaponry, excellent Alpha strike, good agility and velocity	The layouts of the mid and low slots; it might be difficult to choose an appropriate tank

COMMONLY USED SHIPS

I am often asked what ship I should run missions with? below, but these are not to be taken as gospel. Use what is made Unfortunately, there is no right answer. There are some suggestions available by your skills and financial resources.

RACE	SHIP (CLASS)	NOTES
 AMARR	Abaddon (battleship)	Excellent pulse laser weaponry, especially recommended against Blood Raiders/Sansha. Extremely good tank and damage
	Apocalypse (battleship)	Decent tank, excellent long-range ship (Tech II pulse), good capacitor support
	Absolution (command ship)	Excellent tank, good damage
 CALDARI	Raven (battleship)	No problem with tracking, able to change damage types, long-range
	Nighthawk (command ship)	Especially good tank, advantage of missiles
	Cerberus (HAC)	Very good agility, long range
 GALLENTÉ	Hyperion (battleship)	Good hybrid weaponry, excellent tank
	Megathron (battleship)	The most balanced ship regarding drones, tanking and mounted weaponry
	Dominix (battleship):	Specialized in drones, variable damage types, excellent tank
 MINMATAR	Maelstrom (battleship)	Excellent tank, variable damage types, good damage
	Tempest (battleship)	Nice damage, good agility
	Sleipnir (command ship)	Excellent tank, good agility

«RUNNING MISSIONS»

HANDLING THE AGGRESSION

When you arrive at the mission, you will either be greeted by attacking ships already out for blood, or ships standing off in groups. In this case, you can choose which group to aggress, and in what order.

In most cases, when a group starts attacking you, you should finish them first before engaging other groups. You should read the description of the mission (online at tinyurl.com/5bgt9k) because the ship that triggers the next wave of NPCs or the aggression of another group might be among them.

It is advisable to turn on the Tactical Overlay so that you can determine the distance of the groups and the position of the ships relative to each other. The easiest way to select a certain group is to shoot a single ship in a group that seems separated. Every ship belonging to that given group will start attacking you. This is a relatively simple and safe way to decrease the amount of enemy ships without having the whole fleet attack you at once. It is important to avoid shooting the trigger ship first though!

In most cases, shooting the buildings and towers also make the whole fleet attack you. Do not forget that sometimes getting within a specific range to them can also trigger aggression.

In higher level missions, there are ships whose sole purpose is to annoy you, a lot. In specific missions, you will encounter EWAR







ships, such as tacklers. These little ships will scramble you, web you and dampen you. It is highly unpleasant if you are not able to target the enemy or cannot escape from the throng of NPCs in time.

However, You Can Ensure Things Run More Smoothly in Three Ways:

- Shoot the tacklers first. If you are not sure you can handle the mission, or you prefer finishing the job relatively undisturbed, kill those little nuisances first.
- Kill the ships with the greatest DPS. Destroying them is another possible solution to decrease the damage taken, as the smaller ships usually do not have the ability to break your tank. Watch out for capacitor drainers if you have an active tanking setup, and watch out for triggers, they can do a significant amount of damage.
- Get a good head start before it gets ugly. Combined with either of the first two tactics, it is wise to ensure a way to escape. This might be fitting a Warp Core Stabilizer to your ship (although it is not recommended due to its side effects), or using a suitable module/tactic like aligning to an object (gate, planet, station) in space, making sure you do not have a ship or a structure in the way, and warping out if necessary.








PIRATE FACTIONS

The following table lists the types of NPC ships to make them easier to distinguish when you warp into a mission area:

	FACTION	FRIGATE	DESTROYER	CRUISER	BATTLECRUISER	BATTLESHIP
	Angel Cartel	Gistii	Gistior	Gistum	Gistatis	Gist
	Blood Raiders	CorpII	Corpior	Corpum	Corpior	Corpus
	Rogue Drones	Alvi	Alvior	Alvum	Alvalis	Alvus
	Guristas Pirates	Pithi	Pithior	Pithum	Pithalis	Pith
	Sansha's Nation	CentII	Centior	Centum	Centatis	Centus
	Serpentis Corporation	Coreli	Corelior	Corelum	Corelatis	Core

SPECIAL SHIPS

Elite class pirate ships (like interceptors and cruisers) behave like Electronic Warfare frigates and recon ships. Seeing them on the Overview means EWAR, so be prepared.

	FACTION	NAME
	Angel Cartel	Arch, Angel Webifier, Angel Viper
	Blood Raiders	Elder
	Rogue Drones	Strain
	Guristas Pirates	Dire
	Sansha's Nation	Loyal
	Serpentis Corporation	Guardian
	Amarr/Caldari/Gallente/Minmatar	Support Frigate

KNOW YOUR ENEMY!

CRUISER ID POSTERS
ALL FOUR RACES IN STOCK

FOR WHEN YOU ABSOLUTELY
NEED TO KNOW WHAT
YOU'RE SHOOTING AT

COMING SOON
BATTLESHIPS • FRIGATES
SUPERCAPS • INDUSTRIALS

MISSION TYPES »

➡ Missions are grouped by their types and the divisions that give them. These groups differ fundamentally to each other, so it is wise to choose an agent of a suitable division to avoid disasters, like going into a blockade with an Iteron V.

The Three Most Important Rules for Running Missions:

- Always do the storyline missions to gain faction standing. If you fail to complete the mission, you will lose significant standing.
- You can decline an offered mission once every four hours per agent without consequences. If you decline a mission before the four hour period ends, you will lose standing (note: too many declines can result in losing the agent entirely, along with the missions he may have given you).
- Always check if your ship is allowed into the mission (check under the ship restrictions section of the mission briefing).

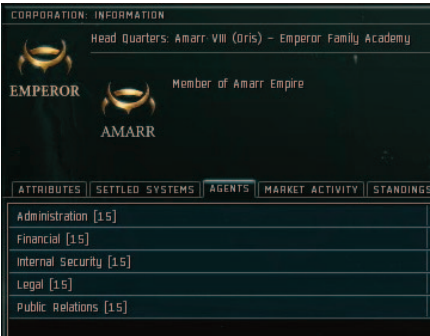
AGENT TYPES – FACTIONS

Agents and the missions are distinguished by the faction they belong to. Their faction determines the faction of the NPCs to be killed in the mission. Factional enemies are connected through the background story. For example: Amarr – Minmatar (Empire vs. Empire) and Amarr – Blood Raiders/Sansha Nation (Empire vs. NPC Pirates).






Open the People and Places menu, select the Faction, type in the name of the faction you are looking for in the search area. For now, let us look at the Amarr faction. Select ‘Search’ then right-click on the list and select the ‘Show Info’ option. There are several tabs. Among them is the ‘Member Corps’ where you can look up the members. In the corporations, the agents are arranged in groups, which are called divisions.

The division determines the rate of the types of missions you receive from the agents (see the table below). Divisions do not affect a particular kill mission (only the faction of the agent does that). For example, a Caldari agent will choose from the pool of the same missions, only changing the Faction (Angel Extravaganza, Guristas Extravaganza, Blockade, etc).

➡ AN AGENT’S FACTION DETERMINES THE FACTION OF THE NPCs TO BE KILLED IN THE MISSION. THESE ENEMIES ARE CONNECTED THROUGH THE BACKGROUND STORY



The percentage of likeliness of a certain mission being given by the agents belonging to the different divisions are also shown in the table below:

				
DIVISION	COURIER	KILL	MINING	TRADE
Accounting	91.23%	8.77%	-	-
Administration	23.58%	76.14%	-	0.28%
Advisory	46.79%	51.07%	0.71%	1.43%
Archives	92.47%	6.16%	0.68%	0.68%
Astrosurveying	37.01%	58.66%	1.97%	2.36%
Command	4.09%	95.72%	0.19%	-
Distribution	79.24%	20.43%	-	0.33%
Financial	70.09%	29.91%	-	-
Intelligence	10.11%	83.82%	-	-
Internal Security	1.51%	98.37%	-	0.12%
Legal	16.18%	83.82%	-	-
Manufacturing	82.42%	10.61%	3.65%	3.32%
Marketing	56.92%	43.08%	-	-
Mining	41.06%	23.85%	27.75%	7.34
Personnel	33.99%	65.77%	0.24%	-
Production	90.83%	6.43%	2.46%	0.27%
Public Relations	38.64%	61.02%	0.34%	-
R&D	46.48%	-	-	53.52%
Security	3.69%	96.15%	-	0.16%
Storage	78.77%	19.18%	-	2.05%
Surveillance	6.51%	93.35%	-	0.14

MISSION TYPES

COURIER MISSIONS

These are simple deliveries. Take the cargo (ore, livestock, or some useless junk) from point A to point B. Most of the time you can do the mission AFK. The pay is not much, but you will not lose standing to the opposing factions, as you do not have to attack enemy ships.

Sometimes your destination is in low-sec (you'll be warned of this by the agent). It is better to decline these missions as the gates leading there are often camped.



KILL MISSIONS

These tasks are typically to go to the location given by the agent, annihilate all hostiles and probably pick up something. These missions are the most colourful as there are many types of them. It is highly recommended to check the mission on the Eve Survival website for details (tinyurl.com/5bgt9k). There you can find very accurate walkthroughs for each mission regarding tank and damage types and some advice on how to complete the mission. Note, after new patches to the game, some missions change in difficulty (adding EWAR ships, for instance).

In the table below, you can see the types of damage inflicted by a faction and the most effective tank resistances against them.



NPC DAMAGE TYPES

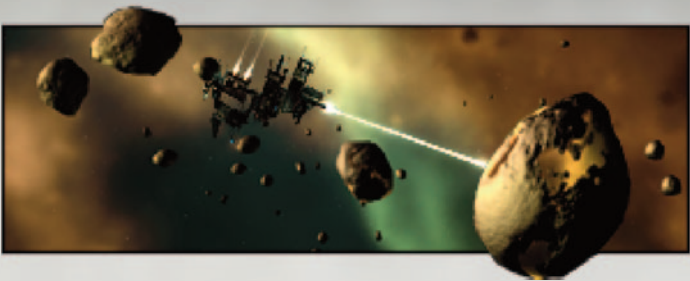
NPC FACTION		DAMAGE TYPE	
	Guristas	Kinetic/Thermal	 
	Serpentis	Thermal/Kinetic	 
	Blood Raider	EM/Thermal	 
	Sansha's Nation	EM/Thermal	 
	Angel Cartel	Explo./Kinetic/Thermal/EM	   
	Mordu's Legion	Kinetic/Thermal/Explosive/EM	   
	Mercenary	Kinetic/Thermal	 
	Republic Fleet	Explosive/Thermal/Kinetic/EM	   
	Caldary Navy	Kinetic/Thermal	 
	Amarr Navy	EM/Thermal/Kinetic	  
	Federation Navy	Thermal/Kinetic	 
	Rogue Drones	Explosive/Kinetic/EM/Thermal	   
	Thukker Tribe	Explosive/Thermal	 
	CONCORD	EM/Thermal/Kinetic/Explosive	   
EOM	EOM	Kinetic/Thermal	 

MOST EFFECTIVE DAMAGE TYPES AGAINST NPCS

NPC FACTION		DAMAGE TYPE	
	Guristas	Kinetic/Thermal	 
	Serpentis	Thermal	
	Blood Raider	EM/Thermal	 
	Sansha's Nation	EM/Thermal	 
	Angel Cartel	Explosive	
	Mordu's Legion	Thermal/Kinetic	 
	Mercenary	Thermal/Kinetic	 
	Republic Fleet	Explosive/Kinetic	 
	Caldary Navy	Kinetic/Thermal	 
	Amarr Navy	EM/Thermal	 
	Federation Navy	Kinetic/Thermal	 
	Rogue Drones	EM	
	Thukker Tribe	EM	
	CONCORD	Explosive/Kinetic	 
EOM	EOM	Kinetic/EM	 

MINING MISSIONS

In mining missions, you will be sent to a coordinate given by the agent and told to mine a specific type and amount of ore. You can expect to meet some hostile NPC ships while you're there, so be prepared for them. Typically, it is worth more mining normal ores in regular asteroid belts than completing these missions, although some missions also hold mineable asteroids so after cleaning the place, you can harvest them for a little extra. The table below lists the amount of ore of the different missions:



								
MISSION NAME	LEVEL	VELDSPAR	SCORDITE	PYROXERES	PLAGIOCLASE	OMBER	KERNITE	ARKONOR
Angel Extravaganza	4	-	-	-	-	16,000	-	-
Artifact Recovery	2	-	-	-	-	-	-	4,000
Althran Exigency (4 of 5)	1	691,287	-	-	-	-	-	-
Assault, The	4	2,402,354	-	-	-	-	-	-
Blockade, The	2	1,842,846	-	479,979	813,864	-	-	-
Blockade, The	3	3,178,273	-	-	-	-	-	-
Break Their Will	1	2,834,000	1,411,000	-	-	-	-	-
Cargo Delivery	2	2,270,238	-	-	-	-	-	-
Cost of Greener Grass, The	2	664,159	-	-	-	-	-	-
Downing the Slavers	4	540,000	250,000	-	-	400,000	-	-
Drone Infestation	2	690,000	-	-	-	-	-	-
Duo of Death	4	-	1,355,000	-	-	-	-	-
Enemies Abound	4	-	800,000	-	-	1,260,000	350,000	-
Gone Berserk	3	1,659,846	-	479,979	813,864	-	-	-
Gone Berserk	4	3,142,156	-	-	-	-	-	-
Pirate Intrusion (Serpentis)	2	2,365,010	-	-	-	-	-	-
Pirate Invasion (Serpentis)	3	2,850,000	-	-	-	-	-	-
Portal Of War (1 of 5 and 2 of 5) (Rogue Drones)	3	839,330	906,882	-	-	-	-	-
Recon (1 of 3)	4	6,447,561	-	-	-	-	-	-
Rogue Drone Harassment	1	688,401	-	-	-	-	-	-
Rogue Drone Harassment	4	1,168,118	-	-	-	-	-	-
The Rogue Slave Trader/Downing The Slavers (1 of 2)	3	87,089	-	-	-	-	-	-
The Rogue Slave Trader/Downing The Slavers (2 of 2)	3	540,000	250,000	-	-	400,000	-	-
The Score (Angel Cartel)	3	199,996	-	191,877	173,925	-	-	-
Silence The Informant	4	-	-	-	-	4800	-	-
Smuggler Interception	2	1,522,846	-	479,979	813,864	-	-	-
Stop The Thief	4	279,059	-	-	-	-	-	-
Technological Secrets (1 of 3)	2	347,094	100,000	-	-	50,000	-	-
Unauthorized Military Presence (Angel Cartel)	2	1,552,420	-	479,979	813,864	-	-	-
Unauthorized Military Presence (Mordus)(Pocket 1of2)	1	1,522,846	-	418,088	790,059	-	-	-
Unauthorized Military Presence (Blood Raiders)	4	31,855	-	-	-	-	-	-
Vengeance (Guristas)	4	1,995,000	255,000	-	-	-	-	-
Whispers in the Dark Pt. 1	2	1,710,000	-	-	-	-	-	-

MISSION TYPES

TRADE MISSIONS

In most cases, trade missions are not overcomplicated: “Bring me some ore or minerals and I will give you LP in return.” Pay attention to the destination of the mission, as the agent can send you to low-sec or 0.0.

STORYLINE MISSIONS

After every sixteenth mission with the same division, you will be offered a special mission which has a serious impact on your corp and faction standings. If you do 15 level 1 missions, then one level 2 mission, you will not get an offer. You will only get it after the sixteenth mission of the same level. The level of the storyline is equivalent to the level of the missions you are running, so you will get a level 1 storyline mission after sixteen level 1 missions. When you are offered a storyline mission, it will always be connected to the corp you are working for, and you will be invited by the nearest storyline agent of the faction. For instance, if you work for the Amarr Navy, you’ll get an invitation from the Carthum Conglomerate. It can be especially important if you want to increase a specific corp standing.

If you already have an active storyline mission, but it is not yet completed, the next one will be offered by the second closest storyline agent. These missions are important because they improve your corp and faction standings significantly. Moreover, the reward is good as well: implants, other equipment and/or ISK. You can discard storyline missions before taking them without standing loss, but we recommend that you do every storyline that is offered.



EPIC ARCS

An Epic Arc is a series of missions with a unique story that can only be completed once.

- **Level 1:** As a beginner, it is useful to do this mission as it helps you get to know several types of missions and also helps you discover many parts of the galaxy.

LEVEL 1	
Storyline Name	The Blood-Stained Stars
Faction	Sisters of EVE
Corp	Sisters of EVE
Agent	Sister Alitura
Agent Level	1
Starting System	Arnon IX - Moon 3 - Sisters of Eve Bureau

- **Level 4:** Some level 4 agents have become accessible if you have high enough standing (about 6.8) towards them. The series of missions offered are a bit long (around twenty or so missions), however, in the end, you are rewarded with faction items. This link can help you in completing them: tinyurl.com/2vp3yup.

LEVEL 4	
Storyline Name	Right to Rule
Faction	Amarr
Corp	Ministry of Internal Order
Agent	Karde Romu
Agent Level	4
Starting System	Kor-Azor Prime

LEVEL 4	
Storyline Name	Penumbra
Faction	Caldari
Corp	Expert Distribution
Agent	Aursa Kunivuri
Agent Level	4
Starting System	Josame'to

LEVEL 4	
Storyline Name	Syndication
Faction	Gallente
Corp	Impetus
Agent	Roineron Aviviere
Agent Level	4
Starting System	Dodixie

LEVEL 4	
Storyline Name	Wildfire
Faction	Minmatar
Corp	Brutor Tribe
Agent	Ars'ten Takalo
Agent Level	4
Starting System	Frarn

CONCORD AGENTS

There are two CONCORD agents who each offer you one-time missions. The reward is mostly CONCORD standing, along with a significant security status improvement. Be aware of the level 4 mission, as good items can be gained in the end, but a ‘drone mother’ is the opponent with impressive DPS and tank.

CONCORD	
Storyline Name	Song Of Birds
Faction	CONCORD
Corp	CONCORD Assembly
Agent	Christer Fuglesang, Agent
Agent Level	2
Starting System	Autaris - VIII - Moon 5 - CONCORD Bureau

CONCORD	
Storyline Name	A Worthy Task
Faction	CONCORD
Corp	CONCORD Assembly
Agent	Jeremy Tacs
Agent Level	4
Starting System	Mandoo

[REWARDS]»

➡ There is more to be gained from agent missions than simply a larger wallet:

- **Reward:** Typically ISK, but mainly in Storyline and COSMOS missions you can get implants, hardwiring or COSMOS BPCs (Blueprint Copies – limited use versions of a Blueprint Original – see Part 7: R&D). These items also have a value in ISK. This is taxable income if you receive it in ISK form.
- **Time Bonus:** If you complete the mission within a given time you get an extra reward, which is similar to the normal reward. It is tax-exempt income.
- **Bounty:** These are CONCORD-issued rewards for eliminating the NPCs of the missions. This is taxable.
- **Loyalty Points (LP):** Although underestimated by many, LPs can, ideally, be the source of a significant part of your income.
- **Loot:** The wrecks, containers and sometimes the destroyed buildings of the NPCs contain modules, ammo, and other equipment. It is worth collecting them, especially in low-sec or 0.0 areas where access to raw materials can be limited.
- **Salvage:** Rig components can be gained by using the salvager module on NPC wrecks.
- **Standing:** Although it does not affect your wallet directly, it does affect the efficiency of refining your ore and loot. It also affects the payable broker fee on the market.

BOUNTY

Destroying every ship (or building) that is labelled as ‘Wanted’ (and has a bounty) is rewarded. It is credited to your wallet every twenty minutes. The corp tax is deducted from the bounty and goes straight into the master wallet of the corp.

LOOT

Loot is found in the wrecks and containers of destroyed NPCs and the buildings they leave behind. Sometimes the mission requires a specific item, but most of the time you do not have to bother with loot to complete a mission.

Containers and wrecks do not disappear after you go back to the agent to complete the mission; they stay for about one and a half to two hours, so you can go back and collect them after completing the mission (or in case of farming, before it). Wrecks may contain valuable and not so valuable modules, ammo, etc. Remember to bookmark the location, as once the mission is turned in, the gates and references in the log disappear. One bookmark is enough per pocket. If the wrecks are scattered and you do not want to fly 100km between them, then you should create bookmarks at both ends of the pocket.

While looting the wrecks, you can also salvage them. All you have to do is fit a salvager module on your ship, activate it on a wreck,

then wait until it disappears after a successful (or not) salvage. It is chance-based, so there is a possibility that you’ll get nothing from a wreck. Salvage ends up in your cargo automatically. If you salvage a wreck before looting it of its normal drops, the loot will still be there, but floating in a container instead so you can still collect it. NPC cans and wrecks are one-way containers; you cannot put anything in, only take out. If a wreck holds more than 27,000m3 (this is the size of a standard container) and you salvage it before collecting them, the amount will be reduced to fill the container, preventing it from overflowing (but this only matters in 0.0) and the extra amount is lost.

TO LOOT OR NOT TO LOOT?

Time is money. You will get neither LP nor standing from the loot, so think twice when you decide to loot and salvage. If you have the time, ship and an enthusiastic partner who wants to help you, then it is worth taking on.

There are special cases when the looting/salvaging is a must. These ships are called Faction ships (or the extremely rare Officer – only in 0.0 space and only in battleships). They usually have valuable loot, so collect them. Even a faction frigate may contain something that is worth something. All the wrecks can be looted, but you must consider whether it is worth the time. As a beginner, it is recommended that you loot and salvage the wrecks of the smaller ships as well, because even cruiser/battlecruiser wrecks can contain worthy modules.

In level 4 missions, there is an unwritten rule that if the mission has lots of battleships, it is wise to loot them. Some examples of these missions are:

- Attack of the Drones
- Blockade
- Enemies Abound
- Recon 1-3

LOOTING TECHNIQUES

Basically there are three methods, which are:

- You are looting as you progress. This slows you down, but lowers the chance of an enthusiastic ninja salvager harvesting your hard work.
- Looting after the mission. Its advantage is that you can use a specialized ship fitted with cargo extenders, tractor beams and salvagers. The harvesting is quicker this way and there are no longer enemies to shoot you.
- Have a friend/corpmate loot the wrecks and do the salvaging using any of the above mentioned methods.

Every time you finish looting, check it for valuable items. Usually, the Meta level 3 to 4 modules are worth much more on the market

than by refining them. Also, there are other items that you should never collect, like Capacitor Booster Charges. These items have low material-count, are worth almost nothing, but eat up a lot of space in your hold.

LOYALTY POINTS

Loyalty points are the extra rewards for your hard work. Every NPC corp maintains an LP Store at the station where you can get special (faction) ships, modules, BPCs for ships and for modules and, of course, ammunition. Sometimes money and the LPs are not enough for an item. You may need special tags (factional enemies give them as loot).

Which NPC corp has what kind of items in its LP Store? Currently the best database for answering this question is the Loyalty Points Database (tinyurl.com/3ym7749).

When it comes to deciding which loot to redeem for LPs and which to sell/refine, the golden rule is that the exchange rate is 1,000 ISK per LP. The rate of LP exchange can be calculated by (all income – all expense) / LP cost.

It is a common mistake to work for a corp to get a specific item from its LP Store. It is wiser to work for a corp that has better rate of exchanging LP, and then buy the desired item via contract for ISK.

LP STORE				
Carthum Conglomerate LOYALTY POINTS: 45678				
REWARD	LP COST	ISK COST	REQUIRED ITEMS	ACCEPT
1 x Apocalypse Navy Issue	600,000 LP	0.00 ISK	1 x Apocalypse 1 x Amarr TL-1 Nexus Chip	
1 x Omni Navy Issue	240,000 LP	0.00 ISK	1 x Omni 1 x Amarr KU-1 Nexus Chip	
Amarr Navy Head Sink Blueprint (5 run copy)	90,000 LP	36,000,000.00 ISK	7 x Republic Fleet High Captain Insig 33 x Republic Fleet Commander Insig 49 x Republic Fleet Commander Insig	
1 x Auguror Navy Issue	90,000 LP	0.00 ISK	1 x Auguror 1 x Amarr KU-1 Nexus Chip	

Recommended Items:

- Module BPCs.
- Some types of faction ammo (although the competition has become strong since they can be sold on the market as well).
- Not recommended items:
- Navy ships and their BPCs.



«REWARDS»

INSIGNIAS AND TAGS

You can acquire insignias and tags from wrecks in missions (insignia from Empire NPCs, tags from pirates). Their common attribute being only a few lines stating: “Identification tags such as these may prove valuable if handed to the proper organization.” They can be exchanged in LP Stores for valuables or at Data Center Agents to improve your standing.

CONTRACT TRICKS AND TIPS

When you put items up for contract to make money, always ensure that you are filling the description and item type accurately, so that you can sell it for the right price. An accurate name will achieve a higher price, as many people will search for items using that filter option. Note: playing with the description is one of the basics of scamming.

Be aware. You may also cheat a little by selling your module under a different name. For example: Khanid Navy Armor Repairer has the same statistics as the Imperial Navy Armor Repairer, so just fill in the description field with the more popular name, as many people prefer to search for such an item.

Maximizing Loyalty Points

- The lower the security status of the system where the agent is located, the better (watch out for a system’s ‘true’ security status in 0.0).
- Find agents with as high a level and quality score as possible.
- Train Negotiation skill to level V (takes about two weeks).
- Achieve as high a personal standing to the given agent as possible.
- Blitz missions (i.e. only kill the marked enemies).
- Forget the common loot, take only the worthy (or invite a beginner who needs the money and the standing to loot for you).

FINISHING MISSIONS IN A FLEET

When other people help you in a mission, they will also get their fair share from the bounty (income/participants tax). You also have the option to share the reward received from the agent with them. All you have to do is choose the option marked ‘I and my fleet completed the mission.’

If You Do This:

- The ISK (reward and time bonus), the LP and the corp standing will be divided equally among the people, up to a maximum of ten members. (Attention! Faction standing – from Storyline missions – is not divided; the owner of the mission gets it all!
- The penalty for dismissing a mission only applies to the owner of the mission

- Choosing the option marked ‘I have finished the mission, give me everything’ will result in you getting all the reward; the others get none.
- If the fleet is bigger than ten members, the reward will be decided in alphabetical order.

FARMING A MISSION

Every non-completed mission will be reset during the daily downtime, meaning all the NPCs, all the structures and all the mineable asteroids will be reproduced. Farming the missions means you do not complete it, but start shooting it again after every downtime. It is a payable method when the mission has many high bounty ships, the NPCs or buildings drop valuable items, or there’s fantastic ore in an asteroid belt.

How a mission can be farmed? Check out when it is completed in your mission log. In most cases, the mission trigger is mentioned in the walkthrough. If not, you can find it under the ‘Blitz’ section. For example, it is the Corpus Pope NPC in the last spawn of the Blood Raiders Blockade mission. When farming Blockade, you leave the trigger unharmed. If you have a salvage ship that can tank the remaining hostiles, you can even loot the wrecks.

The Most Commonly Farmed Missions:

- Blockade
- Recon 1/3
- Worlds Collide
- Attack of the Drones

Note: You have to finish the mission within seven days or the agent will tell you that you failed and you will lose standing towards them and their corp.



[STANDINGS]

➡ The two most often asked questions regarding Agent/Mission Running:

- How much standing do I need to reach the next agent level?
 - How much standing is needed for a certain agent?
 - The scientific answer is:** Required Standing = 2*(Level-1) + (Quality*0.05)
- It means that if you want to work for a level 2 agent who has -8 quality, you will need 2*(2-1) + (-8*0.05) resulting in 1.6 standing. Sometimes agents require more than personal standings though. The corp and faction standings also have to be above a certain level.
- The table below contains the average standing requirements for agents regarding their level and quality:



BASE QUALITY	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
-20	-	1.00	3.00	5.00	7.00
-18	-	1.10	3.10	5.10	7.10
-16	-	1.20	3.20	5.20	7.20
-14	-	1.30	3.30	5.30	7.30
-12	-	1.40	3.40	5.40	7.40
-10	-	1.50	3.50	5.50	7.50
-8	-	1.60	3.60	5.60	7.60
-6	-	1.70	3.70	5.70	7.70
-4	-	1.80	3.80	5.80	7.80
-2	-	1.90	3.90	5.90	7.90
0	0.00	2.00	4.00	6.00	8.00
2	0.10	2.10	4.10	6.10	8.10
4	0.20	2.20	4.20	6.20	8.20
6	0.30	2.30	4.30	6.30	8.30
8	0.40	2.40	4.40	6.40	8.40
10	0.50	2.50	4.50	6.50	8.50
12	0.60	2.60	4.60	6.60	8.60
14	0.70	2.70	4.70	6.70	8.70
16	0.80	2.80	4.80	6.80	8.80
18	0.90	2.90	4.90	6.90	8.90
20	1.00	3.00	5.00	7.00	9.00

STANDING – REQUIRED SKILLS

This section is about the skills recommended for mission running. Beyond these, you should also train the necessary skills to fly an appropriate ship and all of its modules.

Any increase in standing can be measured if we subtract the current standing from the maximum (10.00) and then multiply that number by the percentage your trained skills grant (see list below).

To put it simply, the higher the standing you have, the less you will get every time you earn some. This way the ultimate 10.00 is unreachable, but due to the way the game rounds figures out, it can show it as 10.0.

- Connections:** Grants an immediate 4% positive standing to all friendly NPC corps. (If you have none, then the effective standing remains at 0.)
- Diplomacy:** This works like the Connection skill, but it affects the corporations and factions that are hostile towards you. A corp or faction is hostile when your basic (without skills) faction standing is negative. So even if you have an 8.0 standing with a corp, if the faction standing is -1 then the corp is hostile towards you.

- Criminal Connections:** This works similar to Connections or Diplomacy, but affects the corps and factions whose own standing is negative towards CONCORD. These are typically NPC pirate factions and corps.
- Social:** This grants +5% for the amount of standing you get every time you complete a mission. So if you have the skill at level V and your base standing reward is 8%, you will get $(8*(5*1.05)) = 10\%$. This skill affects storyline missions as well.
- Negotiation:** This increases by +5 the effective quality of all agents.

The ‘Connection’ skills listed below (not to be confused with the Connection skill listed above!) increase by 5% per level the Loyalty Points rewarded if the particular skill affects the division of your agent. Every division is affected by two of these skills (as the table lists it below). The two appropriate skills are added, so if they are both trained to level V, +50% LP is to be gained for the missions.

DIVISION	BUREAUCRATIC CONNECTIONS	FINANCIAL CONNECTIONS	HIGH TECH CONNECTIONS	LABOR CONNECTIONS	MILITARY CONNECTIONS	POLITICAL CONNECTIONS	TRADE CONNECTIONS
Accounting	-	X	-	-	-	-	X
Administration	X	-	-	-	-	X	-
Advisory	-	-	X	-	-	X	-
Archives	X	-	X	-	-	-	-
Astrosurveying	-	-	-	X	X	-	-
Command	-	-	-	-	X	X	-
Distribution	-	X	-	-	-	-	X
Financial	X	X	-	-	-	-	-
Intelligence	-	-	X	-	X	-	-
Internal Security	X	-	-	-	X	-	-
Legal	-	X	-	-	-	X	-
Manufacturing	-	-	X	X	-	-	-
Marketing	-	X	-	-	-	-	X
Mining	-	-	-	X	-	-	X
Personnel	X	-	-	X	-	-	-
Production	-	-	-	X	-	-	X
Public Relations	-	X	-	-	-	X	-
R&D	-	-	-	-	-	-	-
Security	-	-	-	-	X	X	-
Storage	X	-	-	-	-	-	X
Surveillance	-	-	X	-	X	-	-


[COSMOS »

➡ COSMOS, unlike the cosmos, are in actual fact places in each of the four regions containing different agents whose missions are connected to each other. The common feature is the fascinating storyline mission that runs throughout and the high growth rate of your standing when you complete the tasks. These are also the only places where you can obtain 'storyline' BPCs.

Note, occasionally you will have to use a hacking device or an analyzer to get to the items required by your agent.

AMARR

The Amarr COSMOS is located within the Araz constellation, along with the agents listed below:

	AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
	Helras Dakumon	2	0	Munory	The Bonfire	Imperial Armaments
	Ormon Parsik	3	0	Munory	The Bonfire	Theology Council
	Ader Finn	1	0	Munory	Planet V – Moon 3	Amarr Trade Registry
	Zar Forari	4	15	Zimse	Imperial Admin. Complex	Imperial Shipment
	Zach Himun	4	20	Zimse	Imperial Admin. Complex	Emperor Family
	Thakor Udokas	4	0	Zimse	Museum Arcana	Royal Amarr Institute
	The Curator	3	0	Zimse	Museum Arcana	Theology Council
	Ammargal Deirone	4	20	Nidupad	Imperial Palace Complex	Emperor Family
	Amir Arshan	3	0	Nidupad	Carchatur Outpost	Imperial Armaments
	Torval Kert	3	0	Nidupad	Carchatur Outpost	Carthum Conglomerate
	Chari Shakai	2	0	Aphi	Civic Court Plaza	Nurtura
	Stem Robikar	2	0	Aphi	Civic Court Plaza	Inherent Implants
	Odan Poun	3	0	Chanoun	Governor's Audience Chamber	Imperial Navy
	Nossa Farad	3	0	Chanoun	Governor's Audience Chamber	Kador Family
	Manel Kador	1	-20	Chanoun	Lord Manel's Mansion	Kador Family
	Bartezo Maphante	3	-20	Garisas	Port Maphante	Ducia Foundry
	Kofur Karveran	4	0	Jakri	Caor Korduin	Kador Family
	Thumal Ebotiz	3	0	Koona	CABoB – Ravelin Gate	Amarr Certified News
	Sheroz Amokin	4	-20	Koona	CABoB – Ravelin Gate	Amarr Constructions

AMARR LOW-SEC COSMOS

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Kaeg Zkaen	3	0	Kenobanala	Fort Kumar	Ammatar Consulate
Minas Iksan	4	0	Kenobanala	Fort Kumar	Imperial Navy
Fam Kishemas	4	0	Kenobanala	Fort Kumar	Imperial Navy
Fassara Nazarut	4	0	Kenobanala	Fort Kumar	Imperial Navy
Zama Fedas	4	0	Kenobanala	Fort Kumar	Royal Khanid Navy
Krard Wengalill	4	0	Kenobanala	Fort Kumar	Ammatar Fleet
Nuo Tuotura	4	0	Kenobanala	Fort Kumar	Caldari Navy

AMARR BPC AGENTS

The agents listed below can reward you with Faction frigate, cruiser and battleship BPCs (two-run, 0 ME/PE) if you have a high enough standing to them. The skill modifier does not have an effect on this standing.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	ITEMS REQ.	STANDING REQ.	REWARD BPC
Mandor Neek	4	20	Jakri	Garisas Gate	30 Sansha Silver Tags	8.5	Amarr Navy Slicer
Jeeta Neek	4	20	Jakri	Garisas Gate	30 Sansha Gold Tags	9.2	Navy Cruiser
Zaestra Kuramor	4	20	Jakri	Garisas Gate	30 Sansha Diamond Tags	9.9	Navy Apocalypse

DATACENTER AGENTS


Some time ago, there were some agents close to rookie locations that would accept pirate tags and insignias and give rewards of standing points (keeping crime in check). After the Revelations patch, these agents ganged up and started their own venture, called Datacenter. They are still in business and they still accept tags and insignias for standing points.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Taspar Zolankor	1	0	Ferira	State Data Center	Imperial Navy
Shafra Gulias	1	0	Ferira	State Data Center	Khanid Works
Hazar Arjidsi	1	20	Ferira	State Data Center	Ammatar Fleet
Sish Iakkih	2	0	Ferira	State Data Center	Ammatar Fleet
Darabu Harva	2	20	Ferira	State Data Center	Ammatar Fleet
Derqa Mandame	3	0	Ferira	State Data Center	Ammatar Fleet
Cimalo Mahnab	3	15	Ferira	State Data Center	Ammatar Fleet
Bamona Pizfeed	3	20	Ferira	State Data Center	Ammatar Fleet
Rolnia Houmar	4	-20	Ferira	State Data Center	Ammatar Fleet
Migarl Anunat	4	0	Ferira	State Data Center	Ammatar Fleet
Tizeli Reymta	4	20	Ferira	State Data Center	Ammatar Fleet
Hefaka Chubid	1	0	Polfaly	State Data Center	Royal Khanid Navy
Demi Lazerus	1	0	Polfaly	State Data Center	Imperial Navy
Nikmar Jyran	1	0	Kudi	State Data Center	Imperial Navy
Sevan Fagided	1	0	Kudi	State Data Center	Royal Khanid Navy
Selate Kalami	1	20	Kudi	State Data Center	Ministry of War
Jur Zehbani	2	0	Kudi	State Data Center	Ministry of War
Subin Barama	2	20	Kudi	State Data Center	Ministry of War
Timafa Esihiz	3	0	Kudi	State Data Center	Ministry of War
Hatia Madase	3	15	Kudi	State Data Center	Ministry of War
Odoosh Teroul	3	20	Kudi	State Data Center	Ministry of War
Matna Meri	4	-20	Kudi	State Data Center	Ministry of War
Juki Khoun	4	0	Kudi	State Data Center	Ministry of War
Urat Mekar	4	20	Kudi	State Data Center	Ministry of War

«COSMOS»

CALDARI

The Caldari COSMOS can be found in the Okkolelen constellation along with the agents listed below:

	AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
	Taru Kubona	1	0	Olitoh	Devils Dig Site	Mercantile Club
	Arvo Watanen	3	0	Olitoh	Devils Dig Site	Science and Trade Institute
	Eteri Tazaki	3	0	Olitoh	Devils Dig Site	Lai Dai Protection Service
	Varma Fujimo	4	0	Olitoh	Devils Dig Site	Lai Dai Corporation
	Mintu Oshima	3	0	Olitoh	The Diamond Ace Den	Echelon Entertainment
	Ryoke Aura	3	0	Olitoh	The Diamond Ace Den	Expert Distribution
	Hansu Turu	1	0	Ishisomo	NOH Recruitment Center	Nugoeihuvi Corporation
	Ryuki Sakkarø	1	0	Ishisomo	NOH Recruitment Center	Prompt Delivery
	Tekirye Awazhen	3	0	Ishisomo	NOH Recruitment Center	Internal Security
	Relin Ariato	2	0	Ishisomo	Rusty Ridge Mine	Wiyrkomi Corporation
	Yru Høtamei	3	0	Ishisomo	Rusty Ridge Mine	Lai Dai Protection Service
	Oniya Arkimon	2	0	Airmia	Grand Crag Watch	Lai Dai Corporation
	Kusan Niemenen	1	0	Airmia	Station Foundation Site	Poksu Mineral Group
	Sokei Kirku	2	0	Airmia	Station Foundation Site	Ytiri
	Istei Pøgri	2	0	Airmia	Station Foundation Site	Nugoeihuvi Corporation
	Raidon Setala	2	0	Sakkikainen	Settler's Waystation	Chief Executive Panel
	Døitsu Ikonen	2	0	Sakkikainen	Settler's Waystation	Ishukone Corporation
	Ikimara Høchi	3	0	Sakkikainen	Settler's Waystation	State and Region Bank
	Midoki Urigamu	3	0	Sakkikainen	Settler's Waystation	Propel Dynamics
	Ratan Saturi	4	0	Sakkikainen	Settler's Waystation	Prompt Delivery
	Matani Jitainen	1	0	Sakkikainen	Frontier Stockade	Lai Dai Corporation
	Kaiya Tuuri	2	0	Sakkikainen	Frontier Stockade	Lai Dai Protection Service
	Tida Aikato	1	0	Vahunomi	Cactus Mill Lookout	CBD Corporation
	Jali Tanaka	2	0	Vahunomi	Cactus Mill Lookout	Caldari Navy
	Mika Etsuya	2	0	Vahunomi	Cactus Mill Lookout	Caldari Navy
	Anou Dechien	2	0	Vahunomi	Abandoned Astro Farm	Archangels
	Skurk Tekkurs	2	0	Vahunomi	Abandoned Astro Farm	Archangels
	Krakan Rost	3	0	Vahunomi	Abandoned Astro Farm	Archangels
	Aisha Gojivi	3	0	Friggi	Bandit Hideout	Sukuuvestaa Corporation
	Siringwe Opainen	3	0	Friggi	Bandit Hideout	Guristas
	Yka Katori	3	0	Friggi	Bandit Hideout	Guristas
	Yoko Pihrava	1	0	Friggi	Sentinel Rise	Sukuuvestaa Corporation
	Helmi Nakamuta	2	0	Friggi	Sentinel Rise	Caldari Provisions
	Maro Yama	3	0	Friggi	Clear Water Spring	Caldari Navy
	Mirmon Gorgoz	2	0	Friggi	Clear Water Spring	The Leisure Group
	Chichiro Rati	4	0	Ihakana	Shady Acres	Caldari Navy
	Yochuko Eskaila	4	0	Ihakana	Shady Acres	Internal Security
	Tøtsuo Rankamo	1	0	Ihakana	Hangman's Hill	Guristas Production
	Rie Nissiken	2	0	Ihakana	Hangman's Hill	Guristas
	Fumiku Viljanen	2	0	Otomainen	Foul Creek Ranch	Science and Trade Institute
	Kochi Ultranian	3	0	Otomainen	Foul Creek Ranch	Mercantile Club
	Goru Nikainen	3	0	Otomainen	Foul Creek Ranch	Nugoeihuvi Corporation
	Tamoko Raytio	3	0	Otomainen	Red Rock Outpost	Lai Dai Corporation
	Horatu Ahti	4	0	Otomainen	Red Rock Outpost	Deep Core Mining
	Akira Helkelen	3	0	Otomainen	Rush Town Ruins	Zainou Biotech
	Hitami Magye	3	0	Otomainen	Rush Town Ruins	Mercantile Club
	Zabon Michi	4	0	Otomainen	Rush Town Ruins	Mine Drill Corporation
	Akemon Toløn	4	20	Otomainen	PLEX – Prison Facility	Imperial Navy

CALDARI BPC AGENTS

Like the Amarr, the agents listed below can reward you with Faction frigate, cruiser and battleship BPCs (two-run, 0 ME/PE) if you have a high enough standing to them. The skill modifier does not have an effect on this standing.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	ITEMS REQ.	STANDING REQ.	REWARD BPC
Kaiko Maina	4	20	Olitoh	Friggi Gate	30 Guristas Silver Tags	8.5	Caldari Navy Hookbill
Emma Tharkin	4	20	Olitoh	Friggi Gate	30 Guristas Gold Tags	9.2	Caracal Navy Issue
Zoun Makui	4	20	Olitoh	Friggi Gate	30 Guristas Diamond Tags	9.9	Raven Navy Issue

DATACENTER AGENTS


See Amarr description for details.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Ollen Alulama	1	20	Kamokor	State Data Center	Home Guard
Korhonomi Oli	1	0	Kamokor	State Data Center	School of Applied Knowledge
Pomari Maara	1	0	Kamokor	State Data Center	School of Applied Knowledge
Peeta Waikon	1	0	Kamokor	State Data Center	Caldari NAVY
Ichmari Obesa	2	0	Kamokor	State Data Center	Home Guard
Kui Hisken	2	20	Kamokor	State Data Center	Home Guard
Tojawara Saziras	3	0	Kamokor	State Data Center	Home Guard
Oko Alo	3	15	Kamokor	State Data Center	Home Guard
Isu Jokaga	3	20	Kamokor	State Data Center	Home Guard
Ruupas Vonni	4	-20	Kamokor	State Data Center	Home Guard
Ozunoa Poskat	4	0	Kamokor	State Data Center	Home Guard
Kanouchi Hisama	4	20	Kamokor	State Data Center	Home Guard
Autaris Pia	1	0	Saikanen	State Data Center	State War Academy
Nakkito Ihadechi	1	20	Saikanen	State Data Center	State War Academy
Rokuza Taman	1	0	Saikanen	State Data Center	Caldari Navy
Tillen Matsu	1	0	Ahtulaima	State Data Center	Science and Trade Institute
Hosiwo Onima	1	20	Ahtulaima	State Data Center	Science and Trade Institute
Vaktan Sido	1	0	Ahtulaima	State Data Center	Caldari Navy

«COSMOS»

GALLENTE

The Gallente COSMOS can be found in the Algintal constellation along with the agents listed below:

	AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
	Astrod Opeau	3	0	Alsoltobier	Arid Park	University of Caille
	Croir Arghe	4	0	Alsoltobier	Arid Park	University of Caille
	Jannegiers Estacan	1	0	Audaerne	Natura Seminary	University of Caille
	Preaux Gallot	2	0	Audaerne	Natura Seminary	University of Caille
	Paltok Nortul	1	0	Augnais	Nickel & Dime Store	Trust Partners
	Iliere Angelyn	2	0	Augnais	Nickel & Dime Store	Trust Partners
	Ystvia Lamuelle	2	0	Barmalie	The Ebony Tower	University of Caille
	Pandon Ardillan	2	0	Barmalie	The Ebony Tower	The Scope
	Aakeo Oshaima	2	0	Colelie	Survey Station	Wiyrkomi Corporation
	Schabs Xalot	3	0	Colelie	Survey Station	Roden Shipyards
	Ampsin Achippon	4	0	Colelie	3. Gate im PLEX	Combined Harvest
	Sebast Malthon	3	-20	Deltole	Planet VI – Moon 1	University of Caille
	Krester Ruptofs	3	0	Deltole	Municipal Junkyard	Trust Partners
	Wrtuk Formur	4	0	Deltole	Municipal Junkyard	Trust Partners
	Veko Tallaja	2	0	Fluekele	Central Administration	Wiyrkomi Corporation
	Aminn Flosin	3	0	Fluekele	Central Administration	Roden Shipyards
	Nilla Elermare	3	0	Fluekele	CG Roden Shipyard's Outpost	Roden Shipyards
	Onreun Coen	3	0	Fluekele	Central Administration	Federal Int. Office
	Ardoen Dasaner	2	0	Jolia	Grand Future Info Center	Roden Shipyards
	Gara Kort	4	0	Jolia	Grande Future Info Center	Wiyrkomi Corporation
	Trex Ameisoure	2	0	Parchanier	Latent Transmitter	Salvation Angels
	Drusk Amakkit	3	0	Parchanier	Latent Transmitter	Thukker Mix
	Drone Mind	1	0	Parchanier	Planet VI – Moon 5	Outer Ring Ex.Mi.O

GALLENTE BPC AGENTS

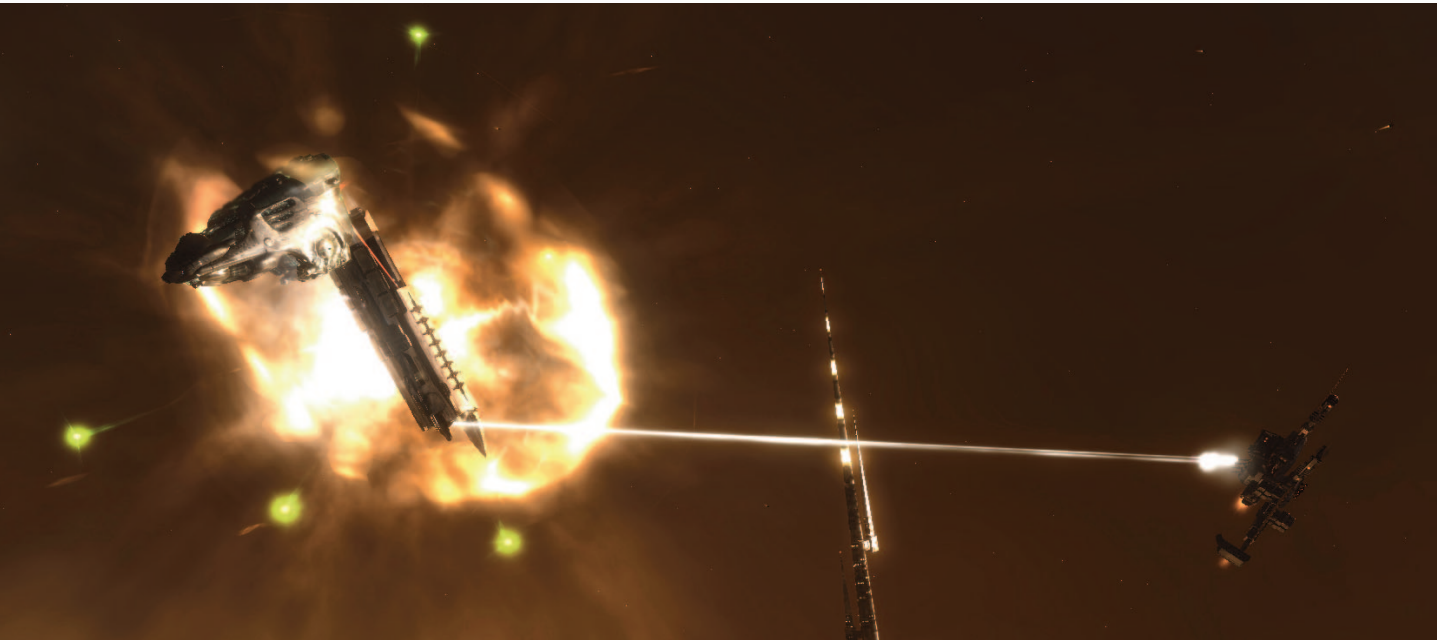
Like the Amarr, the agents listed below can reward you with Faction frigate, cruiser and battleship BPCs (two-run, 0 ME/PE) if you have a high enough standing to them. The skill modifier does not have an effect on this standing.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	ITEMS REQ.	STANDING REQ.	REWARD BPC
Jordan Usquen	4	20	Jolia	Augnais Gate	30 Serpentis	8.5	Gallente Faction frigate
Babalu Wrezka	4	20	Jolia	Augnais Gate	30 Serpentis	9.2	Gallente Faction cruiser
Timmothy Sawyr	4	20	Jolia	Augnais Gate	30 Serpentis	9.9	Gallente Faction battleship

DATACENTER AGENTS

See Amarr description for details.


AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Jaak Rozake	1	0	Muer	State Data Center	Federation Navy
Maray Ygier	1	0	Muer	State Data Center	FedMart
Blique Hazardt	1	20	Muer	State Data Center	Federation Navy
Alliot Graferr	2	0	Muer	State Data Center	Federation Navy
Mobas Jouey	2	20	Muer	State Data Center	Federation Navy
Alon Ahrassine	3	0	Muer	State Data Center	Federation Navy
Amatin Chens	3	15	Muer	State Data Center	Federation Navy
Fims Artalanche	3	20	Muer	State Data Center	Federation Navy
Hana Isourin	4	-20	Muer	State Data Center	Federation Navy
Carvaire Botesane	4	0	Muer	State Data Center	Federation Navy
Oisedia Gync	4	20	Muer	State Data Center	Federation Navy
Wenda Lamort	1	0	Abenync	State Data Center	Federation Navy
Vausilte Yrier	1	0	Abenync	State Data Center	FedMart
Beteux Maron	1	0	Ekuenbiron	State Data Center	Federation Navy
Etien Duloure	1	0	Ekuenbiron	State Data Center	FedMart



«COSMOS»

MINMATAR

The Minmatar COSMOS can be found in the Ani constellation along with the agents listed below:

	AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
	Tzumi Pokkolen	1	0	Nakugard	Reactor Factory	Poksu Mineral Group
	Mitsu Hekken	2	0	Nakugard	Reactor Factory	Sukuuvestaa Corporation
	Kraimir Mork	1	0	Nakugard	The Glass Edge	The Leisure Group
	Penda Rakken	2	0	Nakugard	The Glass Edge	Republic Parliment
	Them Burkur	2	0	Nakugard	The Glass Edge	Republic Security Services
	Dalkar Kersos	3	0	Nakugard	The Glass Edge	Krusual
	Beris Nitrus	1	0	Lanngisi	Sanctum Psychosis	Food Reliev
	Fara Bohk	1	0	Lanngisi	Sanctum Psychosis	Freedom Extension
	Remy Ouche	2	0	Lanngisi	Sanctum Psychosis	Elfyr & Co.
	Godun Sakt	3	0	Lanngisi	The Asylum	Elfyr & Co.
	Suky Karkinen	3	0	Lanngisi	The Asylum	House of Records
	Tauma Rikkiryo	1	0	Inder	Rich Man's Run	Mercantile Club
	Nina Darrchien	2	0	Inder	Rich Man's Run	The Sanctuary
	Mattheu Rochet	2	0	Inder	Dream Port	Garoun Investment Bank
	Sinogor Nitrut	2	0	Inder	Dream Port	Republic Fleet
	Vlas Takson	2	0	Inder	Dream Port	Urban Management
	Akraun Maertigor	2	0	Barkrik	The Hyperbole Nexus	Six Kin Development
	Mwaku Ristiger	3	0	Barkrik	The Hyperbole Nexus	Republic Parliament
	Jippon Frain	4	0	Barkrik	The Hyperbole Nexus	Sebiestor
	Dagras Kuthill	3	0	Barkrik	The Carnival	Sebiestor
	Rozor Mothrus	3	0	Barkrik	The Carnival	Brutor Tribe
	Mazed Karadom	4	0	Barkrik	The Carnival	Joint Harvesting
	Abotur Kverkinn	2	0	Hjoramold	Lord Bastion	Vherokior Tribe
	Sungur Tyrfin	3	0	Hjoramold	Lord Bastion	Boundless Creation
	Sydri Namian	4	0	Hjoramold	Lord Bastion	Carthum Conglomerate
	Ekdil Spittek	2	0	Hjoramold	Machine Head	Urban Management
	Nabur Verkort	3	0	Hjoramold	Machine Head	Brutor Tribe
	Robikk Gurmurkur	3	0	Hjoramold	Machine Head	The Leisure Group
	Eutor Jogmundt	2	0	Traun	Thin Red Line	Minmatar Mining Corp.
	Krak Hakkars	3	0	Traun	Thin Red Line	Republic Fleet
	Poreg Murchor	4	0	Traun	Thin Red Line	Republic Fleet
	Beduim Quereg	3	0	Traun	Reclamation Wreck	Sarum Family
	Damos Ossiam	4	0	Traun	Reclamation Wreck	Kor-Azor Family
	Bukar Robaerger	3	0	Traun	Sister Camp	Brutor Tribe
	Fynnir Torsonit	3	0	Traun	Sister Camp	Sisters of Eve
	Temer Rugaert	2	0	Tvink	Margin of Error	Sebiestor Tribe
	Madri Asshala	4	0	Tvink	Margin of Error	Joint Harvesting
	Hinrich Tekrawhol	3	0	Tvink	The Crystal Dust Compound	Tukker Mix
	Misnik Sarbaert	3	0	Tvink	The Crystal Dust Compound	Tukker Mix
	Nassor Tromkurt	4	0	Tvink	The Crystal Dust Compound	Guardian Angels
	Nafrid Sharum	2	0	Uriok	Assassin's Overhang	Tash-Murkon Family
	Aradin Ucham	3	0	Uriok	Assassin's Overhang	Ministry of Internal Order
	Ramakell Tikrest	3	0	Uriok	Culture Recess	Vherokior Tribe
	Sifor Patrenn	3	0	Uriok	Culture Recess	The Sanctuary
	Schebach Korten	3	0	Uriok	Insurgent Encampment	Sebiestor Tribe
	Tarak Horkund	3	0	Uriok	Insurgent Encampment	Brutor Tribe

MINMATAR LOW-SEC COSMOS

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Ison Tiadala	4	0	Audesder	The Alliance Barracks	Republic Fleet
Tagrina Angi	3	0	Audesder	The Alliance Barracks	Sebiestor Tribe
Esordik Milt	4	0	Audesder	The Alliance Barracks	Republic Fleet
Wirdar Erazako	4	0	Audesder	The Alliance Barracks	Republic Fleet
Aville Ancare	4	0	Audesder	The Alliance Barracks	Federation Navy
Daemire Adamia	4	0	Audesder	The Alliance Barracks	ORE

MINMATAR BPC AGENTS

Like the Amarr, the agents listed below can reward you with Faction a high enough standing to them. The skill modifier does not have frigate, cruiser and battleship BPCs (two-run, 0 ME/PE) if you have an effect on this standing.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	ITEMS REQ.	STANDING REQ.	REWARD BPC
Mutama Czeik	4	20	Barkrik	Hjoramold Gate	30 Angel Silver Tags	8.5	Minmatar Faction frigate
Thora Desto	4	20	Barkrik	Hjoramold Gate	30 Angel Gold Tags	9.2	Minmatar Faction cruiser
Makor Desto	4	20	Barkrik	Hjoramold Gate	30 Angel Diamond Tags	9.9	Minmatar Faction battleship

DATACENTER AGENTS

See Amarr description for details.

AGENT NAME	LEVEL	QUALITY	SYSTEM	PLACE	CORPORATION
Rilbedur Tjar	1	0	Emolgranlan	State Data Center	Sebiestor Tribe
Hakno Lekan	1	0	Emolgranlan	State Data Center	Republic Fleet
Alfan Uigot	1	20	Emolgranlan	State Data Center	Republic Security Services
Frera Elgas	2	0	Emolgranlan	State Data Center	Republic Security Services
Frie Tasmulo	2	20	Emolgranlan	State Data Center	Republic Security Services
Adari Jammalgen	3	0	Emolgranlan	State Data Center	Republic Security Services
Sanderi Ualmun	3	15	Emolgranlan	State Data Center	Republic Security Services
Habad Rokusten	3	20	Emolgranlan	State Data Center	Republic Security Services
Skia Alfota	4	-20	Emolgranlan	State Data Center	Republic Security Services
Eget Skovilen	4	0	Emolgranlan	State Data Center	Republic Security Services
Osidei Esama	4	20	Emolgranlan	State Data Center	Republic Security Services
Albedur Valzako	1	0	Arlulf	State Data Center	Sebiestor Tribe
Jachael Menson	1	0	Arlulf	State Data Center	Republic Fleet
West Ludorim	1	0	Engosi	State Data Center	Sebiestor Tribe
Apheta Zenakon	1	0	Engosi	State Data Center	Republic Fleet

PLANETARY INTERACTION

»» COLLATERAL DAMAGE

»» EXPLOITATION OF PLANETS

»» EXTRACTION PROCESSES

»» THE COMMAND CENTER

»» EXTRACTORS AND ROUTES

»» PROCESSORS

»» LAUNCH PAD

»» COMPETITION? WAR!

COLLATERAL DAMAGE



A man, neither too tall nor too lean, sat in his office. He did not pay attention to the warning signs, and instead was reading his book, I.S.K., intently. He would have done better to have read it earlier so that he could have heard the warning signs instead. The signs of catastrophe, the likes of which humankind had never seen before, were unfolding on the distant horizon. The ever-darkening skies and the gigantic lightning strikes of immeasurable energy promised nothing good.

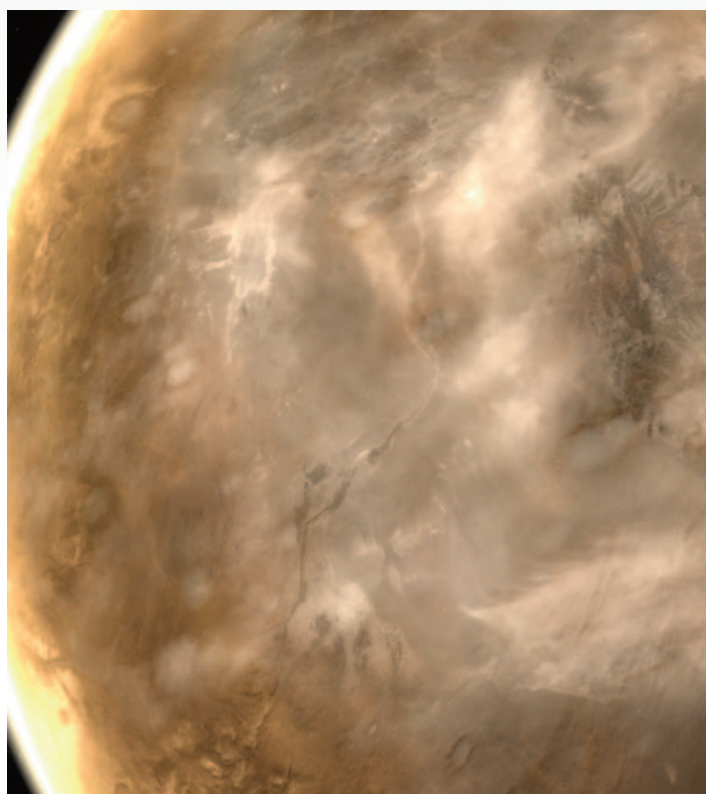
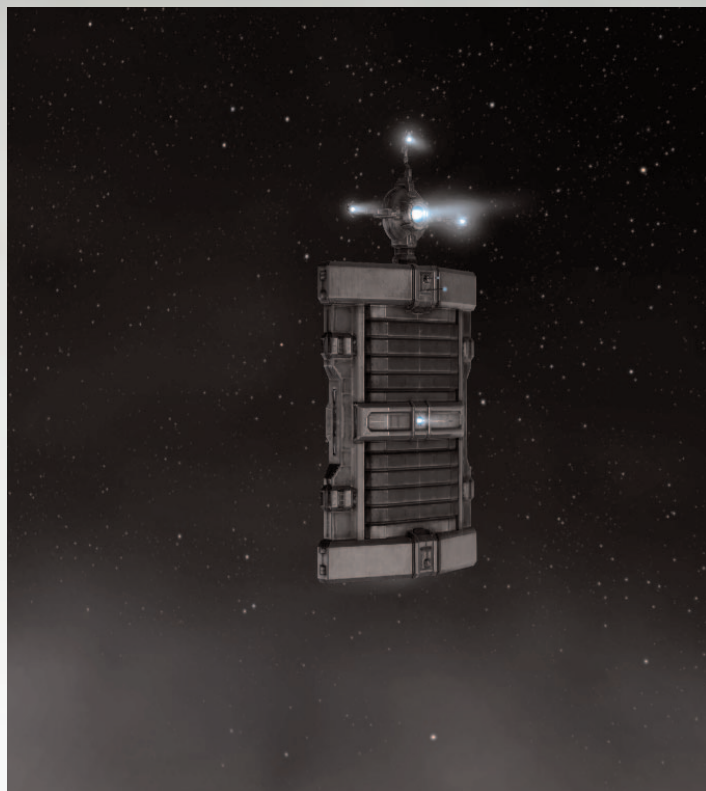
He was responsible for the many people working and living on the station. Their job wasn't easy and far from safe. The surface harvesting they were hired for promised significant profit. All the planet-side mining, logistics, and political bureaucracy were considered established thanks to the company's caretaking operations. The company had to manage, simultaneously, the exploration of raw materials, construction and upkeep of the mines, transportation of the raw materials extracted, and the processing of that into finished goods after the extraction process. But there was just one tiny glitch – the processed materials needed to be transported off the planet somehow.

The nondescript man thought back to how the manual specified this was to be achieved, all in precise diagrams and monetary calculations to manage cost. Load the materials into a space container, load the space container onto a launch vehicle, and launch that vehicle into space where the transport ship awaited, scanners ready, to locate the cargo and haul it away.

At least that was the theory. Unfortunately, the particular atmosphere of the planet and the binary star at the centre of the solar system made this impossible. Between the irregular solar wind emissions and the unpredictable gravitational waves generated by the two stars, they created such random patterns of atmospheric anarchy, that every take-off or landing which was not perfectly timed and managed down to the nano-second was a failure. Since humans are not prone to repeatable perfection, the consequent cosmic forces tore the launch vehicles to shreds.

What's more, every 1,313th year carried a new destiny and a new beginning for this system. Giant eruptions of gravitational and electromagnetic waves struck out for their journey from the centre of the deadly dance of the suns, slowly and methodically sweeping away everything and everyone who might be in the wrong place at the wrong time. The company employees didn't know, and how could they, when the last little Reaper was disintegrated in the planet's history. This was neither their job, nor were they paid to know it. The company had never taken the time, money or energy to invest in this system's complete and comprehensive analysis. No, it was a typical corporation, greedy and impatient, the scent of profit wafting from the mineral scanning reports. The shareholders demanded profits and profits they shall have.

The extraction was in progress; the acquired profit was to be collected in the usual bank accounts. The important part was done. All that was left was to await the flow of incoming ISK.



The company was more interested in this than in the cost of a few hundred workers' nameless lives on a remote planet.

Besides, the profit margin was considerably higher than any compensation that might have to be paid to victims' families for an accident. These amounts were accounted for, documented neatly in their little columns and rows on their spreadhseets. Regardless, the unwritten company policy was that there would be no accidents reported, so it just became extra profit. The lawyers had seen to that in the small print.

The storm strengthened, the omens increasingly screaming: YOU MUST ESCAPE! But there wasn't anybody who could have noticed these signs. All the lemmings headed to the proverbial cliff. If only one sun-survey had been completed, if the commander had been more prepared, if the company hadn't been as greedy, if the peoples' lives had been worth something...

But it was too late, the explosion had begun and it only took eight minutes to reach their particular planet. One gigantic, deadly and overwhelming wave of destructive force was flowing out, on its crest the matter of the stars frothed, a corona for its apocalyptic force.

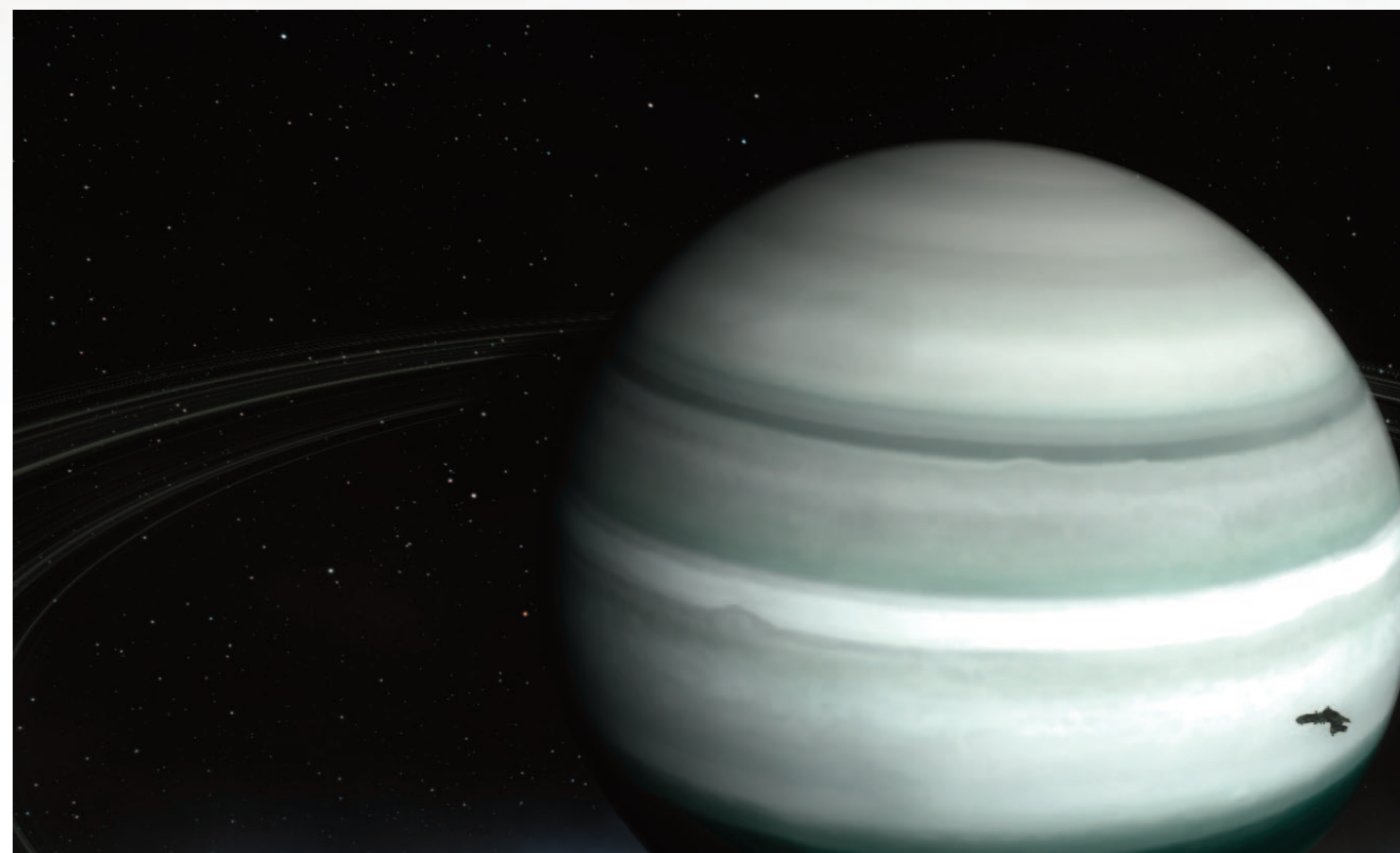
This time, however, things were slightly different – in just the correctly miniscule amount that would change everything. This

time, the eruption caused instability in the gravitational field of one of the suns, which released just enough energy to cause the two stars to shift and then collide, thanks to the twin-suns' incredible amount of gravitational force. The subsequent events can only be imagined as one of the last scenes for everyone there. The incredible beauty of the supernova outburst produced a massive black hole. Not a sight the unfortunate observers survived to describe. The incredibly powerful gravitational field of the black hole sucked everything into it, everything of substance and mass in the sector. Of course, the impact on the planet wasn't immediate. At first only the gravity changed slightly, a sluggishness was felt as time itself seemed to slow and then stretch out. Suddenly, the upper layers of the planet's atmosphere became prey to the predator.

The workers, busy at their machines, noticed from all of these events a gigantic lightning strike followed by the stretch of their last second of life. It hit them so suddenly, that had they possessed the knowledge to realize what was happening, they had long dissolved into atoms, scattered in space, drifting bodiless towards the event horizon before they could draw the proper conclusion.

The work was dangerous, but at least it was well paid. They believed that this time, this job, they would receive their just pay.

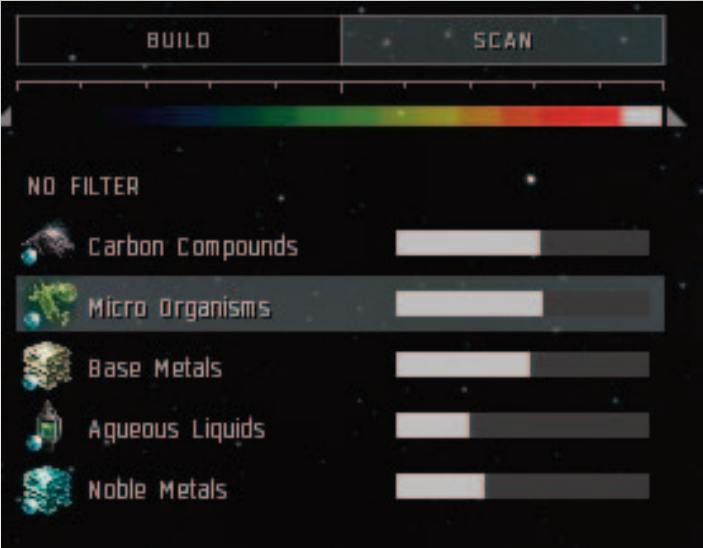
They were wrong.



[EXPLOITATION OF PLANETS]>>

➡ For the creation of a successful mining colony, we must have a clear understanding of the entire process. The following steps need to be taken to reach the final product from beginning to end:

- Locate mineable raw materials
- Harvest the raw materials
- Processing the raw materials into a subsequent usable compound
- Repeat this processing until the desired product is created
- Deliver the product



BARREN			
PLANET		RESOURCES	
	<p>Barren planets are archetypical ‘dead terrestrials’ – dry, rocky worlds with a minimal atmosphere and an unremarkable composition.</p> <p>They are commonly etched with flood channels, which are often broad enough to be visible from orbit; most such worlds have accumulated significant quantities of ice over their lifetimes, but cannot retain it on their surface.</p> <p>Generally, surface liquid evaporates rapidly, contributing to the thin atmosphere, but occasionally it will seep back into the ground and refreeze, ready for another breakout in future when the local temperature rises.</p>		Aqueous Liquids
			Base Metals
			Carbon Compounds
			Micro Organisms
			Noble Metals







GAS			
PLANET		RESOURCES	
	<p>Gas planets are characterized by a deep, opaque upper atmosphere, usually composed primarily of light elements such as hydrogen or helium.</p> <p>Simple chemicals can add a range of hues and shades in the visual spectrum, and the interaction between upwellings and rapidly circulating pressure bands result in a huge variety of visible surface structures.</p> <p>A similar level of diversity can be found beneath the cloud-tops: the inner composition of a given gas planet might belong to any one of a dozen broad groups, with no two planets entirely alike in this regard.</p>		Aqueous Liquids
			Base Metals
			Ionic Solutions
			Noble Gas
			Reactive Gas







ICE			
PLANET		RESOURCES	
	<p>The majority of icy planets went through a period of being barren terrestrials, before being surfaced with ice over the course of many millennia.</p> <p>The exact process for this varies from case to case, but the end result is both common and visually uniform – a bright, reflective planet scored by countless fractures and crevasses.</p> <p>A few icy planets are hypothesized to have been warmer, liquid-bearing planets in the past that have subsequently frozen, as a result of either stellar cooling or failed terraforming projects.</p>		Aqueous Liquids
			Heavy Metals
			Micro Organisms
			Planktic Colonies
			Noble Gas

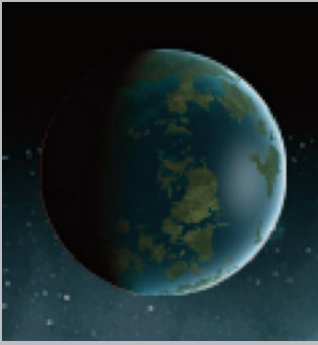





LAVA			
PLANET		RESOURCES	
	<p>So-called ‘lava planets’ (properly ‘magmatic planets’) fall into one of three groups:</p> <p>Solar magmatics, which orbit sufficiently close to their star that the surface never cools enough to solidify; Gravitational magmatics, which experience gravitational shifts sufficiently strong to regularly and significantly fracture cooling crusts; Magmatoids, which are, for largely-unexplained reasons, simply incapable of cooling and forming a persistent crust.</p> <p>All three types generally exhibit the same external phenomena – huge red-orange lava fields being a defining feature – but the latter two types are sometimes capable of briefly solidifying for a period measured in years or perhaps decades.</p>		Base Metals
			Felsic Magma
			Heavy Metals
			Non-CS Crystals
			Suspended Plasma


OCEANIC			
PLANET		RESOURCES	
	<p>Oceanic worlds are a class of terrestrial world covered entirely by liquids, usually in the form of mundane water.</p> <p>While the liquid surface is exceptionally smooth, the ocean floor on most worlds of this type exhibits significant topographic variety.</p> <p>It is this subsurface irregularity which causes the formation of complex weather systems, which would otherwise revert to more uniform patterns.</p>		Aqueous Liquids
			Carbon Compounds
			Complex Organisms
			Micro Organisms
			Planktic Colonies

EXPLOITATION OF PLANETS

PLASMA			
PLANET		RESOURCES	
	<p>The aptly-named 'plasma planets' have captured the imagination of countless artists and inspired innumerable works, yet the physics behind them are surprisingly mundane by cosmological standards.</p> <p>A rocky terrestrial with the right kind of atmosphere and magnetic field will, when bombarded with solar radiation, generate sprawling plasma storms as specific atmospheric elements are stripped of their electrons.</p> <p>Over time these storms will generally scorch the surface rock black, adding to the visual impact.</p>		Base Metals
			Heavy Metals
			Noble Metals
			Non-CS Crystals
			Suspended Plasma

STORM			
PLANET		RESOURCES	
	<p>Storm worlds are usually considered terrestrial planets, although to a casual eye they may appear more similar to gas planets, given their opaque, high-pressure atmospheres.</p> <p>Geomorphically, however, the distinctions are clear: compared to a gas world, the atmosphere of a storm world is usually considerably shallower, and generally composed primarily of more complex chemicals, while the majority of the planet's mass is a rocky terrestrial ball.</p> <p>Their name is derived from the continent-scale electrical storms that invariably flash through their upper atmospheres.</p>		Aqueous Liquids
			Base Metals
			Ionic Solutions
			Noble Gas
			Suspended Plasma

TEMPERATE			
PLANET		RESOURCES	
	<p>Life-bearing worlds are often referred to as 'temperate', as their mild temperatures are one of their defining features.</p> <p>Planets with existing, stable ecosystems are prime targets for colonization efforts as they are generally easier to make fully habitable; as a result, the majority of highly populated worlds are of this type. Indeed, it is not altogether uncommon for detailed surveys to reveal signs of previous settlements from various stages of New Eden's history.</p>		Aqueous Liquids
			Autotrophs
			Carbon Compounds
			Complex Organisms
			Micro Organisms










RESOURCES		PLANET							
		BARREN	GAS	ICE	LAVA	OCEANIC	PLASMA	STORM	TEMPERATE
	Aqueous Liquids	✓	✓	✓	X	✓	X	✓	✓
	Autotrophs	X	X	X	X	X	X	X	✓
	Base Metals	✓	✓	X	✓	X	✓	✓	X
	Carbon Compounds	✓	X	X	X	✓	X	X	✓
	Complex Organisms	X	X	X	X	✓	X	X	✓
	Felsic Magma	X	X	X	✓	X	X	X	X
	Heavy Metals	X	X	✓	✓	X	✓	X	X
	Ionic Solutions	X	✓	X	X	X	X	✓	X
	Micro Organisms	✓	X	✓	X	✓	X	X	✓
	Noble Gas	X	✓	✓	X	X	X	✓	X
	Noble Metals	✓	X	X	X	X	✓	X	X
	Non-CS Crystals	X	X	X	✓	X	✓	X	X
	Planktic Colonies	X	X	✓	X	✓	X	X	X
	Reactive Gas	X	✓	X	X	X	X	X	X
	Suspended Plasma	X	X	X	✓	X	✓	✓	X

EXPLOITATION OF PLANETS










The location of the search is very important (0.0, low-sec, high-sec or Wormhole space), because it drastically affects the results of your findings. The following tables show how many planets of each type can be found in each region (for the exact details you can check evemaps.dotlan.net):

LEGEND					
	Temperate		Oceanic		Storm
	Ice		Lava		Plasma
	Gas		Barren		Shattered

EMPIRE REGIONS










REGION NAME									
Aridia	71	117	242	12	64	86	77	7	-
Black Rise	46	63	145	17	39	44	46	7	-
The Bleak Lands	40	41	97	6	24	38	48	3	-
The Citadel	105	112	263	18	69	77	88	10	-
Derelik	123	160	359	27	96	101	130	20	-
Devoid	73	76	148	6	46	58	49	7	-
Domain	223	272	596	27	136	191	192	30	-
Essence	86	103	198	12	49	64	59	7	1
Everyshore	52	86	168	10	47	45	62	6	-
The Forge	116	143	269	13	70	92	87	12	-
Genesis	107	123	322	11	95	100	109	14	-
Heimatar	96	139	260	10	49	71	78	7	-
Kador	104	111	247	13	69	81	95	19	-
Khanid	76	135	249	15	71	88	86	13	-
Kor-Azor	69	96	167	8	53	65	59	8	-
Lonehtrek	112	163	275	10	73	86	111	11	-
Metropolis	185	217	468	29	128	158	145	15	-
Molden Heath	36	43	134	7	36	46	34	3	-
Placid	76	74	208	7	43	68	88	4	-
Sinq Laison	135	159	290	17	76	96	90	12	-
Solitude	49	61	110	6	19	54	45	6	-
Tash-Murkon	120	157	311	19	81	106	99	8	-
Verge Vendor	39	59	122	4	34	49	44	2	-

OUTLAW REGIONS

SOLAR SYSTEM									
Branch	106	120	290	12	90	114	87	10	-
Cache	35	59	153	7	36	46	48	4	-
Catch	102	154	330	16	84	102	111	18	-
Cloud Ring	36	56	118	4	35	47	34	3	-
Cobalt Edge	51	104	193	13	54	74	68	9	-
Curse	46	65	142	12	39	62	41	9	-
Deklein	79	93	209	12	71	73	73	6	-
Delve	89	135	281	19	84	110	94	6	1
Detorid	71	133	308	12	80	92	91	10	-
Esoteria	90	113	254	23	65	75	84	16	-
Etherium Reach	82	149	305	13	83	98	105	14	-
Fade	27	36	78	5	17	26	31	6	-
Feythabolis	79	132	296	13	65	77	81	5	-
Fountain	106	173	365	18	90	113	112	8	-
Geminate	73	134	228	18	71	80	89	14	-
Great Wildlands	98	127	279	15	87	92	97	8	1
Immensea	70	117	224	18	62	78	90	12	1
Impass	42	74	143	9	33	41	47	7	-
Insmother	95	162	324	20	110	103	118	15	-
The Kalevala Expanse	66	107	208	13	48	59	72	7	-
Malpais	101	140	303	13	88	111	111	7	-
Oasa	59	117	268	12	87	90	81	8	-
Omist	43	70	126	6	41	48	44	5	-
Outer Passage	72	122	247	9	85	105	114	14	-
Outer Ring	40	83	188	10	54	55	62	11	1
Paragon Soul	41	44	119	4	38	32	37	5	-
Period Basis	29	52	130	8	22	47	41	2	-
Perrigen Falls	102	154	306	13	93	101	105	15	-
Providence	91	116	261	17	68	111	85	6	-
Pure Blind	56	134	265	13	64	76	83	7	-
Querious	83	148	295	9	90	93	101	10	-
Scalding Pass	59	148	245	6	81	74	96	7	-
The Spire	80	106	227	13	64	77	68	7	-
Stain	102	155	387	23	114	122	140	19	1
Syndicate	82	142	326	13	85	115	119	16	1
Tenal	52	88	185	13	54	70	68	12	-
Tenerifis	58	133	243	9	67	92	82	6	-
Tribute	48	79	149	8	55	68	56	8	-
Vale of the Silent	105	174	346	20	96	111	135	15	-
Venal	82	132	285	13	83	93	108	11	-
Wicked Creek	80	109	239	7	71	90	86	8	-

EXPLOITATION OF PLANETS

EMPIRE REGIONS

SOLARSYSTEM	CLASS									
Unknown R01	1	97	191	428	22	98	141	128	11	-
Unknown R02	1	130	223	485	24	102	184	149	21	-
Unknown R03	1	51	83	166	7	36	61	77	1	-
Unknown R04	2	69	143	310	14	88	114	108	10	-
Unknown R05	2	78	129	306	16	90	107	118	13	-
Unknown R06	2	120	200	422	18	134	149	168	20	-
Unknown R07	2	40	70	155	8	37	52	55	10	-
Unknown R08	2	106	185	403	11	107	128	140	15	-
Unknown R09	3	34	77	183	11	44	43	49	9	-
Unknown R10	3	41	65	154	11	48	46	63	5	-
Unknown R11	3	76	125	243	12	69	101	93	11	-
Unknown R12	3	84	149	325	24	77	104	104	13	1
Unknown R13	3	39	59	135	6	32	56	43	8	-
Unknown R14	3	87	139	284	13	77	99	99	5	-
Unknown R15	3	45	98	172	11	47	61	54	3	-
Unknown R16	4	53	84	175	12	50	67	57	10	-
Unknown R17	4	14	37	82	3	20	26	27	2	-
Unknown R18	4	34	70	153	6	33	46	44	6	-
Unknown R19	4	84	110	299	17	89	109	90	10	-
Unknown R20	4	40	61	164	10	40	49	54	4	-
Unknown R21	4	107	166	325	28	83	112	118	14	-
Unknown R22	4	67	109	253	16	59	105	82	15	-
Unknown R23	4	26	37	81	6	25	25	32	5	-
Unknown R24	5	94	136	261	15	88	87	87	13	-
Unknown R25	5	86	144	299	17	82	113	112	7	-
Unknown R26	5	55	101	215	10	52	75	68	10	-
Unknown R27	5	46	90	205	14	52	83	80	11	1
Unknown R28	5	75	133	281	18	75	101	98	15	-
Unknown R29	5	84	123	243	11	76	107	102	11	-
Unknown R30	6	92	165	338	15	92	123	98	11	-

EXTRACTION PROCESSES

➡ When you have decided what you are going to produce, you've chosen the right type of planet, and you've even located it, then it is time to get started.

PLANET SCAN

Scan the chosen planet for the possible resources. To do this, right-click on the planet or click anywhere on space, choose the planet, and then choose 'View in Planetary Mode'.

Next choose 'Scan'. The scan view lists the available resources on the planet and shows how rich those deposits are. The longer the line near the name of the given raw material, the better the resource yield will be.

Choose the resource you want to see its concentration and its locations on the planet. You can filter the resource locations by moving the slider towards the right or left side on the rainbow scale. The scale always shows the same colours ranging from blue, meaning very little resources of the chosen type can be seen, to white, meaning a lot of the resources of the chosen type can be seen.

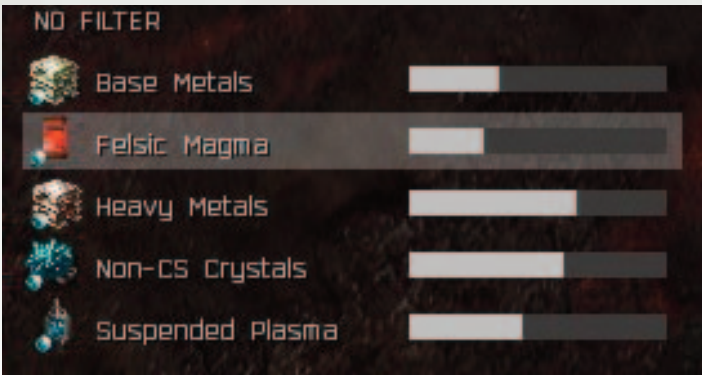
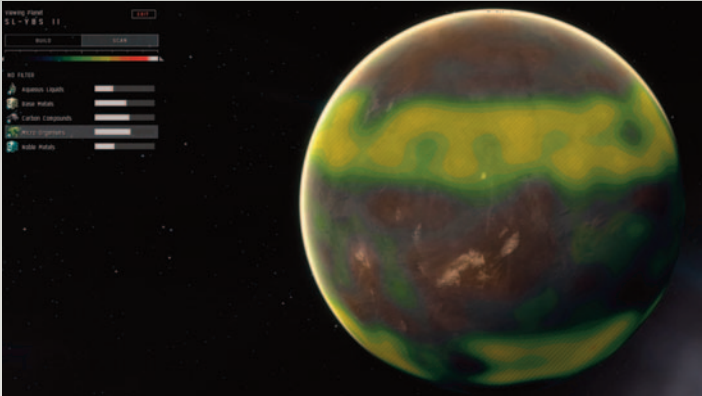
To find an ideal spot to set up your extractors, click on 'Scan'. Click on a resource in the list. Move the slider on the rainbow scale towards the left until spots of red appear. Keep sliding left until some white begins to appear in the red spots. Once you see that, you know that those are the hot spots where your resource extraction will be most productive.

The best method is to locate the highest concentration of your target resource on the planet and ensure that there are no rivals to split the limited resources with. Ideally, look for two spots of high concentration nearby each other and place your processors and Command Center between these spots. Do not forget, if you want to process the extracted materials, you can use the routes as a queue as well. Such as:

Extractor -> Processor -> Launch Pad

Although this method is useful, it has a disadvantage: you have to synchronize the yield of the extractors and the capacity of the processing plants to each other very well, otherwise the unprocessed materials will be lost. So just extract the proper amount, which is necessary for the processing plants, and no more. The advantage is: if you have made the proper calculations about the capacities and the yield, this method is the best saver deal.

There's another solution: the processing has to be centred, so every processed materials we made has to have an own central point. The queue method is, using the extracted materials in a long route.



The base materials getting the queue at the start point, and we can get the specialized material at the end point. In this case, the centre is the Launchpad. An example:

Extractor(s) —> Launch Pad —> Basic Processor —> Launch Pad —> Advanced Processor —> Launch Pad

Use the launchpad as an end point of every step: if you extract or process more amount than the destination plant's processing capacity, the materials won't be lost.

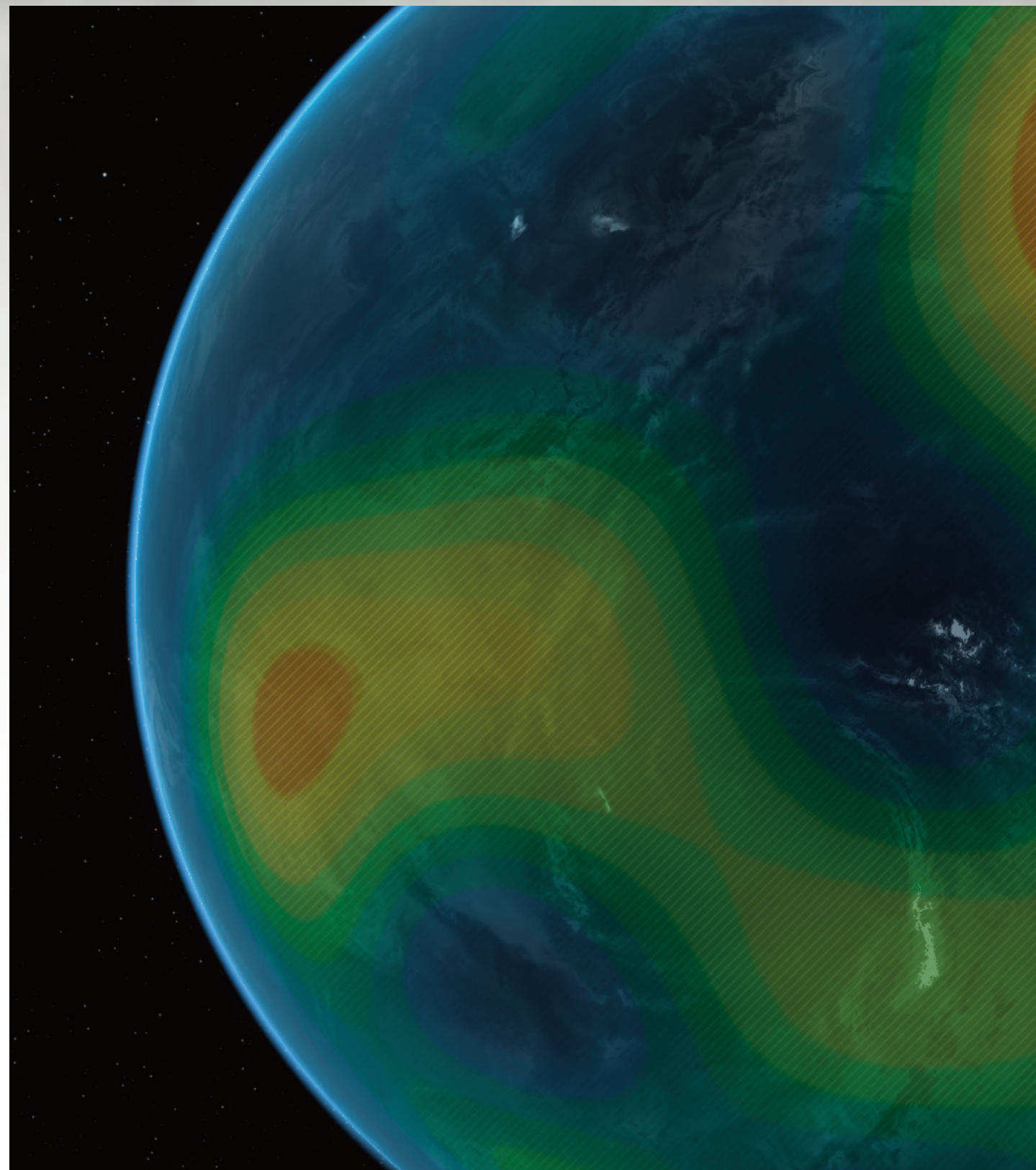
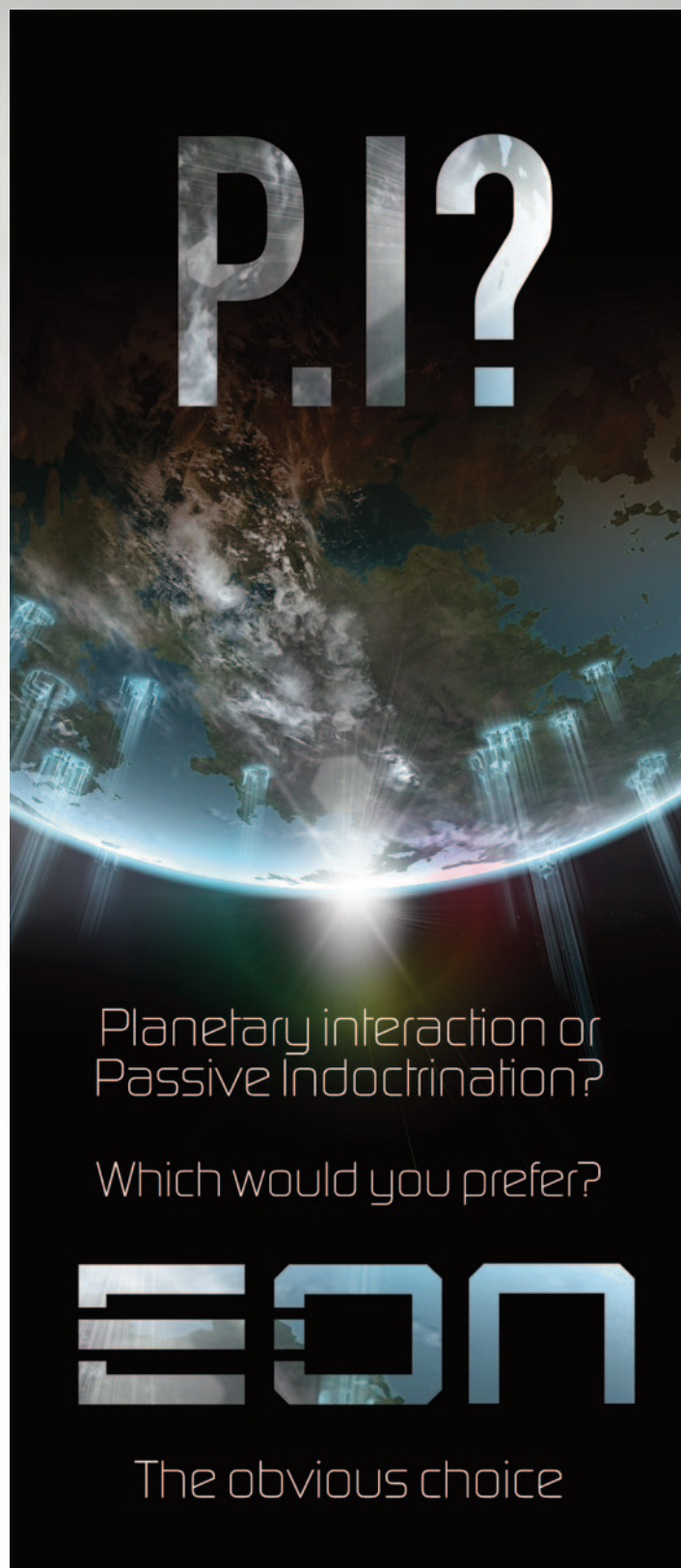
➡ THE BEST METHOD IS TO LOCATE THE HIGHEST CONCENTRATION OF YOUR TARGET RESOURCE ON THE PLANET AND ENSURE THAT THERE ARE NO RIVALS TO SPLIT THE LIMITED RESOURCES WITH

« EXTRACTION PROCESSES »

NECESSARY SKILLS

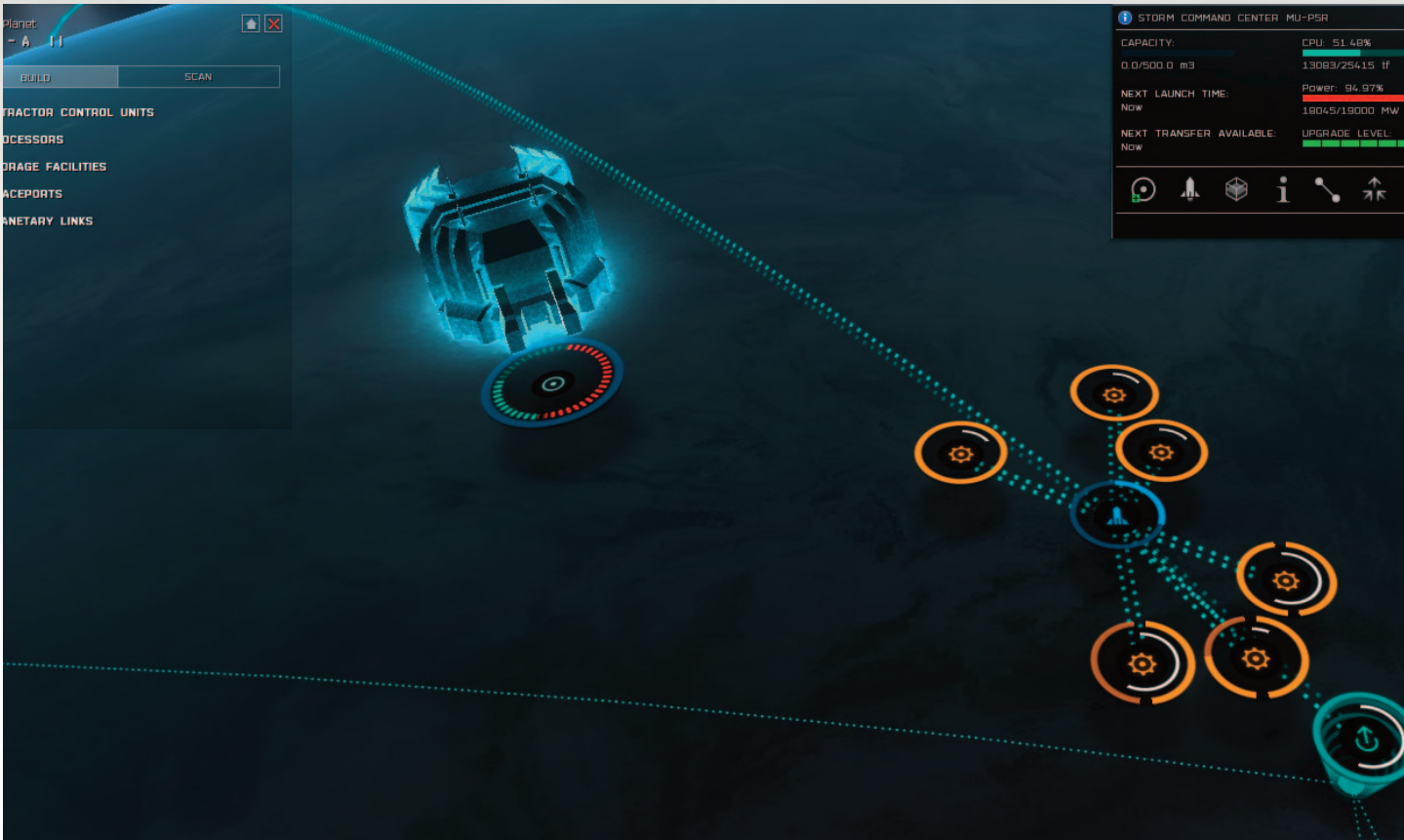
You can begin harvesting planetary resources without any specialized skills, but the possibilities will be highly limited. For example, you won't be able to use efficient equipment.

- **Interplanetary Consolidation:** For each rank in this skill, you may install a Command Center on one additional planet. You may have only one Command Center per planet. Cannot be trained on Trial Accounts.
- **Command Center Upgrades:** Each rank in this skill improves the quality of command facility available to you, in turn allowing for a greater number of extracting and processing facilities on that planet. Cannot be trained on Trial Accounts.
- **Remote Sensing:** The ability to gather and analyze remote sensing data from satellites in orbit around a planet and to produce properly calibrated surveys. Each rank in this skill allows you increased distance from where you can scan from:
 - **Level I:** allows scans within one light year
 - **Level II:** allows scans within three light years
 - **Level III:** allows scans within five light years
 - **Level IV:** allows scans within seven light years
 - **Level V:** allows scans within nine light years
- **Planetology:** This skill increases the resolution of resource data when scanning a planet to allow for more accurate surveying. The increased resolution provides more colours on the rainbow scale, giving you the ability to better interpret data from scans of planets for resource locations.
- **Advanced Planetology:** This skill further increases the resolution of resource data when scanning a planet to allow for very precise surveying.



[THE COMMAND CENTER]

➡ The most important thing in the planetary interactions is the Command Center. You can do nothing on a planet without this (just watch the clouds, volcano, oceans, etc. They're nice, right). Every planet (except the Shattered) has an own type of the Command Center. This means, the Barren Command Center (CC) can be installed only on Barren planets. Although this CC has a storage and launch capacity, you don't need to link it to somewhere. It can be a standalone building even at the polar cap. Okay, let's assume, the CC is established on the planet, and you have scanned the surface for materials. The next step: planning the colony, because every action can be expensive. Once a building is placed, and you have pushed the 'Submit' button, you can't replace it! By the way, every action (routing, linking, building) has to be confirmed by the 'Submit' button.



Every CC has six levels. The difference among them is the amount of the CPU, PG, capacity and necessary skills. Thanks to the IncurSION 1.1.0 patch, you can upgrade your CC.

CC PREFIX	CPU	PG	NECESSARY SKILL	UPGRADE PRICE (FROM BASIC)	UPGRADE PRICE (FROM PREVIOUS LEVEL)
Basic	1675 lf	6000 MW	-		
Limited	7057 lf	9000 MW	CC Upgrades I	580,000 ISK	580,000 ISK
Standard	12,136 lf	12000 MW	CC Upgrades II	1,510,000 ISK	930,000 ISK
Improved	17,215 lf	15000 MW	CC Upgrades III	2,710,000 ISK	1,200,000 ISK
Advanced	21,315 lf	17000 MW	CC Upgrades IV	4,210,000 ISK	1,500,000 ISK
Elite	25,415 lf	19000 MW	CC Upgrades V	6,310,000 ISK	2,100,000 ISK

INFRASTRUCTURES

After successfully placing the CC, you can build the following structures on the planet:

NAME	DESCRIPTION
Extractor Control Unit	This building is responsible for the extracting of raw materials. As an ECU, only one type of raw material can be extracted
Extractors	Not a standalone building, you can switch them on in the ECU. Every Extractor consumes some CPU and PG
Processors	The facilities responsible for converting and processing the extracted resources into refined products
Basic Industry Facility	Creates Processed Materials from Raw Materials. Cycle time is 30 minutes
Advanced Industry Facility	Creates Refined Commodities from Processed Materials. Further refines Refined Commodities into Specialized Commodities. Cycle time is one hour
High Tech Production Plant	Available only on Barren and Temperate Planets. Cycle time is one hour and creates Advanced Commodities from Specialized Commodities
Storage Facility	Stores harvested and refined materials for further use or delivery
Launch Pad	Connects the colony to the Customs Office orbiting in space. If no Customs Office is available, you can launch your commodities into space directly. This is not recommended, as the launched container can be placed anywhere around the planet. Without a Launch Pad, you can neither export nor import the extracted commodities to the Customs Office
Planetary Links	At first, these do not seem too important, but they are an indispensable part of the process. Without links, the materials are unable to be routed between facilities. A link's length determines how much CPU and PG it requires. With upgrades, the volume and speed of the transfer can be improved (requiring more CPU and PG)
Customs Office	Often referred to as the Space IRS, or an ISK-sink. This is not a structure an individual must build. Instead it is part of a planet's infrastructure; a publicly shared miner station orbiting in space

The demand in resources of different structures is shown in the table below:

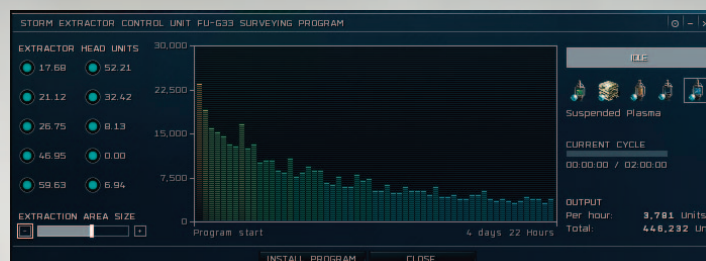
UNIT NAME	PG	CPU	CYCLE TIME	CONTAINER CAPACITY	PRICE
Extractor Control Unit	2600 MW	400 lf	1 hr - 14 days	-	45,000 ISK
Extractor	550 MW	110 lf	1 hr - 14 days	-	-
Storage Facility	700 MW	500 lf	-	5000 m3	250,000 ISK
Basic Industry Facility	800 MW	200 lf	1800 sec	120 m3	75,000 ISK
Advanced Industry Facility	700 MW	500 lf	3600 sec	variable	250,000 ISK
High Tech Production Plant	400 MW	1100 lf	3600 sec	variable	425,000 ISK
Launch Pad	700 MW	3600 lf	-	10,000 m3	900,000 ISK
Link	0.26 MW/km	0.36 lf/km	-	-	variable

EXTRACTORS AND ROUTES »

When extracting the materials of the planet, you'll need one or more extractor control units and extractors, as well as links along which the extracted materials can move towards the destination plant. The key to a successful colony is choosing the base area on the surface well. When you place the ECU, the grey circle shows the area, where the extractors can be placed. To begin with, getting the raw materials is allowed within this circle only.

Once the ECU has been established, you can choose what you want to extract from the planet (the scan will change to this material). Furthermore, you can switch on the Extractor Head Units (the extractors itself) from 1 to 10. Please note: if you don't want to use the CC to store the materials, you won't need to link it with anything. I prefer the Storage Facilities due to their pretty storing capacity. Once the extractors are in place, the only things you need to do is to choose the wanted material and set the size of the extracting area. This will determine the cycle time and the amount of the extracted materials.

The expected yield shows in a diagram. You can see the amount, depending on the cycle time. The cycle time (the area) can be set from 1 hour up to 14 days. You can see the cycle times, the end of all the cycle times, the total amount of the yield in every cycle time



and at the end of it. If you place the ECUs too close to each other, the efficiency of the extracting will be decreased. In this case, try to work with smaller areas or replace the extractors to somewhere else.

If you have chosen the best extracting setting, do not forget to confirm with the 'Submit' button. But we are not done yet: if we reach the end of the storage capacity of the ECU, every single material above this limit will be lost. So no profit, and the whole process will be stuck. It is very important to know, that you can't place links and routes between the extractor-extractor, storage-storage, factory-factory. The only way is the Expedited Transfer, and you have to do this manually. If you want to avoid this, use the launchpad or the storage facilities for the in- and output.

SCHEMATICS, LINKS AND ROUTES

From an extractor, you should link and route your commodities into a storage facility, a launch pad, or the closest processor. Linking and routing should be done the same way in every case:

- Click on the starting point (in this case the extractor), then choose the Links icon. Then click on the Create Link button. Bring the end of the white line to the desired destination.
- Alternatively, you can right-click on your starting point, choose Create Link, drag the white line to your destination, and left click on the destination to create the link.

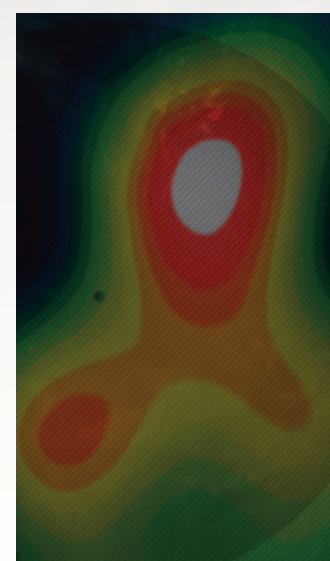
In both cases the necessary CPU and PG demand of the given link will be indicated. Don't forget to click submit when done.

As was mentioned before, it is worth establishing extraction and production facilities on a given area. Several extractors can be linked to either a single storage facility or several storage facilities to ensure continuous resource extraction.

Warehouses can be used as operating headquarters as well. In this case, every extractor and production facility is linked to it. The resources are routed from the extractors and depart from here to the production facilities.

If the structures are linked, the necessary operation must be chosen (schematics) on the receiving station (if it is a factory). The goods cannot be transported from the mine/warehouse until linked somewhere. To do this, click on the Schematics icon and choose a schematic from the dropdown menu. Clicking on a schematic will expand it to display what is needed for production input and what the production output will be. It also lists the quantities needed.

Once production has been set up, the last thing to do is to determine final storage and shipping off the planet. Click on the production facility, then click Products, choose the material you want to route to storage, click on the storage facility, and finally click the Create Route button.



WAREHOUSES CAN BE USED AS OPERATING HEADQUARTERS AS WELL. IN THIS CASE, EVERY EXTRACTOR AND PRODUCTION FACILITY IS LINKED TO IT



EXTRACTORS AND ROUTES

For example if you have:

Extractors -> Storage Facility -> Production Facility -> Storage Facility -> Production Facility -> Launch Pad system

then you can choose to route resources from the mine directly to the launch pad. In this example, the utilization of the link path increases, but the resources only pass through on the linking facilities. This is a great advantage, since we can save on the length of the links. Everything along this route can utilize the same links to move output along.

It was mentioned earlier that the links can be optimized. Optimizing links increases their capacity, but at the cost of additional resources. Think wisely as to whether this is really needed, because if the utilization is only 40%, the resources of the colony are expended unnecessarily.

When establishing different extracting chains, it is highly advisable to install a storage facility as well. These structures have the necessary capacity for storing materials temporarily, thus ensuring there is no wastage. Speaking of waste, try to use as few links as possible and they should also be short in length.



Link Level	Name	Capacity	Necessary Resources									
			51 km		104 km		202 km		520 km		1049 km	
			PG	CPU	PG	CPU	PG	CPU	PG	CPU	PG	CPU
0	None	250 m3/h	18	26	26	36	41	56	89	120	168	225
I	Local	500 m3/h	28	43	47	71	80	122	190	290	372	570
II	Basic	1,000 m3/h	40	64	69	113	124	204	302	500	599	993
III	Standard	2,000 m3/h	51	88	94	162	171	297	422	740	842	1478
IV	Improved	4,000 m3/h	64	114	119	215	220	400	549	1006	1097	2014
V	Fast	8,000 m3/h	77	143	146	273	271	512	681	1294	1363	2595
VI	Expedited	16,000 m3/h	91	173	173	335	324	632	817	1602	1637	3216
VII	Express	32,000 m3/h	105	206	201	401	378	759	957	1928	1920	3874
VIII	Advanced	64,000 m3/h	119	240	230	470	434	892	1101	2271	2210	4566
IX	State-of-the-Art	128,000 m3/h	134	275	260	542	491	1031	1248	2630	2506	5289
X	Experimental	256,000 m3/h	148	313	290	617	549	1176	1398	3003	2809	6042

SIGNS AND ABBREVIATIONS

The different colours of the icons have important meaning, since looking at them can quickly give you a visual status of whether or not everything is running properly.










	PHENOMENA	EXPLANATION
	The link line is shining yellow	You have forgotten to push the Submit button after building a link
	The line is colourless, doesn't shine	No active Route on the link
	Double lines but one of them is pale	Transportation is only set to go one way on the link
	Double lines, both are shining	Transportation is going both ways
	Double lines, one of them is orange, value in % is above it	Showing the Route, with the utilization of the Link in %
	The inner white circle is flashing (on production facilities)	Not enough incoming raw materials for production
	Part of the outer circle (at storage facilities and launch pads) is lighter	This reflects utilization of the storage capacity of the given structure
	Part of the outer circle is lighter (production facilities)	Indicates how much of the required resources are available to start the operation
	The inner white circle is continuously increasing or decreasing (extractors)	The mine is extracting, the circle increases or decreases, indicating the actual state of the cycle
	The line is orange, and value in % is on it	If the given % is white, the actual utilization is shown, if it is grey then the value is being calculated, probable utilization of the link is shown. These values can be seen separately or at the same time
	Red and blue lines around the Command Center	Your current colony Powergrid (red) and CPU (blue) usage is shown in accordance with the capacity of your Command Center
	There is no white line at the factory, only a yellow circle on its outline	You have likely forgotten to link it into the network, it has no connections

PROCESSORS »

Once you have started extracting, you must choose whether to export the extracted raw resources off planet, or to process these raw resources into another commodity. If you choose the second option, you will need either basic industry facilities or advanced industry facilities (or both).

PROCESSED MATERIALS

In basic industry facilities, processed materials can be created from raw materials.















RAW MATERIALS			PROCESSED MATE			
3000 x		Micro Organisms	»»»	20 x		Bacteria
3000 x		Carbon Compounds	»»»	20 x		Biofuels
3000 x		Planktic Colonies	»»»	20 x		Biomass
3000 x		Non-CS Crystals	»»»	20 x		Chiral Structures
3000 x		Ionic Solutions	»»»	20 x		Electrolytes
3000 x		Autotrophs	»»»	20 x		Industrial Fibers
3000 x		Reactive Gas	»»»	20 x		Oxidizing Compound
3000 x		Noble Gas	»»»	20 x		Oxygen
3000 x		Suspended Plasma	»»»	20 x		Plasmoids
3000 x		Noble Metals	»»»	20 x		Precious Metals
3000 x		Complex Organisms	»»»	20 x		Proteins
3000 x		Base Metals	»»»	20 x		Reactive Metals
3000 x		Felsic Magma	»»»	20 x		Silicon
3000 x		Heavy Metals	»»»	20 x		Toxic Metals
3000 x		Aqueous Liquids	»»»	20 x		Water



PROCESSORS










REFINED COMMODITIES

Refined commodities can be created from processed materials in advanced industry facilities.

PROCESSED MATERIALS				REFINED COMMODITIES			
40 x		Biofuels	+	40 x		Precious Metals	» 5 x  Biocells
40 x		Reactive Metals	+	40 x		Toxic Metals	» 5 x  Construction Blocks
40 x		Toxic Metals	+	40 x		Chiral Structures	» 5 x  Consumer Electronics
40 x		Electrolytes	+	40 x		Water	» 5 x  Coolant
40 x		Precious Metals	+	40 x		Toxic Metals	» 5 x  Enriched Uranium
40 x		Bacteria	+	40 x		Proteins	» 5 x  Fertilizer
40 x		Proteins	+	40 x		Biomass	» 5 x  Genetically Enhanced Livestock
40 x		Proteins	+	40 x		Biofuels	» 5 x  Livestock
40 x		Reactive Metals	+	40 x		Precious Metals	» 5 x  Mechanical Parts
40 x		Industrial Fibers	+	40 x		Silicon	» 5 x  Microfiber Shielding
40 x		Chiral Structures	+	40 x		Silicon	» 5 x  Miniature Electronics
40 x		Bacteria	+	40 x		Reactive Metals	» 5 x  Nanites
40 x		Oxydizing Compound	+	40 x		Oxygen	» 5 x  Oxydes
40 x		Oxydizing Compound	+	40 x		Industrial Fibers	» 5 x  Polyaramids
40 x		Biofuels	+	40 x		Industrial Fibers	» 5 x  Polytextiles
40 x		Plasmoids	+	40 x		Electrolytes	» 5 x  Rocket Fuel
40 x		Oxydizing Compound	+	40 x		Silicon	» 5 x  Silicate Glass
40 x		Plasmoids	+	40 x		Water	» 5 x  Superconductors
40 x		Oxygen	+	40 x		Biomass	» 5 x  Supertensile Plastics
40 x		Electrolytes	+	40 x		Oxygen	» 5 x  Synthetic Oil
40 x		Bacteria	+	40 x		Water	» 5 x  Test Cultures
40 x		Plasmoids	+	40 x		Chiral Structures	» 5 x  Transmitter
40 x		Bacteria	+	40 x		Biomass	» 5 x  Viral Agent
40 x		Reactive Metals	+	40 x		Water	» 5 x  Water-Cooled CPU

SPECIALIZED COMMODITIES

Specialized commodities can be created from refined commodities in advanced industry facilities.

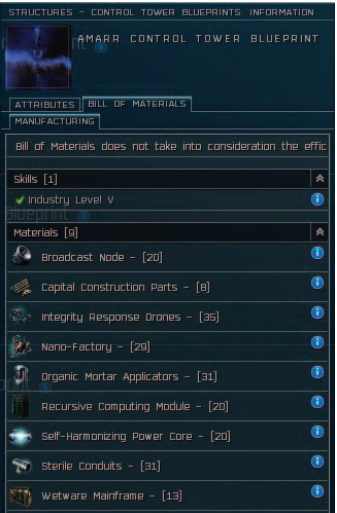
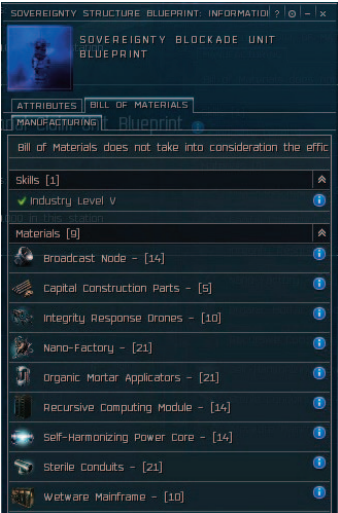
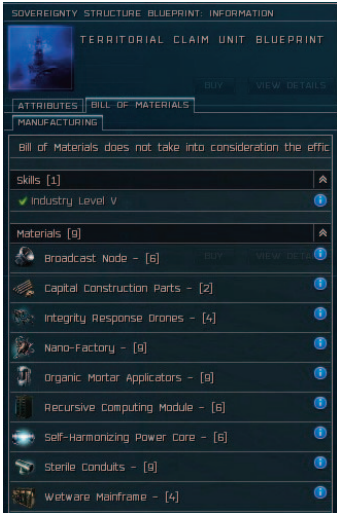
Processed Materials										Refined Commodities				
0 x		Oxydes	+	10 x		Coolant	+	3 x		Condensates		3 x		Biotech Research Reports
10 x		Silicate Glass			+	10 x		Rocket Fuel				3 x		Camera Drones
10 x		Oxydes			+	10 x		Coolant				3 x		Condensates
10 x		Test Cultures	+	10 x		Synthetic Oil	+	10 x		Fertilizer		3 x		Cryoprotectant Solution
10 x		Supertensile Plastics			+	10 x		Microfiber Shielding				3 x		Data Chips
10 x		Oxydes	+	10 x		Biocells	+	10 x		Superconductors		3 x		Gel-Matrix Biopaste
10 x		Water-Cooled CPU			+	10 x		Transmitter				3 x		Guidance Systems
10 x		Polytextiles	+	10 x		Viral Agent	+	10 x		Transmitter		3 x		Hazmat Detection Systems
10 x		Polyaramids			+	10 x		Genetically Enhanced Livestock				3 x		Hermetic Membranes
10 x		Polyaramids			+	10 x		Transmitter				3 x		High-Tech Transmitters
10 x		Fertilizer			+	10 x		Polytextiles				3 x		Industrial Explosives
10 x		Biocells			+	10 x		Silicate Glass				3 x		Neocoms
10 x		Microfiber Shielding			+	10 x		Enriched Uranium				3 x		Nuclear Reactors
10 x		Supertensile Plastics	+	10 x		Mechanical Parts	+	10 x		Miniature Electronics		3 x		Planetary Vehicles
10 x		Mechanical Parts			+	10 x		Consumer Electronics				3 x		Robotics
10 x		Construction Blocks			+	10 x		Miniature Electronics				3 x		Smartfab Units
10 x		Water-Cooled CPU	+	10 x		Coolant	+	10 x		Consumer Electronics		3 x		Supercomputers
10 x		Supertensile Plastics			+	10 x		Test Cultures				3 x		Synthetic Synapses
10 x		Biocells			+	10 x		Nanites				3 x		Transcranial Microcontrollers
10 x		Synthetic Oil			+	10 x		Superconductors				3 x		Ukomi Super Conductors
10 x		Livestock			+	10 x		Viral Agent				3 x		Vaccines

PROCESSORS

ADVANCED COMMODITIES

High-tech production plants can create advanced commodities from specialized commodities and, when necessary, processed materials. These buildings can be built on Barren and Temperate type planets only.

SPECIALIZED COMMODITIES/PROCESSED MATERIALS											ADVANCED COMMODITIES			
6 x		Neocoms	+	6 x		Data Chips	+	6 x		High-Tech Transmitters	➤	1 x		Broadcast Node
6 x		Gel-Matrix Biopaste	+	6 x		Hazmat Detection Systems	+	6 x		Planetary Vehicles	➤	1 x		Integrity Response Drones
6 x		Industrial Explosives	+	6 x		Ukomi Super Conductors	+	40 x		Reactive Metals	➤	1 x		Nano-Factory
6 x		Condensates	+	6 x		Robotics	+	40 x		Bacteria	➤	1 x		Organic Mortar Applicators
6 x		Synthetic Synapses	+	6 x		Guidance Systems	+	6 x		Transcranial Microcontrollers	➤	1 x		Recursive Computing Module
6 x		Camera Drones	+	6 x		Nuclear Reactors	+	6 x		Hermetic Membranes	➤	1 x		Self-Harmonizing Power Core
40 x		Water	+	6 x		Smartfab Units	+	6 x		Vaccines	➤	1 x		Sterile Conduits
6 x		Supercomputers	+	6 x		Biotech Research Reports	+	6 x		Cryoprotectant Solution	➤	1 x		Netware Mainframe



[LAUNCH PAD]>>

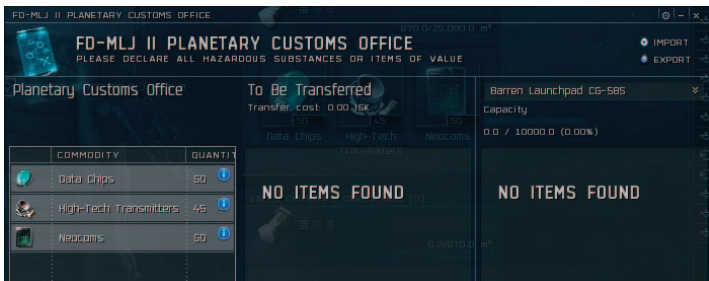
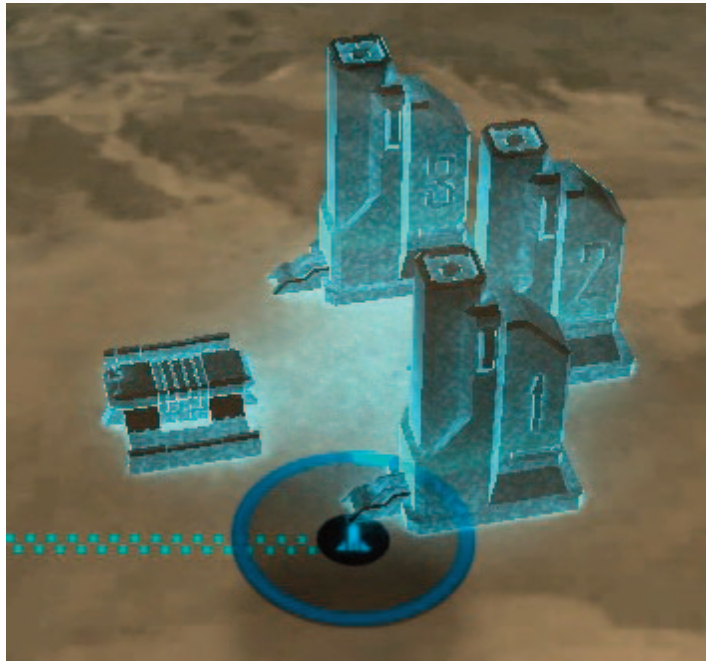
Putting a spaceport on the planet makes exporting items from the planet easier. It is also the only way to import raw materials down to the planet's surface. Its best attribute is the large storage capacity (10000 m3), while the least attractive attribute is the high CPU need (3600 tf). The customs office is only available when somebody builds a launch pad on the planet. You cannot install a launch pad with basic Command Centers, because its CPU need is higher than the CPU the CC can generate.

IMPORTING

Not every raw material can be found locally for most of the production processes, so we need to use the import function. In this case, ensure your launch pad storage is empty enough to have room for what you want to import planet-side. Choose the planetary setup on your Science & Industry tool, and choose to 'jump to zero' to the customs office there.

The customs office allows you access to the launch pad to transport your materials to or from the planet's surface. After right-clicking on the customs office, choose 'Open Hangar' and drag the resources from your cargo bay into the customs office hangar. Right-click again on the customs office and choose 'Access Customs Office'. Here the traditional drag and drop method works fine.

Conversely, from the 'Access Customs Office' tool, you can elect to import, and choose your launch pad. Based on the list displayed, click on the resource, click on 'Add' to place the materials into the area of the transported items from the hangar. Then press the 'Import to Planet' button to perform the delivery. The items in the middle column will be transferred to the launch pad.



EXPORTING

When we are finished with our planet-side production and want to deliver the raw materials elsewhere, we can export them. The goods must be routed to a launch pad in order to do this. It can be done by delivering them after the operation, but sometimes direct transportation is inevitable from the storage facilities.

Exporting is the same as importing, except the resources are moving from the planet to the customs office. Once at the appropriate CO, export your resources from your launch pad to the customs office hangar by right-clicking on the CO, then choosing 'Open Hangar' to make yourself ready to access the resources you are about to export. Right-click again and choose 'Access Customs Office'. Here the traditional drag and drop method again works fine. When ready, choose export, choose your launch pad, add your resource to the export list and finally click 'Export from Planet' to perform the transfer.

At the end of the operation, the exported items will be found in the hangar of the customs office. Drag and drop your resources into your cargo bay and you are on your way.

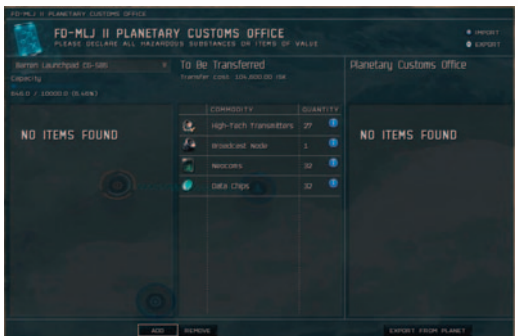
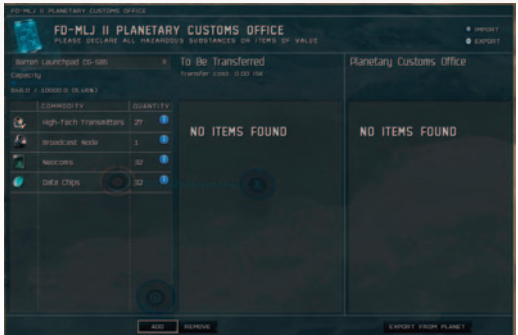
ROCKET LAUNCH

When the customs office you need to access is 'bubbled', or a group of pirates is camping it, there is an alternative to getting your commodities off-planet: the launch pad on the Command Center will fire it directly into space. Materials can be exported off-world, only this time our starting point will be the CC, which unfortunately can only handle a limited volume. The launched resources arrive at a random spot somewhere around the planet.

Route the resources you want to export to the CC. You can also use an 'Expedited Transfer' for a one-time move from one spot to the Command Center. Note that the Expedited Transfer option has a cooldown and can only be used every few minutes.

Once your resources are in the CC's storehouse, click on the resource and add it to the payload for launch. When the payload contains whatever you want to export, click on 'Go For Launch'.

If everything works, you'll get a message in your journal on the Planetary Launches tab. This message will tell you where to find the launched container, and how long it will stay there in case you cannot get to it right away. You can bookmark that location or warp there immediately, and all you have to do is collect it. The process is the same as looting a container.



«LAUNCH PAD»

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COMPETITION? WAR! »

Sometimes less is more. A wise man once said, “You can’t always get what you want, but if you try sometimes, you get what you need.” Only one Command Center can be placed on a planet, and the maximum number of planets you can set yourself up on is six.

The problem is that others can do this too. NPC and unclaimed territories can get choked with Command Centers since everyone can put at least one down. If an alliance gets sovereignty in an area, then only its members can install CCs in that area.

Every planet has a finite amount of resources. Every good comes to an end, since these resources can be exhausted. The more it is extracted, the sooner it happens. This is a cause for alarm because regeneration will only take place after the resource has been entirely exhausted, which takes time.

There is a huge difference between high-sec and nullsec, because in nullsec more materials can be extracted in one cycle, the planets have more resources and there are likely to be less players setting up shop on each planet. Experience shows that the difference in the extractable materials in one cycle can be five to eight times higher than for a similar planet in high-sec.

WAR...

If there is value in a thing, chances are someone wants to take that thing from you. It is very important to be alert even when war is not in effect. You could run into an enemy bubble or a gang waiting for you to make a pick-up at a customs office.

If you find yourself in an unpleasant situation, the risk can be minimized by the use of the ‘Rocket Launch’ option on your Command Center. With this method of exporting from planet surface to space, the cargo appears at a random point in space in orbit around the planet. All you have to do is to warp there in a cloaked blockade runner instead of going to the customs office.

Nevertheless, you can also turn it to your benefit, since you too can camp the given system, planet, or customs office, but I wouldn’t want to give too many bad ideas away as this isn’t the Free Super-Pirate Academy.

MARKET WARRIORS

The economic war not only rages in space, but is also in one’s wallet in terms of ISK. The inexperienced pilot does not fully comprehend that they are preyed upon by many others. It is imperative to pay attention to not merely selling the raw resources extracted, because you can refine a better, improved, and more valuable commodity which takes less cargo space to haul and is nearly free to produce. It is worth improving the resources to a higher level commodity at that same installation and then exporting it to space.

Why are the volume and quantity of commodities important? The answer is tax.



«COMPETITION? WAR!»

IMPORT/EXPORT TAXATION

Just as there is no rose without its thorns, so there is no manufacturing without tax. Every Planetary Interaction step has a visible effect on your wallet. The import, export, and even the launching of your goods can cost more than necessary if the infrastructure is not well thought out. It would be simpler to

produce everything in one place and then launch the results.

Unfortunately, there is no such planet where every necessary material is available. Not only are the planetary resources limited, but your Command Center has finite CPU and PG capacity. Strive for efficient transportation between planets as much as possible.

	RAW MATERIALS	PROCESSED MATERIALS	REFINED COMMODITIES	SPECIAL COMMODITIES	ADVANCED COMMODITIES
Import Tax	0.05 ISK / pc	0.38 ISK / pc	4.5 ISK / pc	300 ISK / pc	25,000 ISK / pc
Export Tax	0.1 ISK / pc	0.76 ISK / pc	9 ISK / pc	600 ISK / pc	50,000 ISK / pc
Cost For Launch	0.15 ISK / pc	1.14 ISK / pc	13.5 ISK / pc	900 ISK / pc	75,000 ISK / pc
Size of Materials	0.01 m3	0.38 m3	1.5 m3	6 m3	100 m3
Maximum cost of a launch (500 m3)	7500 ISK	1500 ISK	4500 ISK	75,000 ISK	375,000 ISK
Maximum export cost (10,000m3)	100,000 ISK	20,000 ISK	60,000 ISK	1,000,000 ISK	5,000,000 ISK



Grandma, I see that I.T are up to their usual shenanigans.

Yes, dear child. And now we can read 0.0 Report on this portable tablet computing device, it makes life so much more convenient in following what's been going on outside of our worthless, insignificant lives.

I prefer the print edition...

Shut up Timothy. Nobody asked you.

EON

Even non-capsuleers quite like it

MANUFACTURING

»» PIECE OF TECHNOLOGY

»» PRODUCTION 101

»» RIGS – PIMP MY SHIP

»» COMBAT BOOSTERS

»» GAS CLOUDS

»» THE 'CAPITAL' BUSINESS

PIECE OF TECHNOLOGY »

➡ A tall, haggard man stood on the catwalk above the huge assembly bay. The size of the bay would have made it possible to assemble six freighters, side-by-side. The engineers, workers and machines worked beneath the dizzying depth in precise harmony. He stared into the distance, looking for the moment in his memory when he decided to start this grandiose project. Suddenly, a voice pulled him back from the entangled whirl of his thoughts.

"Sir, the hull section is running out of the construction blocks!" The young engineer looked nervous.

"All right, we have all the required blueprints available, start the production of the necessary modules," he instructed.

The engineer nodded. "Acknowledged sir, I'll get them into production immediately!"

"One more thing. Use the ores from depot number two." His voice was calm, flat.

"Yes sir!" The engineer left in hurry, the door which separated the rest of the station from the gigantic hall, opened and closed, perfectly noiselessly, as if it knew that the industrialist leading the operation could, or rather should not be disturbed. Below, in the depths of the manufacturing hangar, the air was glowing. Huge hull pieces were prepared, one after the other. Some components were part of the hull, some were components of the armour cover, while

others belonged to the electronics and propulsion systems. Production was ongoing already.

Being obsessed with new technologies, Commander Siretsa exploited all the possibilities that made the fitting and equipment of his ships even more advanced. But this case was different. The components below were not the parts of his own ship, nor even his corporation, but of a full alliance that had placed its confidence in him, entrusted a part of its resources for the project. This was not a unique project, but grandiose. After all, only a few examples of this stupendous technology existed in the whole universe.

He was excited to see it finally taking shape. Months of negotiations, then the assembly of raw materials, and finally the construction of the facility itself had taken their toll. Now, he could tell everyone that his work, the work of the corporation, right down to the last man, would be rewarded handsomely when this ship launched. Nothing is impossible! The buzz from his nano-transponder interrupted his chain of thoughts.

"Commander, the last drive components are ready, we've started to transport them into the assembly plant." It was the familiar sound of the engineer's voice.

"Thank you. Continue the operation, and prepare my ship to supervise the transport of the components into the space dock."

"Yes sir, your ship is already prepared; the expected end of the loading is 14:00 hours."

"I see. Inform the pilots of the freighters: I do not tolerate any kind of delay! Make sure that they are ready for the transport."

"Yes sir!"

On the way to the hangar, where his majestic Paladin battleship waited for the undocking permissions, a faint smile ran across the commander's face. They were done with the 'boring' part of the job, but the heavy lifting was about to start.

To look at it in the simplest way, it was nothing but children's building blocks on a gigantic scale. Several hundred billion ISK of building blocks, and when it was ready, it could influence the combat events of entire regions, merely with the fact that it existed.

Boarding his ship, Siretsa checked the holoscreen with satisfaction. The freighters were ready for undocking, waiting in an ordered fashion for their cargo to be taken to their destination. The convoy, a combination of dozens of transport and escort ships, slowly docked into a single Aeon-class supercarrier then jumped to a distant spot in space.

Emerging from the jump portal, a gigantic space dock became visible, surrounded by a shield. Capital class ships were being made here, so the base had very strong, nearly impenetrable shields, with banks of artillery guarding it. There was a protection fleet, too. Dozens of different ship classes: frigates, cruisers, battleships, all with strict orders to protect the facility at all costs.

It took many long hours for the fleet to complete the unloading into the assembly plant. Their job was difficult, since it was necessary to place the immense volume of ship components into the space in such a way that it could be successfully assembled into a working engineering miracle. At the end of the loading, the freighters returned to the Aeon supercarrier. As soon as it was loaded, it disappeared much as it had arrived.

Inside the massive facility, the assembly of the ship began. The commander supervised the work personally, as he could not allow anything to disturb or delay it. Weeks of long and nerve wracking work brought it to fruition. The last tests were run, the calibration of the drives was tested, the loading platforms were seeded with materials, and the ship took shape. Slowly, methodically, the behemoth grew from girders to one of the most massive ships ever constructed.

Months later, the ship stood ready. One thing was still missing: the captain, the soul of the ship, the lead mind of all the machinery. The management of a ship like this required full immersion. There would be no breaks at a station, or switching ships. The ship claimed a full bondage. It experienced the tight sense of his word, even more, his mind. His soul would not be set free anymore. His body would melt into the ship, and could be regained only as a result of destruction or abandonment of the vessel.

Two hundred and fifty kilometres from the assembly array, a ship emerged from its cloaking field, and in the next moment a glowing beacon appeared, transferring coordinates into deep space.



«PIECE OF TECHNOLOGY»

Siretsa's mind reared. "Something must have happened. We were a secret! No one knew we were here!" The thoughts flashed through the commander's mind. He had been waiting in the entry lounge, waiting for the new captain to travel to the facility to take command of his ship. Instead, Siretsa stared out into space at the glowing beacon. His heart sank.

"Control tower! What's the IFF of our 'guest'?"

The control tower responded with the familiar voice of Siretsa's chief engineer. "Sir, we can't seem to identify it yet. It does not answer our hails. I think we have to fear the worst, sir. We were betrayed!" As if on cue, the characteristic funnel of a jump portal appeared and a huge Minmatar fleet entered normal space, beyond a doubt there to destroy or take away the ship waiting under the protection of the station.

They fired immediately, without warning. The shields of the station glowed, swallowing the energy of the attack. Commander Siretsa looked at the station's control system from the wall-mounted panel. He knew that he had to do something, and quickly, as the shield would not be able to stand against this firepower for a long time.

He made a decision. It shouldn't have been his decision, but he took it in a heartbeat. He took the hallway to the personnel elevator, which lead to the hangars. Outside the facility, a gun battery failed, then another, then another. The defending fleet was nearly gone, but the larger units were fighting frantically to save the facility. Soon, the space dock itself would be under attack.

"Everything's lost if I don't do something right now," the commander thought as he entered the pod. "I can't let it happen! Not without a fight!" Full darkness took over his senses. He did not see, he did not feel. He lost contact with the external world.

The shields surrendered, the last charges circulated before they dwindled into eternal space. The station lost its reinforced protection, and the fleet waiting outside, like a horde of starving wolves, attacked the defenceless base. A sudden, gravitational shockwave froze the moment with overwhelming strength. All eyes, sensors, and cameras rotated to see what had changed.

The Avatar had awoken!

The signal flashes ignited, the drives came online, the shields emitted a blue glow, embracing its golden body. In the central controller, the brain, Siretsa, swam in the life-giving biomass in a state of unconsciousness, physically broken but mentally in command of the ship. He concentrated with all his fibre on starting the ship's life support and protection systems and to reach the drive control.

He failed. He was not ready for that. He was not ready for any of it. He had not undergone all the requisite training. His nervous system could not handle the load. Instead of the drives, he activated the jump portal generator, filling the space with a huge gravimetric distortion. Just before falling into the portal, he could inflict a last and fatal blow onto his enemies.

He controlled his mind and concentrated. He thought of one thing, the Judgment Device. The emergent destructive energy would sweep away everything; ships, the station, people, machines. Everything. The moment of truth! He fired, but instead of a flash, wreaking havoc across the entire grid, a single beam of light appeared. Like the Sword of Damocles, it lanced out and ripped the enemy's command ship, a massive supercarrier to shreds. Siretsa allowed himself to black out and the ship to fall into the portal, to disappear.

He had failed.



**EVE INFORMATION
THAT MATTERS
STRATEGIC
MAPS** AVAILABLE NOW
FROM THE
EVE STORE



[PRODUCTION 101]

➡ In the beginning there were asteroids and endless space... Who has not thought of what the ships, the stations, the modules, or anything else that we use day-to-day comes from? Who makes them? How? What with? Why? Is it worth it? The answer for the last question is definitely yes! We have learned about mining for ore, refining it to minerals and moving it around. It's time to make something useful from it!

You can have huge stock of minerals in your hangar, but it will not be able to fly. You can even have the biggest stock of all the minerals available, but it is worth nothing without someone who can actually make something from it. The production of different modules and ships is one of the most profitable occupations in the EVE universe. Be warned, though, there are many dangers along the way. For every upside, there are risks.

Before you start, you will need to survey the needs of the market, because in EVE everything is built on the fundamental principle of supply and demand. It is important to produce something that you can sell. You have an opportunity to offer your merchandise in price competition with others, or you can take the end product where there is good demand for it, forcing out a little extra profit.

It is very hard to compete with something that lots of people have been doing for years already; there is a big chance that the 'veterans' have better connections, equipment, BPOs and stocks than you. Regardless of who has come before, or who is here now, there is a market that needs modules and ships, and you can make it and sell it to them.

What You May Need for Production:

- **Blueprint:** BPO – Blueprint Original, or BPC – Blueprint Copy, or simply BP – Blueprint (used in the generic, referring to either a BPO or BPC).
- **Raw materials:** the ones listed on the blueprint, as a required material for the production.
- **Requested skills:** also indicated on the blueprint.
- **Factory, with free capacity:** Factory Slot in a station, or an Assembly Array at a POS (Player Owned Structure).

It is important to note that the capital class ships (carriers, the Rorqual and dreadnoughts) can be produced only in low-security stations or POSes, and the super capitals (supercarriers and titans) can be produced only on POSes with the necessary sovereignty.

SHIP AND EQUIPMENT PRODUCTION

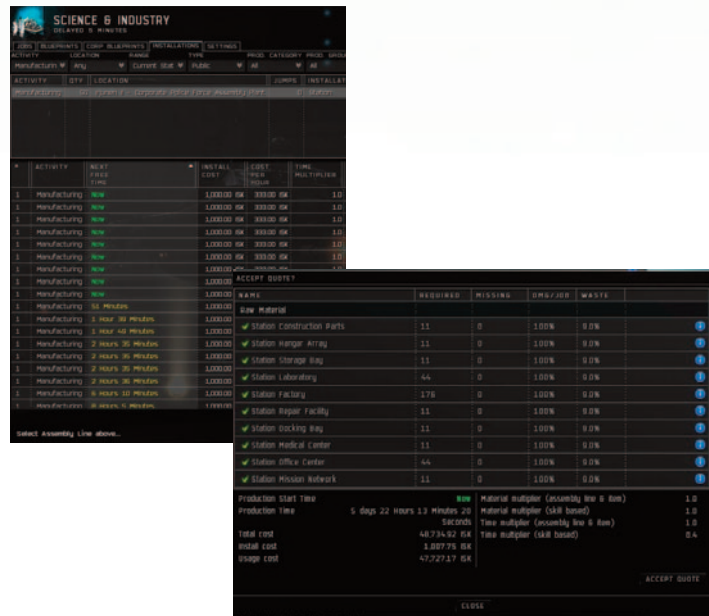
To get a final product from refined materials and a blueprint, we will need to manufacture. There are some prerequisites. Let's start with the skills needed, which are very time-consuming.

- **Industry:** Allows basic operation of factories, 4% reduction in manufacturing time per skill level.

- **Production Efficiency:** Skill at efficiently using factories. 4% less material required for production (Industry level III required).
- **Mass Production:** Ability to run one additional manufacturing job per level (Industry level III required).
- **Advanced Mass Production:** Ability to run one additional manufacturing job per skill level (Mass Production level V required).
- **Supply Chain Management:** Proficiency at starting manufacturing jobs remotely (Mass Production level IV required).
 - Level I allows for range within the same solar system.
 - Level II extends that range to systems within five jumps.
 - Level III: Ten jumps.
 - Level IV: Twenty jumps.
 - Level V allows for full regional range.
- **Drug Manufacturing:** Needed to manufacture boosters.

The Supply Chain Management, Mass Production and Advanced Mass Production skills are not absolutely necessary to produce things, but essential if you want to work in large quantities. They are also useful if you want to produce things in remote locations or you want to make more than one thing. The Industry and Production Efficiency skills are essential. You will need them both to level V before you start producing anything.

The skills you will need for producing Tech II, Tech III and capital ships are so diverse, it is not practical to list them all here. You will always find the required skills in a given BPC/BPO's info in which we will talk about in later sections.



To find the requirements for production, check the BP's 'Show Info' (the little blue 'i' symbol), then find the 'Bill of Materials' tab. These quantities always cover one run of the blueprint. To know how much the result is exactly, check the Attributes tab. You will find the value in the square bracket. Most things come in [1], Booster charges come in [10], Bombs in [20], and Ammunition in [100].

For constructing any Tech I ship, equipment or capital ship component, you will need the raw materials, the proper blueprint and a free manufacturing slot. We already know the types of the raw materials, and we also discussed the blueprints earlier. The only thing left is to create things from them.

First, choose the BP, right-click on it, and choose the option 'Manufacturing'. You will see the window illustrated on the right. We have choices to make: clicking on 'Pick Installation', you can choose the location, and the selected place will appear on the installation field. Mind the free manufacturing slots, and if necessary, the skill requested to produce remotely.

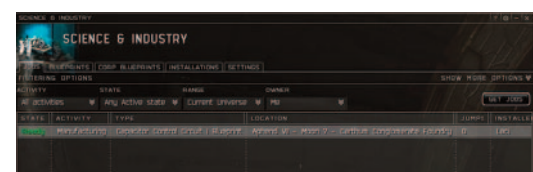
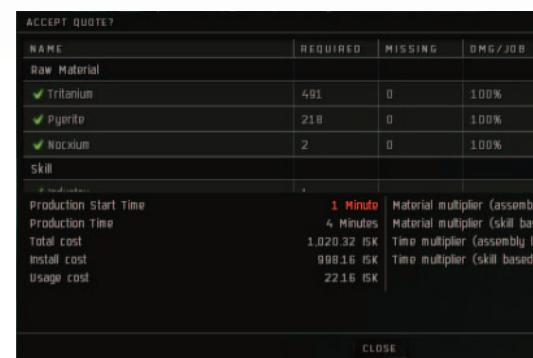
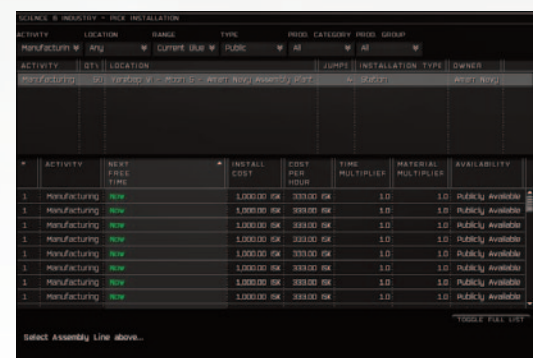
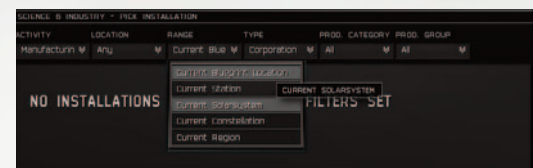
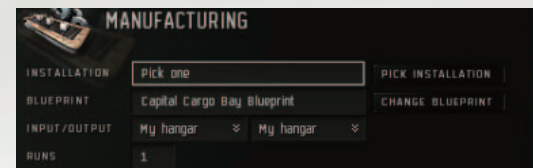
The BP and the required materials have to be in the same place. If they are located in a container, in the station where you want to produce, select 'Current Blueprint Location'. If they are simply on the same station, select 'Station'. If they are in the same system (for example, at a POS), then select 'Solar System'.

As for the type, we can use the slots provided by our corporation, or we can use public manufacturing slots. At a POS, we can only produce on behalf of our corp, so the production capacity provided by the POS will appear only by selecting that type. Once chosen, the assembly line will appear. Choose a free slot. If there are none, you can see how long until one becomes available. If you decide to wait, put your project on the waiting list.

After you have selected a suitable slot, choose the Division (Corporation Hangar, POS) to use, or in case of a public slot, your hangar ('My Hangar' – default). Also set up the quantity you wish to produce. If you change your mind, simply modify the plan. You can even replace or change the blueprint.

If everything is ready and you pressed the OK button, you will see the summary window, with all the costs. Here you will find out if you have all the skills and raw materials available for the job. You will also see the required production time, and any bonus given by slot. Manufacturing at a POS is faster (Time Multiplier below 1.0), but the amount of the required material is higher (Material Multiplier above 1.0). You can only accept the job if you meet all the necessary conditions. After the job has been completed, open the Science & Industry window, select the Jobs tab, and use the 'Get Jobs' option. Then, select your job, press the 'Deliver' button and the products will be delivered to the previously selected location.

You should calculate the cost of materials in the final price, regardless of if you mined it yourself or not. It is not free. Why? If you sell them, you will get the ISK value of the minerals (so if you use them, it is like you have bought them for the price you would have sold them for). By thinking that way, you can avoid selling items cheaper than the cost of build in materials.



[RIGS – PIMP MY SHIP]>>

➡ In EVE, you can tune your ship by using rigs. Every type of ship (except freighters and shuttles) has slots for rigs, known as Upgrade Hardpoints. There are typically three on Tech I and Tech III ships, and two on Tech II ships. All ships have calibration points, which act as a fitting resource for rigs.

Fitting a rig requires you to have the skill for the rig’s category, at level I for Tech I rigs and at level IV for Tech II rigs. You will also need the skill Jury Rigging.

Rigs all come with benefits for the ship, but also disadvantages, which could mean less armour, or higher resource consumption. These negative effects are called Drawbacks and can be reduced with adequate skill; every level reduces the effect of penalty. For example, using a Trimark Armor Pump with the skill ‘Armor Rigging’ on level IV, the ship will be 6% slower, instead of the original penalty of 10%.

Another very important fact: the rig will be destroyed if removed or if the ship gets repackaged. Think of rigs as the ship’s implants. Of course, with ship destruction, the rigs will be lost. There is no chance that they will appear in the ship’s loot.

SALVAGING

In order to manufacture rigs, you need to have certain materials that can be obtained through salvaging. You need to use a module called a salvager (either a Salvager I or Salvager II, the Tech II equivalent). The basic skill requirement is Salvaging at level I. The skill requirements to achieve that are:

- Mechanic level III
- Survey level III
- Electronics level I

For the Tech II version, a level V Salvaging skill is required.







SALVAGING EQUIPMENT

The salvager module needs a high slot on the ship and can be activated after targeting a wreck. The duration of a cycle is ten seconds. Once a salvage attempt is successful, the material will automatically be transferred to your cargo hold if you have sufficient space. The cycle restarts if the attempt is unsuccessful, continuing this procedure until you succeed, someone kills you, or you run out of cap.

MODULE NAME	META GROUP	META LEVEL	ACTIVATION COST	BONUS	CPU	PG	CYCLE TIME	OPTIMAL RANGE
Salvager I	Tech I	-	20 GJ	5%	20 If	1 MW	10 sec.	5000 m
Salvager II	Tech II	5	20 GJ	7%	25 If	1 MW	10 sec.	6000 m

USEFUL IMPLANTS AND RIG(S) FOR SALVAGING

TYPE		NAME	EFFECT
	Implant	Hardwiring – Poteque Pharmaceuticals ‘Prospector’ PPY-1 (Slot 9)	A neural interface upgrade that boosts the pilot’s exploration skills. 5% increase in chance of salvage retrieval
	Implant	Hardwiring – Poteque Pharmaceuticals ‘Prospector’ PPZ-1 (Slot 10)	A neural interface upgrade that boosts the pilot’s exploration skills. 5% increase in chance of salvage retrieval
	Rig	Salvage Tackle I	This ship modification is designed to increase a ship’s chance of salvage retrieval (10%) at the expense of max velocity
	Rig	Salvage Tackle II	This ship modification is designed to increase a ship’s chance of salvage retrieval (15%) at the expense of max velocity

















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«RIGS – PIMP MY SHIP»

MATERIALS GAINED BY SALVAGING

You can gain the below materials using the salvaging module. Tech I materials can be salvaged from NPCs or from the wrecks of other

player’s Tech I ships. Tech II rig materials come from Commander NPC spawns or from the wrecks of other player’s Tech II ships.

SALVAGED MATERIAL NAME		TECH LEVEL	SALVAGED MATERIAL NAME		TECH LEVEL
	Alloyed Tritanium Bar	Tech I		Intact Shield Emitter	Tech II
	Armor Plates	Tech I		Interface Circuit	Tech II
	Artificial Neural Network	Tech II		Logic Circuit	Tech II
	Broken Drone Transceiver	Tech I		Lorentz Fluid	Tech II
	Burned Logic Circuit	Tech I		Malfunctioning Shield Emitter	Tech I
	Capacitor Console	Tech II		Melted Capacitor Console	Tech I
	Charred Micro Circuit	Tech I		Micro Circuit	Tech II
	Conductive Polymer	Tech I		Nanite Compound	Tech II
	Conductive Thermoplastic	Tech II		Power Circuit	Tech II
	Contaminated Lorentz Fluid	Tech I		Power Conduit	Tech II
	Contaminated Nanite Compound	Tech I		Scorched Telemetry Processor	Tech I
	Current Pump	Tech II		Single-crystal Superalloy I-beam	Tech II
	Damaged Artificial Neural Network	Tech I		Smashed Trigger Unit	Tech I
	Defective Current Pump	Tech I		Tangled Power Conduit	Tech I
	Drone Transceiver	Tech II		Telemetry Processor	Tech II
	Enhanced Ward Console	Tech II		Thruster Console	Tech I
	Fried Interface Circuit	Tech I		Trigger Unit	Tech II
	Impetus Console	Tech II		Tripped Power Circuit	Tech I
	Intact Armor Plates	Tech II		Ward Console	Tech I

SALVAGER SHIPS

The most popular ‘garbage collector’ ships are destroyers. Because of the high number of turret slots, they are suitable for ‘raking’ the wrecks (pulling them to the ship with a tractor beam), and still have enough slots left for salvager modules, providing continuous gathering. Another excellent ship is the Gallente Exequor cruiser. With cargo expanders and salvager rigs, the ship has a cargo capacity near 2000m3 and can run two tractor beams and two salvagers.

Of course, the number of turret slots is not everything; you will need a suitable cargo hold for the loot. Lastly, increase manoeuvrability with an afterburner or microwarpdrive.

Currently three ship classes get a bonus to use tractor beams: marauders, the Orca and the Rorqual. These ships have big cargo bays, but are billion ISK ships. They are MUCH slower than a destroyer or cruiser, and if the wreck is out of reach from the tractor beam it is necessary to get closer, which could mean a loss of time for such a large ship.

You cannot always use a MWD in Deadspace missions. Many prefer using an afterburner instead, as it will always work.

THE NOCTIS

A dedicated salvaging ship, the Noctis, has been added to EVE. No longer will you have to use ships less suited for this line of work. The Noctis is a salvager’s wet dream and comes with some specialized bonuses, a large cargo hold and eight high slots for salvagers and tractor beams.

The ship can target (with proper skills) up to ten different things and with 3 x Tech II Cargohold Expander the cargohold size is 3026 m3, so you can use a GSC too (and get +900 m3).

- Slot layout – 8 high, 2 mid, 3 low
- Powergrid – 250 MW
- CPU – 300
- Base speed – 155 m/s
- Cargo capacity – 1,460 m3
- Rig slots/Calibration – 3/400
- Shield/Armor/Hull hit points – 1700 hp/2200 hp/3200 hp
- ORE Industrial skill bonus: 5% bonus to Tractor Beam and Salvager cycle time and 60% bonus to Tractor Beam range and velocity per level

RIGS

Rigs are the implants of ships, and all ships (except freighters and shuttles) have rig slots (like the implant slots of the character). All ships have a calibration point capacity, and all rigs have a calibration point requirement. We can check the ship’s info to see how many rig slots it has, its calibration point and what size of rig could fit in it. They are made in a similar manner to other equipment: i.e. a blueprint is needed. The only difference is that these modules are made of salvaged materials obtained from salvaging.












Rigs are categorized according their size and their area of application. The amount of materials to produce the rigs depends on their size, but their effect is the same. As you can see, it is much cheaper to produce a small rig. You will need five times more material for every size increment, so if you need three pieces of something for a small rig, you will need 15 pieces for the medium size, and 75 pieces to produce the large version. Their sizes are: 5 m3 10 m3 and 20 m3.

- Small Rigs: Used for tuning small ships, like frigates, destroyers and their Tech II versions.
- Medium Rigs: Used on medium ships, like cruisers, industrial ships and battlecruisers.
- Large Rigs: Accessories for the big ones, battleships, Orca, Rorqual. Most of them are suitable for capital ships, but there are some that are not, so check before fitting!

On the next page, you can see the rigs groups. You will need the skill for the particular group for fitting them. You will also require Jury Rigging level III and Mechanic level III. The Electronics and Energy Grid Tech II rigs require Jury Rigging level IV.

ORE INDUSTRIAL SKILL LEVEL	TRACTOR BEAM OPTIMAL RANGE	TRACTOR BEAM SPEED
Base Attributes	20,000 m	500 m/s
Level 1	32,000 m	800 m/s
Level 2	44,000 m	1100 m/s
Level 3	56,000 m	1400 m/s
Level 4	68,000 m	1700 m/s
Level 5	80,000 m	2000 m/s

« RIGS — PIMP MY SHIP »

RIG TYPE		DRAWBACKS
	Armour Rigs – affecting the armour of the ship and the success of salvaging	-10% max velocity
	Drone Rigs – affecting the drones of the ship	-10% ship's CPU
	Electronics Superiority Rigs – affecting the electronic subsystems of the ship	-10% shield
	Energy Weapon Rigs – affecting the energy turrets of the ship	+10% PG requirements for energy weapons
	Missile Launcher Rigs – affecting the ship's missile launchers	+10% CPU requirements for missile weapons
	Shield Rigs – affecting the shields of the ship	+10% signature radius
	Astronautic Rigs – affecting the ship's manoeuvring capability and the cargo capacity	-10% armour
	Electronics Rigs – affecting the ship's electronic systems	No negative effect
	Energy Grid Rigs – affecting the ship's energy systems	No negative effect
	Hybrid Weapon Rigs – affecting the Hybrid weapons of the ship	+10% PG requirements for hybrid weapons
	Projectile Weapon Rigs – affecting the Projectile weapons of the ship	+10% PG requirements for projectile weapons



« COMBAT BOOSTERS »

➡ One of the interesting things in EVE is the combat booster, which can be made from the gases mined from gas clouds. The boosters are categorized into four groups according to their strength:

- **Synth Boosters:** Legal, can be transported in high-sec, has no side effects. The provided boost is 3%. Required skills: Biology level I and Science level I.
- **Standard Boosters:** Illegal in high-sec, 20% chance of side effect. Side effects are 20% of whatever they affect. The provided boost is 20%. Required skills: Biology level I and Science level I.
- **Improved Boosters:** Illegal in high-sec, 30% chance of side effect. Side effects are 25% of whatever they affect. The provided boost is 25%. Required skills: Biology level II and Science level I.
- **Strong Boosters:** Illegal in high-sec, 40% chance of side effect. Side effects are 30% of whatever they affect. The provided boost is 30%. Required skills: Biology level III and Science level I.

Each character has three booster slots and you can equip one booster in each slot. Important note: If you already have a booster active in a certain slot, any attempt to consume another booster of the same slot-type will fail. It is not possible to cancel or abort the booster prematurely once it is consumed. They only way to get rid of the booster effects is to wait until the end of the duration of the booster.

To use a booster, you right-click the booster icon and select consume. When this is done, the Character Sheet icon in the

Neocom will blink. The currently active boosters can be seen in the Augmentations tab. A list of the active effects of the booster, the negative side effects and a countdown of the duration left is shown for each booster there.

REQUIRED SKILLS

To swallow a booster, you need the Biology skill. The side effect chance can be reduced with the Neurotoxin Recovery skill and the severity of the side effects can be reduced with the Nanite Control skill.









- **Biology:** 20% bonus to attribute booster duration per skill level.
- **Nanite Control:** Reduces the severity of the side effects by 5% per skill level.
- **Neurotoxin Recovery:** Reduces the chance of side effects of combat boosters by 5% per skill level.

TRANSPORTING AND SELLING BOOSTERS

Transporting boosters in high-sec is illegal. If customs or military NPCs scan your cargo, you will be fined for millions and also lose standings with the current faction. However, using them and trading on the market is legal. Creating contracts are also a possibility, but you cannot place sell orders.

BOOSTER TYPES

Boosters become more expensive and more difficult to produce as they go up in strength (i.e. they require more manufacturing steps).

BOOSTER NAME		STRENGTH		
		STANDARD	IMPROVED	STRONG
Exile Booster		Pure Standard Exile	Pure Standard Exile + Pure Standard Drop	Pure Improved Exile + Pure Standard Sooth Sayer
Drop Booster		Pure Standard Drop	Pure Standard Exile + Pure Standard Drop	Pure Improved Drop + Pure Standard X-Instinct
X-Instinct Booster		Pure Standard X-Instinct	Pure Standard X-Instinct + Pure Standard Sooth Sayer	Pure Improved X-Instinct + Pure Standard Exile
Sooth Sayer Booster		Pure Standard Sooth Sayer	Pure Standard X-Instinct + Pure Standard Sooth Sayer	Pure Improved X-Instinct + Pure Standard Drop
Blue Pill Booster		Pure Standard Blue Pill	Pure Standard Blue Pill + Pure Standard Crash	Pure Improved Blue Pill + Pure Standard Mindflood
Crash Booster		Pure Standard Crash	Pure Standard Blue Pill + Pure Standard Crash	Pure Improved Crash + Pure Standard Frenlix
Frenlix Booster		Pure Standard Frenlix	Pure Standard Frenlix + Pure Standard Mindflood	Pure Improved Frenlix + Pure Standard Blue Pill
Mindflood Booster		Pure Standard Mindflood	Pure Standard Frenlix + Pure Standard Mindflood	Pure Improved Mindflood + Pure Standard Crash

COMBAT BOOSTERS

BOOSTER	SLOT #	TYPE	EFFECT	SIDE EFFECT CHANCE	SIDE EFFECT
 Exile Booster	1	Synth	+3% Armour Repair	-	-
		Standard	+20% Armour Repair	20 %	-20 % Armour Hitpoints
					-20 % Turret Tracking
					+20 % Missile Explosion
					-20 % Capacitor Capacity
		Improved	+25% Armour Repair	30 %	-25 % Armour Hitpoints
					-25 % Turret Tracking
					+25 % Missile Explosion
					-25 % Capacitor Capacity
		Strong	+30% Armour Repair	40 %	-30 % Armour Hitpoints
					-30 % Turret Tracking
					+30 % Missile Explosion
					-30 % Capacitor Capacity
 Crash Booster	3	Synth	+3% Explosion Radius	-	-
		Standard	+20% Explosion Radius	20 %	-20 % Shield Boost
					-20 % Armour Hitpoints -20 % Missile Velocity
					-20 % Velocity
		Improved	+25% Explosion Radius	30 %	-25 % Shield Boost
					-25 % Armour Hitpoints -25 % Missile Velocity
					-25 % Velocity
		Strong	+30% Explosion Radius	40 %	-30 % Shield Boost
					-30 % Armour Hitpoints -30 % Missile Velocity
					-30 % Velocity
 Frentix Booster	2	Synth	+3% Optimal Range	-	-
		Standard	+10% Optimal Range	20 %	-20 % Shield Boost
					-20 % Armour Hitpoints
					-20 % Turret Tracking
					-20 % Velocity
		Improved	+15% Optimal Range	30 %	-25 % Shield Boost
					-25 % Armour Hitpoints
					-25 % Turret Tracking
					-25 % Velocity
		Strong	+20% Optimal Range	40 %	-30 % Shield Boost
					-30 % Armour Hitpoints
					-30 % Turret Tracking
					-30 % Velocity
 Blue Pill Booster	1	Synth	+3% Shield Boost	-	-
		Standard	+20% Shield Boost	20 %	-20 % Shield Capacity
					-20 % Turret Optimal Range
					-20 % Explosion Velocity -20 % Capacitor Capacity
		Improved	+25% Shield Boost	30 %	-25 % Shield Capacity
					-25 % Turret Optimal Range
					-25 % Explosion Velocity -25 % Capacitor Capacity
		Strong	+30% Shield Boost	40 %	-30 % Shield Capacity
					-30 % Turret Optimal Range
					-30 % Explosion Velocity -30 % Capacitor Capacity

BOOSTER	SLOT #	TYPE	EFFECT	SIDE EFFECT CHANCE	SIDE EFFECT
 Sooth Sayer Booster	2	Synth	+3% Falloff	-	-
		Standard	+10% Falloff	20 %	-20 % Shield Boost
					-20 % Armour Repair Amount
					-20 % Turret Optimal Range
					-20 % Velocity
		Improved	+15% Falloff	30 %	-25 % Shield Boost
					-25 % Armour Repair Amount
					-25 % Turret Optimal Range
					-25 % Velocity
		Strong	+20% Falloff	40 %	-30 % Shield Boost
					-30 % Armour Repair Amount
					-30 % Turret Optimal Range
					-30 % Velocity
 Drop Booster	2	Synth	+3% Tracking Speed	-	-
		Standard	+25% Tracking Speed	20 %	-20 % Armour Repair Amount
					-20 % Shield Capacity
					-20 % Turret Falloff
					-20 % Velocity
		Improved	+31.25% Tracking Speed	30 %	-25 % Armour Repair Amount
					-25 % Shield Capacity
					-25 % Turret Falloff
					-25 % Velocity
		Strong	+37.5% Tracking Speed	40 %	-30 % Armour Repair Amount
					-30 % Shield Capacity
					-30 % Turret Falloff
					-30 % Velocity
 Mindflood Booster	1	Synth	+3% Capacitor	-	-
		Standard	+10% Capacitor	20 %	-20 % Armour Repair Amount
					+20 % Missile Explosion
					-20 % Turret Optimal Range
		Improved	+15% Capacitor	30 %	-25 % Armour Repair Amount
					+25 % Missile Explosion
					-25 % Turret Optimal Range
		Strong	+20% Capacitor	40 %	-30 % Armour Repair Amount
					+30 % Missile Explosion
					-30 % Turret Optimal Range
 X-Instinct Booster	1	Synth	-2.25% Signature Radius	-	-
		Standard	-7.5% Signature Radius	20 %	-20 % Shield Capacity
					-20 % Armour Hitpoints
					-20 % Turret Falloff
					-20 % Missile Velocity
		Improved	-11.25% Signature Radius	30 %	-25 % Shield Capacity
					-25 % Armour Hitpoints
					-25 % Turret Falloff
					-25 % Missile Velocity
		Strong	-15 % Signature Radius	40 %	-30 % Shield Capacity
					-30 % Armour Hitpoints
					-30 % Turret Falloff
					-30 % Missile Velocity

[GAS CLOUDS]>>

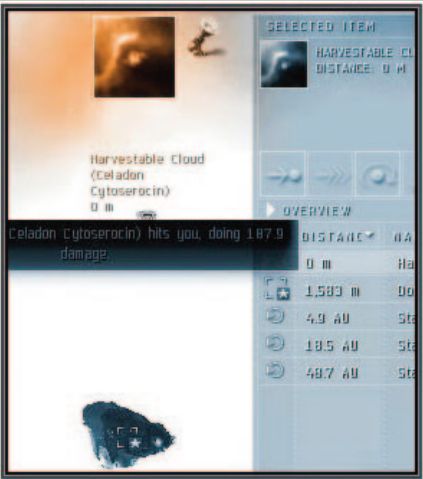
➡ When you initially enter a gas cloud, your first course of action should always be to look around. When you reach the edge of a constellation that contains gas clouds, a pop-up message appears to inform you about it. To actually get to the clouds, you need to scan for them with probes (see Part 10 for Exploration advice). It is not an easy task, because the signals are relatively rare and weak in strength. With a bit of luck, you will find a cloud signal. Sometimes it is an empty place and only the cloud waits there, other times you will have to kill some enemy spaceships. If you are extremely lucky, you'll find a whole complex with pirates producing drugs. Here you will not find a gas cloud, but a lot of 'booster reaction' BPCs and several booster BPCs. These complexes contain multiple pockets, and you will have to fight through them if you want all the loot. These sites require the Hacking skill, and only pilots having the skill can enter the pocket. The rewards are huge: lots of blueprints and some expensive skillbooks (Nanite Control, Neurotoxin Recovery). Cleaning out pirate complexes gives you a head start for manufacturing. But let's go back to harvesting clouds. Harvesting requires a gas

cloud harvester module. The necessary skills for that can be purchased at several pirate stations, costs around 21.6M ISK. You will also need Mining IV. The number of modules you can fit depends on your Gas Cloud Harvesting skill, for example level V means five modules. It is recommended that you learn up to level V, as it makes it easier to harvest using more modules. In a lot of cases, the clouds are located 50-70 km away from the warp-in point, so use a ship fitted with afterburners and expanded cargo holds. The gas cloud explodes randomly (sometimes every 10-20 seconds, sometimes after minutes). Without resists, the damage you have to handle is around 1000 hitpoints, so using a ship below battlecruiser size is not recommended. In my opinion the best ship for gas harvesting is the Hurricane. You can expand the cargo hold up to 2000 m3, it can easily tank the explosions, it can reach the cloud fast, and it has six turret slots for fitting the harvester modules. The Drake, by contrast, cannot fit harvester modules as it has no turret slots (only launcher slots). The range of the explosions is limited, so sitting outside of the explosion range but inside the range of your harvesters will reduce the damage greatly.



GAS REACTIONS


When you are done with the gas harvesting, you will need to transport the material to a POS equipped with the required reactor arrays. You will need at least a medium POS to produce standard boosters, or a large one if you are thinking about the improved ones. To start the production, you will need several POS modules. Apart from the reactor, you will also need two input silos as the end result will be split into two parts. Unlike moon harvesting, these silos require a manual upload and you must have the right type of silo.




MEDIUM BIOCHEMICAL REACTOR ARRAY		
An instrument for various different substances to mix, and where biochemical processes take place that turn a simple element into a complex chemical; used for creating standard pure boosters		
Fitting	CPU: 750 TF	Powergrid: 250.000 MW
Skill Prerequisites	Anchoring II	
Volume	4000 m3	
Price	11.25M ISK	

MEDIUM BIOCHEMICAL REACTOR ARRAY

Medium Reactor (L1000 M 10000 1000)




BIOCHEMICAL REACTOR ARRAY		
Reacting Complex Biochemicals, half speed; used for creating improved and strong boosters		
Fitting	CPU: 1250 TF	Powergrid: 250.000 MW
Skill Prerequisites	Anchoring II	
Volume	4000 m3	
Price	22.5M ISK	




The image shows a Biochemical Reactor Array module, a dark, cylindrical structure with various ports and a small antenna on top. It is set against a dark, smoky background. The text "BIOCHEMICAL REACTOR ARRAY" is visible at the top left of the image, and "MODULE REACTOR 21,074 M LONG 8,000" is visible at the top right.


➡ GAS CLOUDS EXPLODE RANDOMLY (SOMETIMES EVERY 10-20 SECONDS, SOMETIMES AFTER MINUTES). WITHOUT RESISTS, THE DAMAGE YOU HAVE TO HANDLE IS AROUND 1000 HITPOINTS

« GAS CLOUDS »

BIOCHEMICAL SILO			
Storing Gas Cloud products			
Filting	CPU: 1250 TF	Powergrid: 250.000 MW	
Capacity	20 000 m ³		
Skill Prerequisites	Anchoring I		
Volume	4000 m ³		
Price	18M ISK		


You will also need two General Storages, and a Hazardous Biochemical silo:

GENERAL STORAGE			
Stores or provides general commodities			
Filting	CPU: 250 TF	Powergrid: 50.000 MW	
Capacity	20 000 m ³		
Skill Prerequisites	Anchoring I		
Volume	4000 m ³		
Price	6.75M ISK		

HAZARDOUS CHEMICAL SILO			
Stores the end result; pure boosters			
Filting	CPU: 250 TF	Powergrid: 50.000 MW	
Capacity	20 000 m ³		
Skill Prerequisites	Anchoring I+I		
Volume	4000 m ³		
Price	22.5M ISK		

An example of a standard booster reaction: First you need to install a reactor and then place the reaction blueprint inside. Then install a General Storage unit, shown above, where you will store the water (you will have to select the water type in the silo), and a Biochemical Silo for the gas cloud. After this, you will need another General Storage for the precipitated water (95 units of water from the 100 falls back as result after the reaction), and a Hazardous Silo module for the end result of the reaction. That is the Standard Pure booster.

When you are done, and all silos are calibrated to the correct type, turn the reactor online so you can link the modules. The result (a pure booster) is only the medium state. For the final booster, you will need the blueprint, some Megacyte, and if you are not producing on an outpost, a Drug Lab. The Drug Manufacturing skill is also required to level I (level III in case of the Improved version) for the production. The Improved version production is nearly the same as the standard ones, but instead of water, you will need other materials, including the pure booster created previously.

DRUG LAB			
Pure booster + blueprint + other components = booster			
Filting	CPU: 250 TF	Powergrid: 50.000 MW	
Capacity	100 000 m3		
Skill Prerequisites	Anchoring I		
Volume	1250 m3		
Price	67.5M ISK		

What an Average Reaction Looks Like:

- **Standard:** 20 Cytoserocin + 100 Water + reaction BPC --> Pure Standard Booster + 95 Water
- **Improved:** 15 Pure Standard Booster + 15 pure other Standard Booster + 100 [Spirits or oxygen] --> 12 Pure Improved Booster + 95 [Spirits or oxygen]

The problem with Improved boosters is that you will need another type of pure booster to manufacture it, so you either have to produce that as well or buy it.

















GAS CLOUDS TYPES

GAS CLOUD'S NAME	DRUG NAME	EFFECT	SLOT
Amber Cytoserocin	Blue Pill Booster	Shield Boost	Slot 1
Azure Cytoserocin	Sooth Sayer Booster	Falloff	Slot 2
Celadon Cytoserocin	Exile Booster	Armour Repair	Slot 1
Golden Cytoserocin	Crash Booster	Explosion Radius	Slot 3
Lime Cytoserocin	Frentix Booster	Optimal	Slot 2
Malachite Cytoserocin	Mindflood Booster	Capacitor	Slot 1

There are some Mykoserocin gas clouds too, which are only suitable for producing synth boosters (blueprints can be purchased from an LP store), and their effect is merely a fraction of the regular boosters.

« GAS CLOUDS »

GAS CLOUD LOCATIONS

GAS CLOUD		REGION	SYSTEMS	BOOSTER	
	Celadon Cytozerocin	Fountain	3WE-KY, 4-EP12, 9-V00Q, A8-XBW, IR-WT1, XF-TQL, YZ55-4	Exile Booster	
	Golden Cytozerocin	Tenal	1QH-OK, I1-BE8, W80-19, ZH3-B5, ZJ-Q00, ZXA-V6	Crash Booster	
	Lime Cytozerocin	Catch	3GD6-8, 3-OKDA, 4M-HGL, AX-DOT, GE-8JV, MY-W1V, YHN-3K	Frentix Booster	
	Amber Cytozerocin	Vale Of The Silent	8-TFDX, B-E3KQ, BR-6XP, G5ED-Y, O-LR1H, UL-4ZW, Y5J-EU	Blue Pill Booster	
	Azure Cytozerocin	Wicked Creek	07-SLO, DU0-51, GPD5-0, GRHS-B, J-RXYN, Z-A8FS	Sooth Sayer Booster	
	Viridian Cytozerocin	Cloud Ring	00TY-J, 5S-KNL, 6RCQ-V, PPG-XC, QA1-BT, XG-D1L	Drop Booster	
	Malachite Cytozerocin	Delve	1-2J4P, 9GNS-2, C3N-35, CX8-6K, LWX-93, M00-JG, YAW-7M	Mindflood Booster	
	Vermillion Cytozerocin	Feythabolis	3L-Y9M, BJD4-E, BLC-X0, DUU1-K, K-X5AX, 09V-R7, T5G-N0	X-Instict Booster	

「 THE ‘CAPITAL’ BUSINESS 」

➡ As the start of this section mentioned, manufacturing capital ships is a lot like playing with building bricks, but in gigantic sizes and costing astronomical sums. There are two kinds of capital ships: the so-called high-sec capitals, and the regular capitals. All ships that can be manufactured in high-sec stations are called high-sec capitals (I,e, freighters, jump freighters and Orcas). Capitals that can only be manufactured in low-sec or 0.0 space are dreadnaughts, carriers and Rorquals. The capitals that can only be manufactured in 0.0 with the required sovereignty are the supercarriers and the titan.

In the simplest terms, you need the raw materials and a blueprint to create a capital ship. The raw materials need to be built into component capital parts, and each of those builds requires its own

BP. You can purchase BPCs for this, but it quickly becomes expensive. Many consider it better to purchase the requisite BPOs and research them to improve ME and PE and save time and materials. To build a freighter, for example, you will need about five billion ISK worth of BPOs. In case of an Orca, this amount kicks up to around nine billion ISK.

The exception to this is the Tech II capital: the jump freighter. You will need the original Tech I version of the freighter (the actual ship), which is produced in the traditional way, and other manufacturing elements, like the seven racial Tech II components and a couple of additional items, including the jump drive. It is a much more difficult prospect to create.











«THE ‘CAPITAL’ BUSINESS»

The capital parts can be produced anywhere, including stations in high-sec.

CAPITAL SHIP PART	NEEDED FOR
Capital Propulsion Engine	Everything
Capital Sensor Cluster	
Capital Armour Plates	Everything
Capital Capacitor Battery	
Capital Power Generator	
Capital Shield Emilter	
Capital Jump Drive	
Capital Cargo Bay	Only freighters
Capital Drone Bay	
Capital Computer System	
Capital Construction Parts	Everything
Capital Clone Vat Bay	
Capital Ship Maintenance Bay	
Capital Corporate Hangar Bay	
Capital Turret Hardpoint	
Capital Siege Array	Only dreadnaughts
Capital Jump Bridge Array	Only titans
Capital Doomsday Weapon Mount	Only titans
Capital Launcher Hardpoint	Only the Naglfar, Caldari dreadnaughts and titans

Below is an example of the material requirements for one module, in this case using an ME:100 blueprint: Capital Propulsion Engine: One Piece

	MINERAL NAME	QUANTITY (PIECES)
	Tritanium	411,752
	Pyrerite	99,472
	Mexallon	37,832
	Isogen	6250
	Nocxium	1901
	Zydrine	272
	Megacyte	136



R&D

» BLUEPRINTS

» INVENTION (TECH II)

» REVERSE ENGINEERING (TECH III)

» TECH III STRATEGIC CRUSIERS



[BLUEPRINT ORIGINALS »]

➡ In this section we will look at all the features of a Blueprint Original and its many uses. Let’s break down the information displayed when you inspect a BPO:

- **Original Blueprint (BPO):** This shows that the blueprint is an original, meaning it can be researched or copied.
- **Produces XYZ [1]:** This indicates what item will be produced. The number between the square brackets shows the quantity of the product you receive when the manufacturing job has finished.
- **ME: Material Efficiency (Material Level):** This value indicates how efficient this blueprint is in terms of materials required. The default value is zero, and the waste at this level will be 10% (Wastage Factor). The higher the Material Efficiency value, the lower the waste. It is possible to get ME to reach a ‘perfect BPO’ level. At this level, if you reprocess the manufactured item at a 100% efficient reprocessing rate, then you will get back exactly the same amount of materials you used to manufacture the item.
- **Wastage Factor:** This shows the percentage of material that will be wasted in the production process. In other words, this is the value of the materials you will not get back, even with perfect reprocessing. The value of the wasted materials depends on the following two attributes:
 - The ME level of the original BPO
 - The manufacturer’s Production Efficiency (PE) skill level
- **PE: Production Efficiency (Productivity Level):** This value determines how long one run of this blueprint will take. The default value is 0. This means that the default speed of production is about 10% slower than the perfect production time, just like in ME. Research is the key. With research, you can improve the default PE and ME attributes of the BPO.
- **Licensed Production Runs Remaining (RUN):** This value shows how many runs you can produce from the current blueprint. This value is infinite when manufacturing from a BPO. On a blueprint copy (BPC) this value can be no higher than the maximum runs allowed. If you produce from a BPC, it is highly recommended to check how many runs remain before you begin the production. You can set the maximum number of runs when you copy the BPO. That number cannot be higher than the value of the Production Limit, of course.
- **Production Limit:** This value shows the maximum runs a BPC can make.

When buying a blueprint on the market via contracts, it is recommended that you always check the top of the blueprint for the line ‘ORIGINAL’, and for the line ‘Copy: No’. Some may try to scam you by linking a BPO-like item that is not actually a BPO. If you do not find these two important lines, it is not what they say it is. It’s a scam if they are charging you the BPO price for a BPC!

ENERGY WEAPON BLUEPRINT: INFORMATION

TACHYON BEAM LASER I BLUEPRINT

ATTRIBUTES

BILL OF MATERIALS

Original Blueprint

Produces Tachyon Beam Laser I [1]

GENERAL INFORMATION

MATERIAL LEVEL

0

WASTAGE FACTOR

10.0%

COPY

NO

PRODUCTIVITY LEVEL

0

LICENSED PRODUCTION RUNS REMAINING

Infinite

PRODUCTION LIMIT

300

MANUFACTURING

MANUFACTURING TIME

10 Minutes

MANUFACTURING TIME (YOU)

8 Minutes

RESEARCHING

RESEARCH MATERIAL TIME

3 Hours, 20 Minutes

RESEARCH MATERIAL TIME (YOU)

2 Hours, 30 Minutes

RESEARCH COPY TIME

6 Hours, 40 Minutes

RESEARCH COPY TIME (YOU PER SINGLE COPY)

1 Minute

RESEARCH PRODUCTIVITY TIME

3 Hours, 20 Minutes

RESEARCH PRODUCTIVITY TIME (YOU)

2 Hours, 30 Minutes

BLUEPRINT COPIES

Almost the same as a BPO, except that on the top of a BPCs ‘Show Info’ screen you will see ‘Blueprint Copy’, and ‘Copy: Yes’. The Licensed Production Runs Remaining value decreases with each production run.

Note that BPCs cannot be researched any further. They can, however, be used for invention, but we will get to that later.

RESEARCHING AND COPYING SKILLS

It is recommended that you learn the following skills to level V if you plan to research BPOs, except for Advanced Laboratory Operation, which is fine at level IV. The increased speed in the skill’s description means it will shorten the time needed to perform research or invention.

It is important to note that the maximum time of a research job is 30 days, except when one cycle of research takes longer than 30 days. In that case the maximum research is only one ME or one PE.

- **Laboratory Operation:** Allows basic operation of research facilities, which can be for ME, PE, Copy or Invention. It gives you one additional research slot with each level trained (required skill: Science level III).
- **Advanced Laboratory Operation:** It gives you one additional research slot with each level trained (required skills: Science level III, Laboratory Operation level V). The skills stack together with the default research slot, so the maximum you can have is 11 research slots when both skills are at level V.
- **Metallurgy:** Advanced knowledge of mineral composition. It gives you a +5% bonus to research speed per skill level (required skill: Science level IV).
- **Science:** Basic understanding of scientific principles. It gives you a +5% bonus to blueprint copy job speed per skill level.
- **Research:** Skill for researching more efficient production methods. It gives you +5% bonus to researching PE per skill level (required skill: Science level III).
- **Scientific Networking:** Skill at running research operations remotely (required skill: Laboratory Operation level IV). Learn this skill to at least level I to be able to research on a POS (Player-Owned Structure). For each level of the skill, the range which you can start research from vit increases as shown below:
 - **Level I:** In the same solar system
 - **Level II:** Five jumps distance
 - **Level III:** Ten jumps distance
 - **Level IV:** 20 jumps distance
 - **Level V:** Anywhere in the region

RIG BLUEPRINT: INFORMATION

DRONE MINING AUGMENTOR I BLUEPRINT

ATTRIBUTES

BILL OF MATERIALS

Blueprint Copy

Produces Drone Mining Augmentor I [1]

GENERAL INFORMATION

MATERIAL LEVEL

50

WASTAGE FACTOR

0.19%

COPY

Yes

PRODUCTIVITY LEVEL

0

LICENSED PRODUCTION RUNS REMAINING

1000

PRODUCTION LIMIT

1000

MANUFACTURING

MANUFACTURING TIME

10 Minutes

MANUFACTURING TIME (YOU)

8 Minutes

RESEARCHING

RESEARCH TECH TIME

2 Hours, 30 Minutes

But there is an exception. You can install (‘Research’) a job on the POS without this skill when you are in range (i.e. you are within 2500 m) with the Laboratory and everything necessary (BPOs, etc.) are in the lab.

➡ **WHEN BUYING A BLUEPRINT ON THE MARKET, IT IS RECOMMENDED THAT YOU ALWAYS CHECK THE TOP OF THE BLUEPRINT FOR THE LINE ‘ORIGINAL’**

«BLUEPRINT ORIGINALS»

USEFUL IMPLANTS

IMPLANT NAME		EFFECT	SLOT #
Hardwiring – Zainou ‘BeanCounter’	F40	A neural interface upgrade that boosts the pilot’s manufacturing skills. 1% reduction in manufacturing time	8
Hardwiring – Zainou ‘BeanCounter’	F50	A neural interface upgrade that boosts the pilot’s manufacturing skills. 2% reduction in manufacturing time	8
Hardwiring – Zainou ‘BeanCounter’	F60	A neural interface upgrade that boosts the pilot’s manufacturing skills. 4% reduction in manufacturing time	8
Hardwiring – Zainou ‘BeanCounter’	G40	A neural interface upgrade that boosts the pilot’s manufacturing skills. 1% reduction to the material requirements needed for production	6
Hardwiring – Zainou ‘BeanCounter’	G50	A neural interface upgrade that boosts the pilot’s manufacturing skills. 2% reduction to the material requirements needed for production	6
Hardwiring – Zainou ‘BeanCounter’	G60	A neural interface upgrade that boosts the pilot’s manufacturing skills. 4% reduction to the material requirements needed for production	6
Hardwiring – Zainou ‘BeanCounter’	H40	A neural interface upgrade that boosts the pilot’s manufacturing skills. 1% reduction in refinery waste	8
Hardwiring – Zainou ‘BeanCounter’	H50	A neural interface upgrade that boosts the pilot’s manufacturing skills. 2% reduction in refinery waste	8
Hardwiring – Zainou ‘BeanCounter’	H60	A neural interface upgrade that boosts the pilot’s manufacturing skills. 4% reduction in refinery waste	8
Hardwiring – Zainou ‘BeanCounter’	I40	A neural interface upgrade that boosts the pilot’s research skills. 1% bonus to blueprint manufacturing time research	6
Hardwiring – Zainou ‘BeanCounter’	I50	A neural interface upgrade that boosts the pilot’s research skills. 3% bonus to blueprint manufacturing time research	6
Hardwiring – Zainou ‘BeanCounter’	I60	A neural interface upgrade that boosts the pilot’s research skills. 5% bonus to blueprint manufacturing time research	6
Hardwiring – Zainou ‘BeanCounter’	J40	A neural interface upgrade that boosts the pilot’s research skills. 1% bonus to material efficiency research speed	7
Hardwiring – Zainou ‘BeanCounter’	J50	A neural interface upgrade that boosts the pilot’s research skills. 3% bonus to material efficiency research speed	7
Hardwiring – Zainou ‘BeanCounter’	J60	A neural interface upgrade that boosts the pilot’s research skills. 5% bonus to material efficiency research speed	7
Hardwiring – Zainou ‘BeanCounter’	K40	A neural interface upgrade that boosts the pilot’s research skills. 1% bonus to blueprint copying speed	8
Hardwiring – Zainou ‘BeanCounter’	K50	A neural interface upgrade that boosts the pilot’s research skills. 3% bonus to blueprint copying speed	8
Hardwiring – Zainou ‘BeanCounter’	K60	A neural interface upgrade that boosts the pilot’s research skills. 5% bonus to blueprint copying speed	8

PERFECT BPOS

A BPO is ‘perfect’ when all the materials required to manufacture one run of that item can be recovered by reprocessing that same item. The equation to find the perfect ME value is: material bill/5 (rounded down). So if the material bill is 33 of one material, then 33/5 (rounded down) is six. If the production needs multiple types of materials, the calculation encompasses all the materials.

The current ME value is calculated using the material type on the bill that needs the largest quantity. If you reach that level, the BPO will waste less in the other materials as well. In some cases (mostly capital ships and freighters) it is impossible to reach that level, but it is always worth researching towards. The different ME levels ‘with rounded’ values have the following waste factors:

MATERIAL LEVEL	WASTE
ME 0	10%
ME 1	5%
ME 2	3.3%
ME 3	2.5%
ME 10	0.9%
ME 50	0.2%

BPO TYPE	ME	PE
Armour	500	250
Equipment	100	100
Missiles (max Heavy)	500	250
Cruise Missile/Torpedo	200	100
Ship	50	10

As you can see the ME 50 seems very good in most cases, but in other cases it may not be worth the research effort. For example, the 0.2% wastage in 100 pieces of ore is 0, but in the case of one million pieces, the wastage is still 2000 in materials.

Grab a calculator and check the numbers to see if it is worth another month of research time for the bit of improvement you’ll see from that. Of course, there is the case when the extra research time does not matter because the BPO isn’t used that much. It is still better to research the BPO than to just let it lie around collecting dust.



[INVENTION (TECH II) »]

➡ What is invention? It is a method for creating a Tech II BPC from a Tech I BPC. After the Trinity patch, the invention process got significantly easier. With the end of the Tech II BPO lottery from the early days of EVE Online, the only way to make Tech II BPCs is through invention. Unfortunately inventors will be at a disadvantage against Tech II BPO owners, who got their BPOs back when the lottery was functioning.

IMPORTANT: ALL THE MATERIALS, EXCEPT INTERFACES, WILL BE CONSUMED IN THE PROCESS OF INVENTION, EVEN IF THE INVENTION FAILS.

First, invention requires a BPC (using a BPO is a no-go). You can create a BPC by copying a BPO, or you can buy a BPC via contract from other players.

Second, invention requires race-specific data interfaces and datacores. It is optional to use a decryptor to improve the chance of success and alter the result BPC's stats. It is also optional to include the corresponding Tech I item as the base item. Higher meta level Tech I items will have a better chance for success. Keep in mind that you cannot use Tech II, Faction or Officer Versions as the optional base item. It would be a counterproductive expense to use rarer items to produce less expensive Tech II versions.

Data interfaces, datacores and decryptors can be found in Radar Exploration Sites, or sometimes players sell them. These are just the materials that you need. You will also need certain skills.

REQUIRED SKILLS

For successful invention you need various skills in the science category, all at least at level IV.

First you need a race specific Encryption Methods skill. Which skill you need depends on which item you are attempting invention on. For example, doing invention on a Gallente ship requires the Gallente faction skill listed below.

These skills are:

- Amarr Encryption Methods, Caldari Encryption Methods, Minmatar Encryption Methods, Gallente Encryption Methods

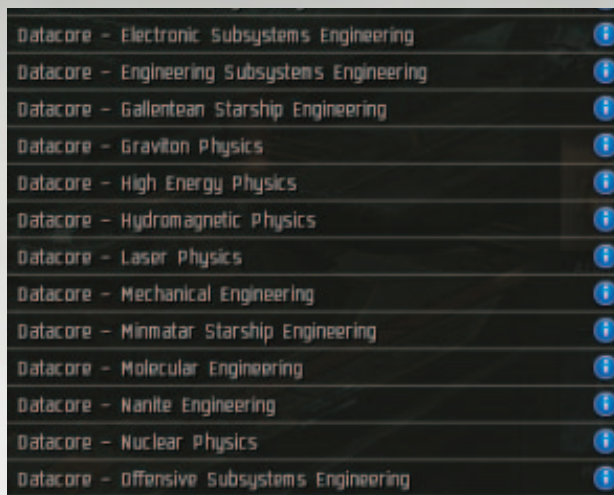
The prerequisites for all of these are the following:

- Engineering II, Electronics II, Electronic Upgrades V, Science V, Hacking II

The faction Encryption Methods skills are only one of the skills for invention, but it is good to have these learned to V in order to improve the chance of successful invention.

Encryption Methods skill books cannot be bought from NPCs, so you need to either buy these from other players or you can find them in Exploration sites. Depending on the type of item you wish to invent, you will need other scientific skills. Typical skills include:

- Race specific Starship Engineering, Electromagnetic Physics,



Electronic Engineering, Graviton Physics, High Energy Physics, Hydromagnetic Physics, Laser Physics, Mechanical Engineering, Molecular Engineering, Nanite Engineering, Nuclear Physics, Plasma Physics, Quantum Physics, Rocket Science

The base item you are doing invention on will determine which specific skills you need. For a successful invention job, it is very important to have the required skills learned to as high a level as possible. Note that it is possible to start an invention job with the required skill injected, but not yet learned to level I. The job will automatically fail on completion, wasting all the materials and time.

The Datacore-related skills are the skills you need in order to get Datacores from Research and Development (R&D) Agents. For example, if you want Datacore – Amarrian Starship Engineering you have to have the Amarrian Starship Engineering skill. The number in the square brackets [] indicates how many you need of the particular datacore.

DATACORES

You can setup research projects with R&D agents to get Datacores if you possess the required skill and standing. After choosing the research field, you can check the Research Points (RPs) you are generating from that project in your Journal in the NeoCom. By completing a mission (limited to once per day), you can double the RP output for that day. The amount of RP you get depends on the agent's level, quality, and the level of your relevant Datacore skill. The Starship Engineering skills make triple the amount of RP, but in exchange, the Datacore also costs three times as much. The exchange is typically 50 RPs per 1 Datacore, 150 RPs per 1 Starship Engineering Datacore.

The formula to calculate the exact amount of RP you can get is:

- $\text{Field Multiplier} \times ((1 + (\text{agent EQ}/100)) \times ((\text{your skill level} + \text{agent level})^2))$

In the formula above:

- **Field Multiplier:** the multiplier of the chosen research field, value is 3 for Starship Engineering and 1 for everything else.
- **Agent EQ:** the agent's Effective Quality, depends on the agent's Quality, your standing and skills.
- **Your skill level:** the level of the relevant Datacore skill.
- **Agent level:** the level of the chosen agent.

On the chosen agent's info page you can see which research fields he operates in and which skills are required. One agent can operate in one field at a time, so you can produce one type of Datacore per agent research job.

In most cases the goal of the daily mission for a level 4 agent is either to fetch 8100 units of tritanium or to deliver of one 0.1 m3

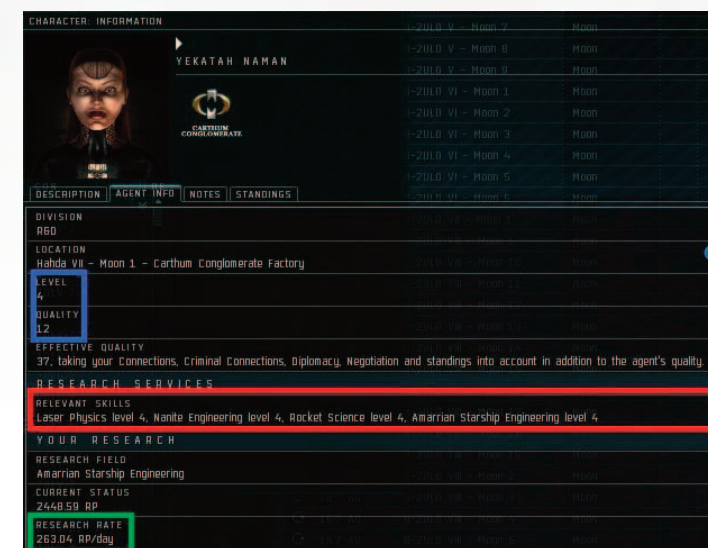
item in a few jumps range.

Many people tend to forget that after completing sixteen of any one type of mission, including R&D missions, you will get a Storyline Mission. Storyline missions give you a great boost in standing towards the faction it is run for. With six R&D agents researching for you, you can have one Storyline mission every three days.

Do not forget that the invention job consumes all materials used in the job except the interfaces. Interfaces are reusable even if the invention job fails.

Our current experience shows that the BPC's ME and PE attributes do not affect the chance of success in any way. Neither does your standing with the NPC corporation that owns the station you are running the job in. The job's outcome is determined when you start it and the person who clicks the finish button has no influence over it, so it does not matter if you or your corp buddy delivers the job.

If you do not use a decryptor, then it will not matter if the BPC has max runs or not. If you do, then a max run BPC may add +1 run to the result BPC in the case of ships or rigs, and +10 runs in the case of drones, ammunition or modules. In short, the decryptor is not essential for invention, but if you use it, it changes the attributes of the Tech II BPC and might also alter the chance of success.



➡ **IMPORTANT: ALL THE MATERIALS, EXCEPT INTERFACES, WILL BE CONSUMED IN THE PROCESS OF INVENTION, EVEN IF THE INVENTION FAILS**

«INVENTION (TECH II)»

AMARR	CALDARI	GALLENTÉ	MINMATAR	RUN MODIFIER	CHANCE MULTIPLIER	ME MODIFIER	PE MODIFIER
Formation Layout	Tuning Instructions	Collision Measurements	Calibration Data	0	1.1	+3	+3
Classic Doctrine	Prototype Diagram	Test reports	Advanced Theories	+1	1.2	+2	+5
Sacred Manifesto	User Manual	Engagement Plan	Operation Handbook	+2	1	+1	+4
Circular Logic	Alignment chart	Symbiotic Figures	Circuitry Schematics	+9	0.6	-2	+1
War Strategon	Installation Guide	Stolen Formulas	Assembly Instructions	+4	1.8	-1	+2

The invented Tech II BPC will have 1 run, -4 ME and -4 PE by default. For example, if you use a Formation Layout decryptor, then the Tech II BPC will have -1 ME and -1 PE. If Circular Logic is used, the results are -6 ME, -3 PE, and a whopping 9 runs. If the used Tech I BPC has max runs, then ship Tech II BPCs will have 10 runs; modules and others will have 19 runs.

The exact formula is:run = max(1; Round.Down
(((ActualRunsInputBPC/MaxRunsInputBPC)
* MaxRunsOutputBPC) + DecryptorBonusRuns))

IMPORTANT: always ensure you are using the correct race-specific decryptor, or else you will not get any bonus!

INTERFACES

Interfaces are the essential ‘workbenches’ of invention. You will have to have some in order to successfully invent T2 BPCs.

- Ship Data Interfaces are needed to invent ship blueprints
- Tuner Data Interfaces are needed to invent rig blueprints
- Data Interfaces are needed to invent module blueprints
- Ship Data Interfaces are needed to invent ship blueprints



FACTION		INTERFACE	MODULE	SHIP	RIG	ITEMS	FOR
AMARR		Occult Data Interface				101	Armor, energy, energy weapon, laser crystal, mining crystal
		Occult Ship Data Interface				16	Amarr Ships
		Occult Tuner Data Interface				19	Armor rig, energy rig, energy weapon rig, salvage rig
CALDARI		Esoteric Data Interface				73	Missile upg, ECCM, hybrid, missile, missile launch, sensor, shield
		Esoteric Ship Data Interface				16	Caldari Ships
		Esoteric Tuner Data Interface				23	Missile rig, shield rig
GALLENTÉ		Incognito Data Interface				65	Drone, ECCM, ECM, hybrid upg., hybrid ammo, hybrid weapons, mining lase
		Incognito Ship Data Interface				18	Gallente and ORE Ships
		Incognito Tuner Data Interface				23	Drone rig, hybrid rig, hacking rig, targeting rig
MINMATAR		Cryptic Data Interface				64	Propulsion, hull, warp dis., projectile, tracking dis
		Cryptic Ship Data Interface				18	Minmatar Ships
		Cryptic Tuner Data Interface				16	Propulsion rig, projectile weapon rig

As mentioned before, on one hand the success of invention depends on Skills: Encryption Method and the skills needed to get the Datacores. On the other hand, the chance of success can be further improved by including a higher meta level Tech I item and a decryptor. Finally, there is a default chance of success that depends on what you are attempting to invent.

«INVENTION (TECH II)»

THE CHANCE OF SUCCESS

The default chances are:

- 20% battlecruiser, battleship, Hulk
- 25% cruiser, industrial ship, Mackinaw
- 30% frigates, destroyer, Skiff, freighter
- 40% everything else

The exact formula is:

Chance of the invention = default chance * (1 + (0.01 * level of Encryption Skill)) * (1 + ((level of the first Datacore Skill + level of the second Datacore Skill) * (0.1 / (5 – meta level of T1 item)))) * Decryption multiplier

For example let’s take a gun turret: the default chance is 40%. If the Encryption and the two Datacore skills are at level 1, and we do not use a Tech I item or a decryptor, then we have 42.02% chance of success.

- If the corresponding Encryption skill is at level V then we have 43.68%
- If we add a Meta level IV item, then it is 50.40%
- If we further add one of the science skills at level V, then it is 67.2%
- If the other science skill is at level V as well, then it is 84%
- If we add a +1 run, 1.2x chance improver decryptor, then it is 100.8%, and the result BPC will have -2 ME and 1 PE

As you can see, the bonuses stack together.



	SKILL LVL	ITEM META LVL	DECRYPTOR MODIFIER				
Battlecruiser, Battleship, Hulk							
Base Chance: 20%		0	0.6	1	1.1	1.2	1.8
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	4	24.13%	14.48%	24.12%	26.54%	28.95%	43.43%
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	5	25.2%	15.12%	25.2%	27.72%	30.24%	45.36%
Cruiser, Industrial Ships, Mackinaw							
Base Chance: 25%		0	0.6	1	1.1	1.2	1.8
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	4	30.16%	18.1%	30.16%	33.17%	36.19%	54.28%
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	5	31.5%	18.9%	31.5%	34.65%	37.8%	56.7%
Frigate, Destroyer, Skiff, Freighter							
Base Chance: 30%		0	0.6	1	1.1	1.2	1.8
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	4	36.19%	21.72%	36.19%	39.81%	43.43%	65.14%
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	5	37.8%	22.68%	37.8%	41.58%	45.36%	68.04%
Other (Weapons, etc.) w/o meta item							
Base Chance: 40%		0	0.6	1	1.1	1.2	1.8
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	4	48.26%	28.95%	48.25%	53.08%	57.90%	86.86%
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	5	50.4%	30.24%	50.4%	55.44%	60.48%	90.72%
Other (Weapons, etc.) with meta 4 item							
Base Chance: 40%		4	0.6	1	1.1	1.2	1.8
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	4	74.88%	44.93%	74.88%	82.36%	89.85%	134.8%
Encryption Skill lvl 1. Datacore Skill lvl 2. Datacore Skill lvl	5	84%	50.4%	84%	92.4%	100.8%	151.2%

«INVENTION (TECH II)»

INVENTION JOBS

One way to run an invention job is to use a slot on a Mobile Lab anchored at your own POS. You do not even need to be at the POS if you have the skills to start the invention job remotely. This is important since most of the time the public invention slots are all in use. So it is a big help if you are not bound to one spot. If your Mobile Lab is online at your POS, you can start an invention job at any time, but the materials (Datacores, BPC, Decryptors) that are needed for the job must be put manually in the Mobile Lab beforehand. Once everything is in place, you can start the job from afar with the Scientific Networking skill (Laboratory Operation level IV is a prerequisite). Depending on the networking skill's level, you can start invention jobs in the same system as the POS, at 5, 10, or 20 jumps away, and at level V from anywhere in the same region as the POS. If you are going to use a Mobile Lab, it is recommended you get to know the different versions well.

The standard Mobile Lab attributes are that it has five invention slots, and it takes half as long to perform the invention job as compared to using an invention job slot at an NPC station.

The Advanced Mobile Lab attributes are that it has two invention slots, and it takes half as long to perform the invention job than it would running the same job at an NPC station.

Any jobs on a Mobile Lab require the 'Rent Research Slot' and

the 'Factory Manager' rights. If there is no ISK cost assigned to the process, then there is no need for access to the corp wallet.

A few things that's good to know:

- Mobile Lab jobs can be started ONLY from the corp hangar. Attempting to run the job from your personal hangar will result in a message: Cannot establish contact with the Science & Industry facility. If it is in a different system you might have to travel closer.
- If you leave the corp while you have an active job, your former corp's members are able to take your job's result and the interface.
- If the corp office closes while the job is running, then all the materials are lost.
- If the POS is destroyed while the job is running, it will drop the materials.
- You cannot use another corp's lab.

The other way to run an invention job is to rent a slot at a station. If you find a station with a free invention slot then you are able to start the invention job from your hangar. This method is half as fast as the invention job on a Mobile Laboratory described above.



「REVERSE ENGINEERING (TECH III)」

➡ Strategic Cruisers can be very tempting to manufacture, but to make one it is not as simple as hopping into a Wormhole and killing a few Sleepers. It is way more complicated than that. In fact, building one entirely on your own is nearly impossible.

Production of a Tech III ship requires twice the effort, if not more, than the production of a Tech II ship. It takes a lot of components, multiple hard-to-get blueprints and a skilled character. Production of the hull of a Tech III ship and its subsystems involves multiple stages. Each step differs from the previous one. Ordered by the complexity of the stages, following is an explanation of production of the finished ship down to its core elements:

THE COMPONENTS OF A COMPLETE TECH III SHIP

First you need a race specific hull and five different subsystems that give different abilities to the ship. The five subsystems are: Defensive Subsystem, Offensive Subsystem, Engineering Subsystem, Electronic Subsystem, and Propulsion Subsystem. Note, that if you wish to change one of the subsystems, you can do it without repackaging the ship, so the other rigs will remain intact.

TECH III HULL AND SUBSYSTEM BLUEPRINTS

Production of the Tech III hull and subsystem blueprints is an art. These blueprints need lots of materials and even more skills just by themselves. The first thing to do is called Reverse Engineering. This is basically a special invention, where you "invent" Tech III subsystems from ancient relics. The only difference is that you cannot buy the components: Ancient Relics, race specific Hybrid Decryptors, components for the production of Hybrid R.A.M., and Tech III Datacores. You need to get them from Wormhole Complexes. Add to that the fact that the hybrid interface is damaged in the process.

Reverse engineering is technically a research job that you can do in an Experimental Laboratory POS module or on a Caldari Research outpost. Reverse engineering cannot be done at an NPC station.

PRODUCTION OF THE SHIP'S HULL AND SUBSYSTEMS

For the production of these you need two things: a hull or subsystem blueprint (produced with Reverse Engineering, we will get back to this later) and hybrid components. Subsystem and Tech III hull pieces can be produced in a Subsystem Assembly Array POS module (anchorable in High-Sec), or on an outpost. NPC stations are not capable of this type of production.

PICK SUB SYSTEMS
DEFENSIVE SYSTEMS
Loki Defensive – Adaptive Augmenter
Loki Defensive – Adaptive Shielding
Loki Defensive – Amplification Node
Loki Defensive – Warfare Processor
ELECTRONIC SYSTEMS
Loki Electronics – Dissolution Sequencer
Loki Electronics – Emergent Locus Analyzer
Loki Electronics – Immobility Drivers
Loki Electronics – Tactical Targeting Network
OFFENSIVE SYSTEMS
Loki Offensive – Covert Reconfiguration
Loki Offensive – Hardpoint Efficiency Configuration
Loki Offensive – Projectile Scoping Array
Loki Offensive – Turret Concurrence Registry
PROPULSION SYSTEMS
Loki Propulsion – Chassis Optimization
Loki Propulsion – Fuel Catalyst
Loki Propulsion – Intercalated Nanofibers
Loki Propulsion – Interdiction Nullifier
ENGINEERING SYSTEMS
Loki Engineering – Augmented Capacitor Reservoir
Loki Engineering – Capacitor Regeneration Matrix
Loki Engineering – Power Core Multiplier
Loki Engineering – Supplemental Coolant Injector

« REVERSE ENGINEERING (TECH III) »

HYBRID POLYMERS

The production of Hybrid Polymers is done with the following: basic minerals (such as zydrine, megacyte, etc.), Fullerite gases (harvested in wormhole space), a ‘reaction’ POS set up in Low-Sec or 0.0, and a polymer reaction blueprint (purchased on the market).

MATERIALS NEEDED										END PRODUCT	
REACTION		MINERAL		FULLERITE GASES		HYBRID POLYMER		HYBRID POLYMER		HYBRID POLYMER	
	C3-FTM Acid Reaction	+	 80 x Megacyte	+	 100 x Fullerite C-84	+	 100 x Fullerite C-540	»»		2 x C3-FTM Acid	
	Carbon-86 Epoxy Resin Reaction	+	 30 x Zydrine	+	 100 x Fullerite C-32	+	 100 x Fullerite C-320	»»		8 x Carbon-86 Epoxy Resin	
	Fullerene Intercalated Graphite Reaction	+	 600 x Mexallon	+	 100 x Fullerite C-60	+	 100 x Fullerite C-70	»»		120 x Fullerene Intercalated Graphite	
	Fulleroferrocene Reaction	+	 1000 x Tritanium	+	 200 x Fullerite C-50	+	 100 x Fullerite C-60	»»		1000 x Fulleroferrocene	
	Graphene Nanoribbons Reaction	+	 400 x Nocxium	+	 100 x Fullerite C-28	+	 100 x Fullerite C-32	»»		30 x Graphene Nanoribbons	
	Lanthanum Metallofullerene Reaction	+	 200 x Nocxium	+	 100 x Fullerite C-70	+	 100 x Fullerite C-84	»»		60 x Lanthanum Metallofullerene	
	Methano-fullerene Reaction	+	 300 x Isogen	+	 100 x Fullerite C-70	+	 100 x Fullerite C-72	»»		80 x Methanofullerene	
	PPD Fullerene Fibers Reaction	+	 800 x Pyrite	+	 300 x Fullerite C-50	+	 100 x Fullerite C-60	»»		250 x PPD Fullerene Fibers	
	Scandium Metallofullerene Reaction	+	 25 x Zydrine	+	 100 x Fullerite C-72	+	 100 x Fullerite C-28	»»		40 x Scandium Metallofullerene	

THE CLASSES OF FULLERITE GASES

At the moment, there are four different classes of fullerite gases which are categorized by their rarity. The rarer the gas, the harder it is to get. Usually there are several gas clouds at one spot which each yield different types of gases.

You can harvest them like common gases, but the clouds, found by exploring Ladar sites, may be defended by Sleepers.

FULLERITE GASES				
TYPE	SIZE	I	II	III
A	1 m3	C-50	C-60	C-70
B	2 m3	C-28	C-72	C-84
C	5 m3	C-32	C-320	-
D	10 m3	C-540	-	-

Usually you can find the following defenders in these clouds: (C = Cruiser, F = Frigate)

NAME OF THE SITE	PROBABLE SLEEPER SPAWN	POSSIBLE GAS CLOUD 1	HARVESTABLE AMOUNT	POSSIBLE GAS CLOUD 2	HARVESTABLE AMOUNT
Token Perimeter Reservoir	1 C 2F	C-60	3,000 m3	C-70	1,500 m3
Barren Perimeter Reservoir	5F	C-50	3,000 m3	C-60	1,500 m3
Sizable Perimeter Reservoir	1F?	C-50	1,500 m3	C-84	12,000 m3
Minor Perimeter Reservoir	2C	C-70	3,000 m3	C-72	6,000 m3
Vast Frontier Reservoir	?	C-32	50,000 m3	C-28	4,000 m3
Ordinary Perimeter Reservoir	5 sentry	C-72	12,000 m3	C-84	6,000 m3
Vital Core Reservoir	2B5 2F	C-320	500 m3	C-540	6,000 m3
Bountiful Frontier Reservoir	2C 3F	C-32	1,000 m3	C-28	20,000 m3
Instrumental Core Reservoir	2B5	C-320	6,000 m3	C-540	500 m3

HYBRID COMPONENTS

For the production of hybrid components you need hybrid polymers and a hybrid component BPO which you can purchase on the market. Production can be set up at a POS or at a station

(including NPC stations). You can produce the following hybrid components (the output component matches the name of the blueprint):

BLUEPRINT NAME / HYBRID COMPONENT
Electromechanical Interface Nexus Blueprint
Emergent Neurooptical Interface Blueprint
Fullerene Intercalated Sheets Blueprint
Fulleroferrocene Power Conduits Blueprint
Metallofullerene Plating Blueprint
Nanowire Composites Blueprint
Neurovisual Output Analyzer Blueprint
Optimized Nano-Engines Blueprint
Reconfigured Subspace Calibrator Blueprint
Reinforced Metallofullerene Alloys Blueprint
Warfare Computation Core Blueprint

ANCIENT SALVAGE MATERIALS
Cartesian Temporal Coordinator
Central System Controller
Defensive Control Node
Electromechanical Hull Sheeting
Emergent Combat Analyzer
Emergent Combat Intelligence
Fused Nanomechanical Engines
Heuristic Selfassemblers
Jump Drive Control Nexus
Melted Nanoribbons
Modified Fluid Router

PUT THE MAGAZINE DOWN

THINK OF THE CREW

HUNDREDS OF THOUSANDS OF CREW MEMBERS ARE LOST EVERY DAY IN NEW EDEN, OFTEN BECAUSE THE CAPSULEER IN CHARGE ISN'T PAYING ATTENTION.

[TECH III STRATEGIC CRUISERS]>>

➡ On the following page you can see the process of producing a Tech III ship. The whole process may include different industrial-based corporations, but some stages can be done by smaller teams, and some even alone.

STEP 1: HYBRID POLYMER REACTION

FROM WHAT	FOUND IN	MANUFACTURING IN	WHERE	END PRODUCT
Hybrid Polymer Reaction BPO	Empire/Market	Normal + Biochemical Silo	0.0 and/or Low-sec (0.3 or below)	Hybrid Polymer
Standard Minerals	Empire/Market	Polymer Reaction Array		
Two types of gases for each polymer	WH Ladar Site	Polymer Silo		

STEP 2: HYBRID COMPONENT MANUFACTURING

FROM WHAT	FOUND IN	MANUFACTURING IN	WHERE	END PRODUCT
Hybrid Polymers	Manufacturing / Market	Station – Assembly Line POS – Component Assembly Array	High-sec/Low-sec/0.0 Low-sec (0.3 or below) 0.0	Hybrid Component
Hybrid Component Blueprint	Empire / Market			
Sleeper NPC	Salvage Materials			

STEP 3: SUBSYSTEM/HULL BPC MAKING

FROM WHAT	FOUND IN	MANUFACTURING IN	WHERE	END PRODUCT
Ancient Relics	WH Magnetometric site	Station/POS Experimental Laboratory	High-sec, Low-sec, 0.0	Tech III Subsystem/Hull BPC
Hybrid Tech Decryptor	WH Radar Site			
Tech III Subsystem Spec. Datacore	WH Radar Site			
R.A.M – Hybrid Components	WH Radar Site			
Datacores	R&D Agents/Market			

STEP 4: SUBSYSTEM/HULL MANUFACTURING

FROM WHAT	MANUFACTURING IN	WHERE	END PRODUCT
Hybrid Component	Station – Assembly Line	High-sec, low-sec, 0.0	Tech III Subsystem/Hull
Subsystem/Hull BPC	POS – Subsystem Assembly Array		

STEP 5: ASSEMBLING THE TECH III STRATEGIC CRUISER

FROM WHAT	MANUFACTURING IN	WHERE	END PRODUCT
Tech III Hull	Anywhere you can assemble a ship	High-sec, low-sec, 0.0	Tech III Strategic Cruiser
Subsystems (One of each type)			







REVERSE ENGINEERING SKILLS

For the invention of the Tech III subsystems BPC you need the Reverse Engineering skill. In addition, you need a varying set of skills for each subsystem. Let’s take Propulsion Subsystem as an example. Production of the Propulsion Subsystem BPC (Thruster Sections ancient relic) requires:

- Reverse Engineering learned to level I
- Propulsion Subsystem Technology learned to level I
- Graviton Physics learned to level IV
- Propulsion Subsystems Engineering learned to level III (for the required Datacore I)
- Rocket Science learned to level III (for the required Datacore II)

The other subsystems require similar skills. It is recommended to take a look at the relics for which special skills you will need. Generally speaking, the Datacore I skill will be the engineering skill of the relevant subsystem, and the Datacore II skill will be a Science skill.

The R.A.M. always needs Hybrid Technology skills. The first skill required for any Tech III invention is always Reverse Engineering. The second skill required is the current subsystem’s technology (e.g. Defensive Subsystem Technology skill). The third skill required is always a skill in the science category.

	SKILL NAME	PRE-REQ. SKILLS
	Reverse Engineering	Science V, Metallurgy IV, Research IV
	Offensive Subsystem Technology	Research V, Science V, Engineering V, High Energy Physics IV
	Propulsion Subsystem Technology	Research V, Science V, Engineering V, Graviton Physics IV
	Electronic Subsystem Technology	Research V, Science V, Electronics V, Electronic Engineering IV
	Engineering Subsystem Technology	Research V, Science V, Engineering V, High Energy Physics IV
	Defensive Subsystem Technology	Science V, Nanite Engineering IV, Electronics V



THERE'S MORE WHERE THIS CAME FROM!

UPDATED / EXPANDED / MORE

COMING SOON ISK 3.0 – PREMIUM EDITION

«TECH III STRATEGIC CRUISERS»

SUBSYSTEM PRODUCTION SKILLS

The Starship Engineering skill required is specific to the faction you are working with.

For example, here are the requirements for a Loki Propulsion Chassis Optimization Subsystem:

- Minmatar Starship Engineering level IV
- Jury Rigging level V
- Cruiser Construction level IV

HYBRID COMPONENTS PRODUCTION SKILLS

The required skills vary for each component. For the production of the subsystem mentioned above you need the following:

- Electromagnetic Physics level II
- High Energy Physics level II

HULL PRODUCTION SKILLS

These vary depending on the race:

- Industry level V
- Race specific Starship Engineering level V
- Cruiser Construction level V
- Mechanical Engineering level IV

AN EXAMPLE

Let's build a Loki (a Minmatar Tech III strategic cruiser) by way of example of the above:

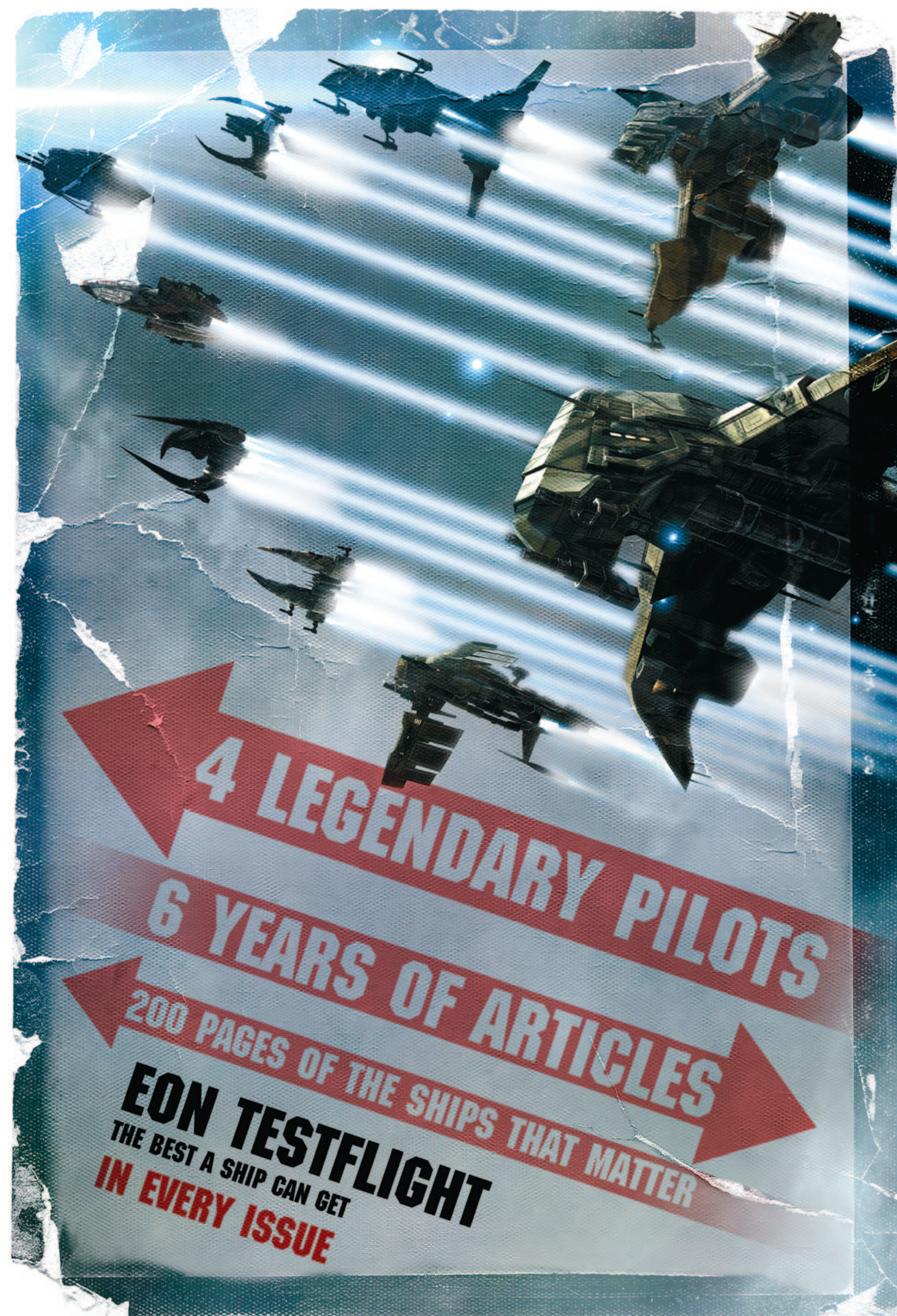
- Production time: approximately a day and a half

Required skills:

- Industry level V (this is a rank 1 skill)
- Minmatar Starship Engineering level V (this is a rank 5 skill)
- Cruiser Construction level V (this is a rank 5 skill)
- Mechanical Engineering level IV (this is a rank 5 skill)

Materials for one Loki:

- 1 x Loki blueprint
- 6 x different Hybrid Component Blueprints (NPC market)
- 8 x different Hybrid Polymer Reactions (BP from wormholes)
- 9 x different Sleeper gases
- A couple of different minerals
- Starship R.A.M.



TRADING

- » TRADING 101
- » BASIC TRADING
- » ADVANCED COMMERCE
- » COMMERCE STRATEGIES
- » TRADING NOTES
- » SKILLS
- » CONTRACTING

4.22	-0.22	10.00%
838.34	-8.22	11.32%
21.23	+9.32	11.56%
20.34	+0.32	10.32%
72.20	-0.21	13.10%
5,322.00	+3.12	10.04%
3.00	-9.33	10.66%
23.03	-3.38	15.29%
238.27	-7.93	18.12%
928.10	+3.03	10.89%
38.23	+0.34	10.93%
4.23	+0.00	11.93%
46.02	-3.23	11.32%
47.38	+3.98	10.32%
74.32	-3.21	10.99%
2.48	-0.32	15.32%
332.45	+9.73	10.02%
86.39	+2.09	11.87%
4.21	+3.03	10.89%
132.09	+0.34	10.93%
33.83	+0.00	11.93%
57.92	+2.23	13.78%
23.33	-2.23	11.32%
832.98	-2.21	10.73%
73.12	+3.98	10.32%
833.22	+1.32	12.12%
212.30	-3.21	10.99%
3.00	-0.32	15.32%
2.48	-0.32	15.32%

[TRADING 101]

Trading is probably the most lucrative and dangerous activity in EVE. It is possible to earn millions of ISK, but you can lose it in an instant. However, there are ways to offset the risks. You need to know the fundamental principles or certain failure awaits you. Learn the basics of those fundamental principles here, so you can be a (more) successful trader in the world of EVE.

THE ECONOMY

Most players have some idea of how to earn ISK. Only a few, however, fully understand the basic concepts behind really making money. The general idea is to buy low and sell high. This part is simple. Anyone can load up a hauling ship, make a couple of jumps, and call themselves a trader. While most pilots see this as a success, there are some points which differentiate a trader from a successful trader.

TIME IS MONEY

Trading takes time. The amount of time you spend on trading directly affects how much you earn at the end of the day. For

example, a trade run that takes an hour to fly 20 jumps to make you six million ISK is not as profitable as a repeatable run that requires three jumps, five minutes and with each trip giving you two million ISK. Obvious, isn't it? You would be surprised. Most pilots would take the long run and the big income in one run, and avoid the shorter ones. The point is that you can make more money if you just do the math.

As a rule, you should always do what earns you the most. For example: you regularly run level three missions in a battlecruiser, but you would like to build yourself a battleship which allows you to do level four missions. You get the necessary BPC and then begin to mine because the ore is free this way, right? Wrong! If you have to mine for a week to earn 100 million ISK, you might easily earn, in that same amount of time, 150 million doing missions instead. Running the missions allows you to buy the ship one week earlier (or the necessary minerals to build it at least) and you will still have some money left over. Therefore you are actually losing money doing the mining.

SIZE MATTERS

Size, in regards to the physical volumes of the goods you trade with, is also important. On first inspection, some items seem very profitable, but if you look more carefully you will notice that this is not always the case. Different products have different sizes, and if you know these, you can decide if it is worth hauling them or not. In a way, you are renting the cargo hold of your ship, so minimize that expense as much as possible.

Take Construction Blocks as an example. This is a typical rookie-trap. You might see a 'buy order' for 700 ISK per unit nearby, and you buy them for 600 ISK at your station. Is it a good deal? No! Every block takes 4 m3 in volume, so that cuts down the amount that you can carry in a trip.

Remember, you are renting your cargo hold, so this 'lucrative' block has only 25 ISK per unit of cargo space instead of 100 ISK/space. Conversely, Antibiotics have a volume of 0.5 m3, and you get only 18-36 ISK per unit. For each m3, you can carry two units of Antibiotics, which results in a net profit of 36-72 ISK for every m3 of your cargo. This is much better than the blocks. The point is to know the goods.

KNOW THE REGION

Knowledge is power. Knowledge about the current goods and the supply and demand of them in a given area can make you rich. Take the time to learn your neighbourhood. Look at the market history in that area on items of interest. Learn the buy and sell prices and the order amounts. Take notes about the prices and the demand and supply volumes.

Note that there is a trap here. A lot of times you may find a product that buys low and sells high and is nearby. It may seem a great business. But if the buyer only needs 176 pieces, while the supplier has 157,000 units for sale (or the other way around) then it will not be worth the effort. The point is that you must do your homework.

⇒ MOST PLAYERS HAVE SOME IDEA OF HOW TO EARN ISK. ONLY A FEW FULLY UNDERSTAND THE BASIC CONCEPTS BEHIND REALLY MAKING MONEY

Manipura > Machariel Blueprint
Dogfishful > Veldspar x 1000000 6.9mil
DarkZida > Rattlesnake [Multiple Items]
Change Heart > Rayseres's Modified Power Diagnostic
Venator Letalis > [20:28:55] Venator Letalis Faction Mys
only 50mil
Manipura > Machariel Blueprint
Lederstrumpf > He returned about half of investors investme
say.... but as much scam as he is those shares are worth the
Draco33 > WTS Large Gravity Capacitor Upgrade II x
market !
Zorastrae > Tairei's Modified Energized Magnetic Mem
Dogfishful > Veldspar x 1000000 6.9mil
sir pasha > True Sansha Large Armor Repairer
lex kiev > [Want To Buy] WTB PLEX 360kk NEED IT NOV
Snake Plissken86 > 'Undertaker' Heavy Missile Launch
sir pasha > True Sansha Cap Recharger
sir pasha > Brokara's Modified Reflective Plating
Dogfishful > Veldspar x 1000000 6.9mil
sir pasha > Brokara's Modified Magnetic Plating
sir pasha > True Sansha Heavy Nosferatu
Mas Cream > ah, but I still have all the isk from the investor
sir pasha > True Sansha Reactor Control Unit
Lederstrumpf > Proably the most honest scam attempt out t
Draco33 > WTS Large Gravity Capacitor Upgrade II x
!
Dogfishful > Veldspar x 1000000 6.9mil
Mas Cream > 1.390 billion is still in my wallet.
Annamuka > :D
Mas Cream > I made 670 million with it and already paid it
Dogfishful > Veldspar x 1000000 6.9mil
Venator Letalis > can i join in talking shit?
lex kiev > [Want To Buy] WTB PLEX 360kk NEED IT NOV
Vicky Bobo > Raven Navy Issue auction less than a day
Dogfishful > Veldspar x 1000000 6.9mil
Carmen Charlotte > Large Core Defence Field Purger I
or trade for 1 plex and 200m
Mas Cream > No, you have to wait your turn
Draco33 > WTS Large Gravity Capacitor Upgrade II x
!
qwe852 > [Snowballs with Launcher] Cheap!
Dogfishful > Veldspar x 1000000 6.9mil
Venator Letalis > you are all noobs shut up
Lederstrumpf > Mas Cream: Well... the screenshot said you di



[BASIC TRADING]



You will need a wide variety of skills to be a successful trader. It is not as complicated as being a fighter or a miner, but the time you need to invest in training is still significant. Starting out, access to the higher level skills will be very limited (as opposed to other professions in EVE), but later on you can gain them easily with just a little effort. With a bit of forethought, you can create a character that has the basic skills. This gives you the opportunity to grow quickly. These skills are as follows:

- **Frigate:** A prerequisite for using bigger ships, and this applies especially to the industrial ships.
- **Navigation:** A prerequisite for higher level skills, and also for speed and agility which is important when flying large, bulky hauling ships.
- **Mechanic:** Needed for fitting modules and cargo hold expanders.
- **Trade:** A prerequisite for most of the higher level trade skills, and also for the ability to put up more buy and sell orders.
- **Industrial:** This race-specific Spaceship Command skill is required in order to fly industrial ships. For example, in order to fly the Iteron class ships, you need the Gallente Industrial skill.

Note: these are fundamental abilities only; they are necessary starting skills to further your development. Also, do not neglect your learning skills. True, they are not directly necessary for a career in trading. However, they can spare you a lot of training time when you want to learn higher level skills later on.

EQUIPMENT

In the beginning, you will be limited to using the most basic equipment because of your lack of both skills and cash. A fast frigate, some cargo expanders, and an afterburner or microwarpdrive will suit you very well. Don't worry as this will change quickly. As cash flows in, you can develop your skills, upgrade your ships to gain more cargo space, and deal in more expensive products. Every trader has their own preference as to what equipment to utilize, so experiment and find what is most profitable for you.

The most important, in my opinion, are modules that increase your velocity and increase cargo capacity. Choose an industrial ship and buy it! The Bestower or the lower-class Iterons are good choices, depending on your starting skills. The Iteron Mark V is the ideal transport as it has an enormous cargo hold. Be prepared to learn Gallente Industrial level V in order to fly it though.

Sometimes an industrial ship or a frigate is not the best choice. Many successful merchants are flying different cruisers, destroyers or interceptors. All of these ships have their advantages, but most beginner traders do not have either the skills or money to buy them. The point is that as you advance in trading and grow in skills, you should fly different ships depending on the cargo and destination.

MONEY

This is the biggest obstacle: it takes money to make money, but how can you make money when you start out with no money? Well, trading is not an option. You can either mine, run agent missions or, if you are particularly brave, try pirating. I recommend doing missions. In a fast ship, you can make several million in just a couple of days, even with the most basic agents.

If mining is more your style, then invest in mining lasers and use them. No matter what, you will need a few million ISK to be viable as a trader. It can be done with less money, but it takes time to build up more. If you have made friends, ask them to invest some money in your venture. Make sure you pay them back though, on time and without complications, or you may not be friends in the future!

THE MARKET

The market is where you will buy and sell most of your items. Whatever you cannot trade on the market will be sold or auctioned off through the use of contracts.

These are some of the things that cannot be sold on the market:

- Blueprint copies
- Blueprint originals when they are researched or were used for production
- Rare, named modules (Gistii, Dread Guristas, etc.)
- Faction, complex and Officer modules (Meta 6 or better)

The golden rule: If you see a buy or sell order for an item while browsing the market, and you have checked to 'show only available items in the region', that means you can buy or sell that item right now. Items that are not listed may or may not have any demand in that region of space.

The market screen allows you to sort commodities by the number of jumps, the volume available, cost per unit, and location according to the limitation of region, solar system or station. Be aware of this. Make sure when you buy (or sell) something, you have not bought region-wide if you did not intend to.

The market tool offers the often disregarded, but extremely useful history tab; it provides information about the price and the volume of an item over varying amounts of time. Use it! This history will let you know if the price you are paying (or selling for) is in line with current trends and, just as importantly, how much of the item is moving. Use it to determine the state of the market, how many competitors you have, or if you are the only one who is selling that particular product.



[ADVANCED COMMERCE]



➡ You have the skills, you have a ship, and you have some starting ISK in your wallet. You’ve done some research and have decided where to start, and also found a low-cost trade run. The next thing to do is to buy some goods, pack them up, and transport them for a profit. Well, hold on just a minute. Before you run off and start trading, ask yourself some questions first.

Is the cargo bay full? If not, take a look around, and search for another solar system nearby, where you can also sell something. It has to be worth getting there, because it takes time to transport this ‘subsidiary’ product too.

Is there anything I could transport on the way back? In the late twentieth century, fossil-fuelled delivery vehicles (called 18-wheelers) would often carry cargo to one destination only to find that they do not have anything to transport on their way back. These empty hold transports were called ‘Deadheads’. Avoid these trips at all costs. Sometimes it is impossible, but you should try.

Am I using the right equipment? If you find something that you can sell high, but there are just a few hundred units, you’d be better off running that fast frigate twice, rather than using a big, but slow vessel just once. Mind the way back! Time is money!

Am I travelling through low-security systems? In the beginning avoid them. Business may be lucrative in low-sec and nullsec, but you are not the only person who travels there. Many pirates also know how to use the trade system to get rich – by blowing up

traders! Bear this information in mind, and if you have to pass through these zones then create some bookmarks that allow you to immediately warp upon undocking. Use the map and check how many pods and ships have been destroyed recently. If such things happened, then do not go there. Take it as a warning.

It is important to keep in mind that the supply and demand change with every transaction. When selling something to an NPC (non-player character), the price will usually drop upon order completion. The more you buy from an NPC, the more the price will increase. So, the temptation is strong to transport and sell, transport and sell over and over again. However, if you keep an eye on these fluctuations and changes, you may prevent some losses. It may be better to buy once, then transport in several trips, to ensure a lower price.

Sometimes the price or quantity changes after completing the first transaction. So if you’ve transported a double quantity of goods, be careful that you do not start to lose money or cannot sell all that you’ve hauled. This is not always the case, but be aware of what, how much, and where you are selling and also who else might be doing the same thing.

SKILLS

By now you can figure which skill categories are most important for you. In navigation anything that increases afterburner and

microwarpdrive (MWD) efficiency is important. Skills for different hauling ships are essential. Hull modification improvements like the Hull Upgrades skill are necessary for better cargo hold extenders. Your future training plan should be working towards larger transport ships like freighters and more flexible transport ships like blockade runners.

So, what comes next? Focus on raising your trade skills to make them more effective. You have no doubt noticed that you have to pay an enormous broker fee and sales tax for every sale. These taxes are decreasing your profit with each transaction. To help with this, train Trade to level IV (if not level V). That will allow you to learn Marketing, Broker Relations, and Accounting. Broker Relations and Accounting skills will decrease the fees and taxes you pay per transaction by 5% to 10% per skill level.

Why should you learn these skills when they only save you 1% in fees? Well, looking at it more closely, 1% saved on a buy order and 2% saved on a sell order adds up to 3%, and that does matter when the profit-margin you are trying to squeeze out is just 5%. For example, when your monthly turnover is ten billion ISK, then 3% of that is equal to 300 million ISK. It really adds up when you get into larger trade amounts.

EQUIPMENT

Always work on improving your equipment. Buy better cargo hold

expanders as soon as you can afford them. It does not matter if you get them one by one, but you have to be able to carry more in one trip. Remember, you rent your cargo hold from yourself, so the more space you have, the less runs it takes to deliver your goods.

Buy as many Giant Secure Containers as you can fit in your cargo hold. These containers are the poor man’s cargo hold expander if you can buy them cheap. The thing about this container is that its capacity is larger than its volume (3900 m3 instead of 3000 m3). The Giant Secure Container can contain 30% more goods; any other container types can hold just 20% more. Every bit of cargo space counts. Another advantage is that should you be attacked and lose your ship, your cargo is worth far more than your pod and implants, so keep your cool and anchor the containers to preserve your investment. Assuming you password protected them prior to embarking on your trade route, anchored containers cannot be taken, and password protected containers cannot be opened unless you know the password. This may not always work if the containers are too near to each other, but anything saved cuts your losses.

Please note that you cannot pack all objects into these containers. Check before you plan a trip. Examples include ‘live goods’ like passengers or livestock.

Named expanders are expensive, so if you are going to use Giant Containers, only buy expanders that fit the containers. All other space may be wasted if an additional expensive expander doesn’t allow for an additional Giant Container.

MARKETING SKILL

The Marketing skill enables you to sell items remotely, even if you are not in the specified station or solar system. If your skills are of a high enough level, then you can gain some profit without leaving the station. However, have no illusions that you can make a living by never leaving your station. Skills like Marketing make trade more convenient, but they are not a substitute for physically moving goods to the right spots.

➡ **BUSINESS MAY BE LUCRATIVE IN LOW-SEC, BUT YOU’RE NOT THE ONLY PERSON WHO TRAVELS THERE. MANY PIRATES KNOW HOW TO USE THE TRADE SYSTEM TO GET RICH – BY BLOWING UP TRADERS**

COMMERCE STRATEGIES



Here we explore a series of different trading strategies that should see you really getting to grips with the intricacies and nuances of EVE's ever-fluctuating marketplace.

FIRST STRATEGY

Let's suppose that you have set up business trading antibiotics and you need 100,000 units. In order to collect that quantity you had to fly to 17 different solar systems. Do you spend your whole day collecting it and delivering it to the sale destination? You could do that, but there is the chance that someone else will fill the order long before you are done collecting, or at least that someone partially fills the order and now the buy price has decreased.

What should you do now? Accumulate the product, but do not sell it yet. Stage the antibiotics to be in sale range and wait for the price to go back up. Continue to check the market daily. When the price is good, sell the antibiotics remotely with the help of the Marketing skill.

SECOND STRATEGY

The second strategy involves expanding your operations a bit. Hire others to transport the goods for you via courier contracts. You will lose a small portion of your profit by paying others to do the work for you, but you can save a lot of time by not doing all the footwork yourself. The point is that other people will transport the goods from one place to the other, and when they arrive, you just need to sell them. This strategy requires one to have a financial cushion, because there is additional waiting time required. Time waiting for the contracts to be picked-up, time waiting for the contracts to be fulfilled, and time waiting for the right sell price. But this is a good opportunity for those who want to spend their time on other things and who have the ISK for long-term sales strategies.

MINERAL MARKET

Minerals are the backbone of manufacturing corporations. Entire books could be written about the mineral trade. Some of the regions are Nocxium poor, where others are Isogen poor. Do some research about the demand and prices. Find tools or ways to keep yourself up-to-date. The prices of the minerals also fluctuate. If you can sell it today for 100 ISK, you may not be able to sell it tomorrow for

even 80. Mineral trading is complicated and takes lots of time, and may have a high cost to invest in inventory, but it can also have a high profit, especially if a war breaks out.

MODULE TRADING

I do not suggest module trading for beginners. The first reason for this is that it takes a lot of investment ISK. Some modules cost tens or hundreds of millions. Secondly, you should be very familiar with the regional markets. Module trading requires the ability for fast decisions based on market evaluation, and the ability to deliver your product fast and safe. It is difficult to lose a lot of ISK on a daily basis unless you are caught by pirates while hauling your expensive cargo. However, your ISK can be tied up for a long time in inventory. The real catch is knowing what items have a rare drop rate, because a rare item may become common after an expansion.

BLACK MARKET

Illegal items. Contraband. You can deal in these products, but you are risking your standing and your wallet if caught. Be prepared to do a lot of research up-front before trading in this class of product. Note that items listed in the Marker's 'Trade Goods' category will have a Legality tab on their Show Info window that provides information on standing loss with particular factions if they catch you with this product in your cargo hold.

Useful Tips

- Never fly with an empty cargo hold.
- Research and calculate your cost versus profit.
- Improve your skills: better ships, better fittings, bigger profit.
- Always check your flight path. Do not fly through a solar system where ships or pods were destroyed in the last hour. Never accept a fleet invite from those whom you do not trust or do not know (it's probably a trap).
- Use containers to expand your cargo hold capacity.
- Do not ask other traders for their routes. Miners keep rich asteroid fields to themselves, just as the merchants keep their routes secret. You are competition to them.

⇒ MINERALS ARE THE BACKBONE OF MANUFACTURING CORPORATIONS. ENTIRE BOOKS COULD BE WRITTEN ABOUT THE MINERAL TRADE

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TRADING NOTES



Notes from Ivanson: A Caldari fortune hunter, a sort of Freelancer, Trader, Constructor. “I love when you have the chance for creation and construction. Although I don’t like the destruction, they can’t live without each other. I like to trade, finding out the other merchant’s thoughts, discovering and making the best with the hidden chances for making money.”

COURIER CONTRACTS

Courier contracts can be costly since part of your profit goes to pay for someone else to haul for you. Even if you decide to offer the contract, there is a chance that no one will take it. The couriers may choose more profitable contracts over yours. Unfortunately, this is impossible to find out ahead of time due to the changing prices. So other products and contracts have an effect on your costs regarding the transport of your goods by couriers.

For example, you put up a courier contract for 120,000 m3 of Silicate Glass. You run the risk that your courier only delivers half the order and you still end up having to transport the surplus. Secondly, make sure that your timeframes are not set too long. Two weeks for a contract to be accepted and fulfilled might be too long since the market will have changed many times in that period, and your profit opportunity could have disappeared by then.

ITEMS

There is an easier way to earn fast cash by going for small amounts rather than the big haul. There is only one problem with this option; there can be a lot of competition. There are probably between 4,000 and 7,000 trial accounts active at any one time. All of these rookies need to fit themselves with basic items, and they are all in relatively concentrated areas.

For example, missile launchers, afterburners, and small turrets are likely to be in demand in these starter areas. Watch out, though, as overproduction can be a problem. You might try to offer your items two or three jumps away from the starter areas either at a lower or a slightly higher price as players may either go a few jumps for a cheaper product or may pay more to avoid high traffic areas.

Put up buy orders for commodities that the agents give to the players. If you collect the proper amount of products, sell them when the buy price goes back up, or if it is possible, reprocess them when mineral buy prices are higher than the product itself can bring in.

Refining and Reprocessing skills are really useful for a trader. Check the items that you have to see how many minerals you may get from them. Do not reprocess them, just check what you would get if you did reprocess them. Multiply the mineral prices by the

reprocess results to see how much the module is worth in terms of minerals. Check the market after that for how much can you sell or buy the item for.

There are two possible cases: if they buy the module for more, then fulfil the buy order. If not, then reprocess it and sell the minerals. If you see sell orders for the module that are cheaper than what you can sell the reprocessed minerals for then buy the modules and reprocess those as well. (Named modules are not designed for reprocessing. They contain only half the amount of minerals that the standard Tech I versions have.)

It is useful if you complete missions to accumulate loot and salvage to sell. Every four hours you can decline missions without any negative effect on your standing. Find a widely distributed corporation that has several stations, and improve your standing. This will give you spots across the universe where your sales tax is decreased. You might gain enough standing to eliminate your refining and reprocessing fees also.

Try to eliminate the possibility of your buy orders being fulfilled in low-sec systems, otherwise you may never be able to collect those items. If you are manufacturing ships or modules near the border of high-sec, then plan to put those items up for sale in the gateway systems just before low-sec.

Many people go to low-sec to mine because these systems are rich in Zydrine. So not only is low-sec not protected by CONCORD, but the miners there make it a great place for pirates to hang out. If you can supply Ospreys, Mining Barges, weapons and ammunition or mining lasers, then players will buy it from you without having to travel long distances to get it.

WORKING CAPITAL

Never run out of ISK in your wallet. Try to keep 10% of your assets in cash. You will see the advantage if you find a battleship selling for 30% less than normal. If you have the ISK on hand, you can snatch up the deal and sell it later for a profit.

FINDING WHO TO TRADE WITH

NPC corporations have offices all over the EVE universe. They buy and sell the same products no matter what their location. In the market tool, it is easy to see who is selling what and for what quantities and the prices they are selling it for. Using Show Info, you can see what products an NPC corporation deals in. Use this information to profit.

It is a often asked how to tell if a product is sold by either a real player or by an NPC. One way is that orders by NPCs are always

for 365 days, but a player’s offer has a three month limit. In the case of NPC transactions, the quantity doesn’t change. If you see an offer for 1000 pieces and you buy 500 pieces, the offer will re-list at 1000 units again even if the price fluctuates.

FINDING ROUTES

You have found a station (A) that is selling a product in high quantity, and station (B) that has a buy order for that product. What is the next step? Try to find something that B sells that A wants to buy. If there isn’t anything, then try to find a third party (C) to buy something from B. The point is that your cargo hold should not be empty because you will lose money when it is. Always look for something to take from where you are to the next profit point.

Keep in mind that for long hauls you may not want to take a freighter since its warp speed is 0.7 AU/second and is very slow to align for warp. It can take a long time just to travel across a single system, let alone several jumps.

FINDING THE BIGGEST PROFIT

Arm yourself with knowledge and cunning. You’ve got your list of companies and what products they deal in. You’ve checked the product details and know how much cargo space they take up. You’ve calculated the quantities that you can carry in the optimal ship to carry shipments in, and your ship is fitted and ready to go. Remember that not every product can go into a Giant Secure Container. Put those products and those corporations at the bottom of your list to deal with later. Prioritize your profitability.

When making a sales run, always check if there is anything you can sell at another destination close by or on your return route. Even if it partially fills your cargo hold, always think ahead and always look to your wallet. Remember that two consecutive sales to an NPC buyer will likely decrease the buy price dramatically. It will be best to stockpile the goods and wait till the buy price rises again.

If you are en route to deliver goods for a buy order and the price drops by the time you reach your destination, it is likely that someone filled the order before you got there. Whether or not they filled the order with one unit or with the entire quantity asked for, the buy price is no longer profitable for you. Wait a few days and when the price is back up, fill the order then. Keeping this in mind, you can do this to your competitors as well. If you aren’t prepared to fill the entire order, you can always ruin another’s chance at profit by just selling one unit for the buy order to drive the price up until you can return for the profits yourself.



» WHEN MAKING A SALES RUN, ALWAYS CHECK IF THERE IS ANYTHING YOU CAN SELL AT ANOTHER DESTINATION CLOSE BY OR ON YOUR RETURN ROUTE

[SKILLS »]



This section explains some of the more advanced trading skills since many people wonder how they help. Keep in mind that distance modifier skills always only ever extend to the borders of the region you are in. If you are docked one jump away from another region, your buying and selling power will still remain in your current region. Your route is always calculated based on your autopilot settings. So if you have it set to 'use only safest route', you will never deal in low-sec, as it will never take you there.

TRADE, RETAIL, WHOLESALE, TYCOON

Training these skills increases the number of active sell and buy orders you can have on the market. In the order listed, each level of these skills raises this number as follows: +4 per level of Trade, +8 per level of Retail, +16 per level of Wholesale, and +32 per level of Tycoon.

MARKETING

This skill allows you to set up sell orders remotely. For example, at level III you are able to create sell orders for goods that are in other stations up to ten jumps away from where you are currently at. Without this skill, we are only able to put up sell orders for items at the station you are currently docked at. On the Orders tab of the Wallet tool, you can check your range in the right bottom corner.

This skill often allows you to trade out in nullsec where there are stations you probably do not have the right to dock at, but that have product you'd like to buy and sell. Jump into a covert ops ship, find a distant region with an NPC station, dock there, and you can start to trade in that region. Yes, you will not be able to go to the product and pick up your purchases, but you can in turn sell them without ever having to physically be near the product.

The disadvantage of relying on this skill is that you may not remotely split up stacked goods. If you have a stack of five ships, you must create a sell order for all five ships. The way around this is to create a contract for the particular item, in this example one ship. Contracts allow you to split the items. Then cancel the contract, refresh your assets, and the stack is now split. Note that your assets will only refresh every five minutes. Also, when you purchase remotely and you have a repackaged item of the same product, the new purchase will stack with the existing product automatically.

DAYTRADING

You can modify buy and sell orders remotely with this skill. Without it, you must go to the station the order originates from. This is useful when someone has outbid you, or when you want to increase or decrease how much you want to buy. The distance your trade skills allow for is the Modification range value on the Orders tab of the Wallet tool.

PROCUREMENT

This skill allows you to place remote buy orders. Note that this is not the same as directly buying a remote item. Without the

Visibility skill, the buy order is limited to the station you create it to be at. Without Procurement, you can place buy orders only at the station you are currently docked in. Your current maximum distance next is displayed by the Bid Range on the Orders tab of the Wallet window.

If you dock at a station, then you can make buy orders for any kind of goods, and at any range. If you are ten jumps away from the destination where you want to place a buy order, you are going to need the Procurement skill trained to level III to do that, and they have to be selling that particular item there.

If you want to create a remote buy order and the product is currently not sold at that location then do the following: open the Market tool, go to the Search tab, type the name of the item, and then click the Place Buy Order button that is in the lower right side of the tool. A window will pop up where you can choose the station you want to create the buy order at. Click on the station you want and fill in the rest of the buy order information. The only catch with this is that if you want to set up that remote buy order to have a range of effect other than just the station you are creating the buy order to be at you will need the skill in the next section.

VISIBILITY

This skill increases the range your remote buy orders are effective to from their origin station. There are a few false 'legends' surrounding this skill. One says that it affects all your sell orders. This is incorrect. In fact it only extends the range of your remote buy orders. The other false fact is that it affects the visibility of your orders Again, untrue. If you make any offer on the market, it will always be visible in the entire region.

So, then what does this skill do exactly? Do you remember the last time you created a buy order? You were docked at the station you created the buy order at and set it for any buy range you wanted. However, when you are not at that station and want to place a buy order remotely, unless you have Visibility trained, the range may only be the station you are placing the buy order in. For each level learned, your remote buy order can increase its coverage further and further away from your desired station.

You can see your current remote bid range on the Order tab of your wallet. Do not confuse it with Bid range. Bid range means how far away you can make a remote buy order (this is increased by training Procurement). The maximum range of that order is set by the Visibility skill.

So then, what is the point of training Visibility to level V? Since the broker's fee is dependent on your standings, you can minimize this cost by taking advantage of your standing. Only place your buy orders at stations you have good standing with, and give your buy order the best range possible so that others are likely to fill your order first.

The other important reason is for trading in nullsec. In case you have something you want to buy or sell at a station where you

cannot dock, then you can access the goods remotely and still give your buy order the maximum range possible.

ACCOUNTING

This skill decreases the sales tax you pay on a market transaction. Every time you sell something you must pay 1% tax on the full sale price to the SCC. Each level of Accounting decreases your tax by 0.1 percentage point per level. That means at level I you only pay 0.9%, level II it's 0.8% and so on.

The actual rate is visible at the bottom of your wallet tool's Order tab window, next to transaction tax.

BROKER RELATIONS

Every time you place an order (both buy and sell orders), you have to pay a broker fee of 1% of the order's total value. You can decrease this fee by 5% for each level of Broker Relations trained. The broker's fee differs from the sales tax because:

- You pay a fee to your broker every time you place an order. If you cancel the order, you will get no refund, but you pay tax only if the order is fulfilled.
- If you are trading a product, you pay the fees twice, once when you place the buy order, and once when you make the sell order.
- You are not going to pay any fee or tax if you are buying directly (without placing an order).

The formula behind the science:

$$\text{BrokerFee \%} = (1.000 \% - 0.050 \% \times \text{BrokerRelationsSkillLevel}) / e^{\wedge} (0.1000 \times \text{FactionStanding} + 0.04000 \times \text{CorporationStanding})$$

Let's look at two examples. First, you buy something at a station for 10,000 ISK. You immediately place a sell order for that item for 20,000 ISK. Since you bought directly, or used 'buy now', you did not pay any broker fees. However, you will pay broker fees on your sell order of 200 ISK minus the bonus of the Broker Relations skill. When someone buys this item, you will have 19,800 ISK (without the skill) and a real profit of 9,600 ISK because you also pay tax on the sale as well.

Second example: You place a buy order for 10,000 ISK. You must have 10,100 ISK, because there is a 100 ISK broker's fee if you have no skills trained to lower this. When someone fulfills the buy order you turn around and place a sell order for 20,000 ISK. The broker's fee has to be paid again, which is 200 ISK without skills trained. When it is sold you are going to pay the tax of 200 ISK without the Accounting skill. The net profit is 9,500 ISK.

Important: the minimum of every broker fee is 100 ISK. That means if you make a 1,200 ISK offer for something, the broker fees will be 100 ISK, not 12 ISK. Note: When the proper skills are



«SKILLS»

trained to level five, the brokers fee is 0.75%, but you will always pay at least a minimum of 100 ISK.

You can decrease your broker's fees without training social skills at NPC stations if you have good standing towards the owner of the station. The exact formula is not known, but based on player experience, it has been seen where a corporation standing of 10.0 can decrease the fee by 0.25%, while a faction standing of 10.0 means 0.5% less. The absolute minimum of broker fee has been seen is 0.1875%.

MARGIN TRADING

This skill is often disregarded, although it is actually quite useful. If you make a buy order, your money goes into escrow as a reserve payment as if you have already purchased the item. Margin Trading helps you to decrease the amount of deposit, so more liquid capital remains in your wallet.

For example, I make a buy order for 100 ISK worth of product. I do not have the Margin Trading skill, so how much do I pay? For those who said 100 ISK, go mining instead. Those who said 101 ISK, you can stay and learn a little. For those who said 100 ISK + the broker's fee... well, you are going to be my competitors.

In case you trained the Margin Trading skill to level I (that means 25% less) because:

- You pay the broker's fee based on the entire 100 ISK buy order
- You make a 75 ISK deposit
- When the product order is filled, you pay the remaining 25 ISK.

Each skill level decreases the previous level by 25%, so without the skill learned at all your deposit is 100% of the order. At level I it's 75%, level II it's 56.25% (not 50%) and so on.

If you do not have enough money in your wallet to cover the entire order, but you have enough to cover it with Margin Trading trained, then you can put up your order. However, when the order is fulfilled by someone, you must have the remaining amount of money in your wallet otherwise your order will be cancelled, and you lose the broker's fee. You cannot see this percentage in the orders window. You can see how much money you have in deposit (Total in Escrow), and how much you have to pay when the orders are complete (Additional ISK to cover).

Note: never partially fill an NPC buy order! For example, there is an NPC buy order at a station for 100,000 units of goods at 20 ISK per unit. You arrive with 20,000 units of that good in your cargo. Do not sell it! Go back, bring more, and when all your stock is there, then sell it. It is more likely that the price will go down after the sale instead of up.

Let's suppose that you do the exact opposite. They would like to buy 100,000 units and you sell the first 20,000 units you bring to the station right away. You will see a new order for 100,000 units of goods at the price of 15 ISK per unit, instead of an order for 80,000 units at 20 ISK.

STATION TRADING

Station trading is for players, who have lot of patience, to check the market and adjust the prices. Generally it means that you are treading only in that specific station. You do not leave it.

Depending how often you can/want to change the price, choose your location for the station trade. Busy systems like Jita, Rens, Amarr, require more attention. In smaller hubs it's enough to check the price daily, or even twice a week. I would recommend having an alt for this purpose. Just log in when you have time and check the market.

Let's see an example: the Ferox. The lowest sell order in the station is for: 18 088 997 ISK. The highest buy order is: 16 089 894.

The difference is almost 2m ISK. (Minus the taxes and fees: that's about 3% of the price with no skill). So the taxes are around: 540k ISK, with good standing, and skills that can go down for around 1.5% of the price. So in the end it can mean that you earn around 1.5m ISK, just for a resale.

In a busy system (Jita) it can be that you are outbid within a couple of minutes. There is a five-minute period when you cannot modify your order. Once that has elapsed, change your order to put your back on top. Same applies when selling the item; your price should be the cheapest. However, most time you can ignore the completions which are not in the same station. A sell price ~18m is good, ~16.5m is bad.

Some tips:

- Check the market history. There you can see how much is sold on a given day, what where the minimum and the maximum prices. The average price can be an indicator, if the item is more sold on buy or on the sell order (The number is closer to the max or the min price).
- In a busy system before you leave the game for a longer time, adjust your prices a good deal below the current trading price. You don't want to see that you bought the Ferrox for 16m and the current sell orders are on 15.5m ISK.
- Learn how the market fluctuates. Try to use the fluctuation for your goals.

«CONTRACTING»



Contracts allow two pilots to trade equipment, ISK, weapons, ships, and items of every kind that you cannot trade on the regular market. It is important to remember that you can accept contracts in your current region except when it is a private contract. It is also good to remember that damaged items cannot be contracted.

When you open the Contracts tool on the Neocom and click the Create Contract button, you will see several options (detailed below).

AUCTION

You can auction items to players by using the Auction Contract, allowing players to bid on your item. Upon expiration the highest bidder wins the auction. To create an auction:

- Select Auction.
- Choose if it is a public or private auction.
- Select the items what you want to auction.
- Set the base price to start bidding at.
- Set the buyout price if you want to allow others to get the item immediately.
- Add a description to the auction, and do not forget to set the expiration time as well.
- Finally, review the terms of the auction, make sure everything is OK, then click Finish.

ITEM EXCHANGE

Item Exchange contracts allow you to trade either for ISK or for other specific items. For Sell contracts:

- Select Item Exchange. Choose if it is a public or private item exchange.
- Select the items you want to sell.
- Enter the price, a short description about the items and the duration of the contract
- Finally, review the terms of the contract, make sure everything is OK, then click Finish.

For Buy contracts:

- Select Item Exchange. Choose if it is a public or private item exchange.
- Do not select anything from your items.
- Enter the price you are willing to pay for the item.
- Type in the first few letters of the name of the item you want, find it on the list, select it, and click the Add Item button. Do not forget to enter the quantity also.
- Finally, review the terms of the contract, make sure everything is OK and then click Finish.

For Trade contracts:

- Select Item Exchange.
- Choose if it is a public or private item exchange.
- Select the items you would like to trade.
- Enter the price you are willing to pay for the item.
- Type in the first few letters of the name of the item you want, find it on the list, select it, and click the Add Item button. Do not forget to enter the quantity also.
- Finally, review the terms of the contract, make sure everything is OK and click Finish.

COURIER

Transport jobs can be setup via contract for a third party to haul your property from point A to point B. Upon completion, the hauler receives the reward and you get your items. Keep in mind that the hauler may keep (steal) your property. Therefore, set up a sizeable collateral amount to cover your loss if the goods are not delivered. Sadly, the collateral amount can be abused as well, because you can ask millions in collateral for transporting one unit of tritanium. When the hauler accepts it and has paid the collateral, a suicide gang will jump him. The contractor keeps the ISK collateral and the hauler gets one tritanium, or worse loses his ship and his pod. I suggest avoiding such contracts!

To setup a courier contract do the following:

- Select Courier.
- Choose if it is a public or private courier contract.
- Select the items you want moved. It is not possible to transport illegal goods this way. For example, you cannot smuggle slaves from Amarr to Jita.
- Enter the destination of the item, a reward for the service, and the value of the items as collateral.
- Enter the number of days in which the mission should be completed and a short description about the job.
- Finally, check if everything is OK, and then click Finish.

GENERAL INFORMATION

Once you have set up your contract and submitted it, it will be available for everyone in the EVE universe to view. Likewise, you may choose to purchase through contracts as well. Here are some contract tips:

- Select the region you want to search for contracts in.
- Select the type of the contract you are interested in.
- You can set the range of the price if you like, or narrow down the

« CONTRACTING »

list to only those contracts that you can afford. Choose 'Show More Options' if you are looking for something specific.

- Filter the list further by who issued the contract.
- Enter the exact name of the item in the description field. In the 'exact' field, type in the first few letters of the item and a list will be generated from which you can pick your item.
- As a final step, make sure everything is properly set so you will receive search results that you intended to get.

SKILLS

Two trading-based skills apply to contracts: Contracting and Corporation Contracting.

- Contracting: Allows you can create an additional four contracts per level trained.
- Corporation Contracting: Similar to above, but in this case you can create an additional ten contracts in the name of your corporation per level.

EXTERNAL TOOLS

There are numerous third-party programs and websites that can help you to success, including accounting, assets and order tracking programs. There are websites that let you query prices for products. I suggest checking out the Market Discussions forum on the main EVE Online website for more information.

SOCIAL ENGINEERING (SCAMS)

Social Engineering is the exploitation of the natural tendency for people to trust others. Unless something is expressly forbidden by the Terms of Service as cheating, then the action is allowed. Therefore, always check what you are about to buy.

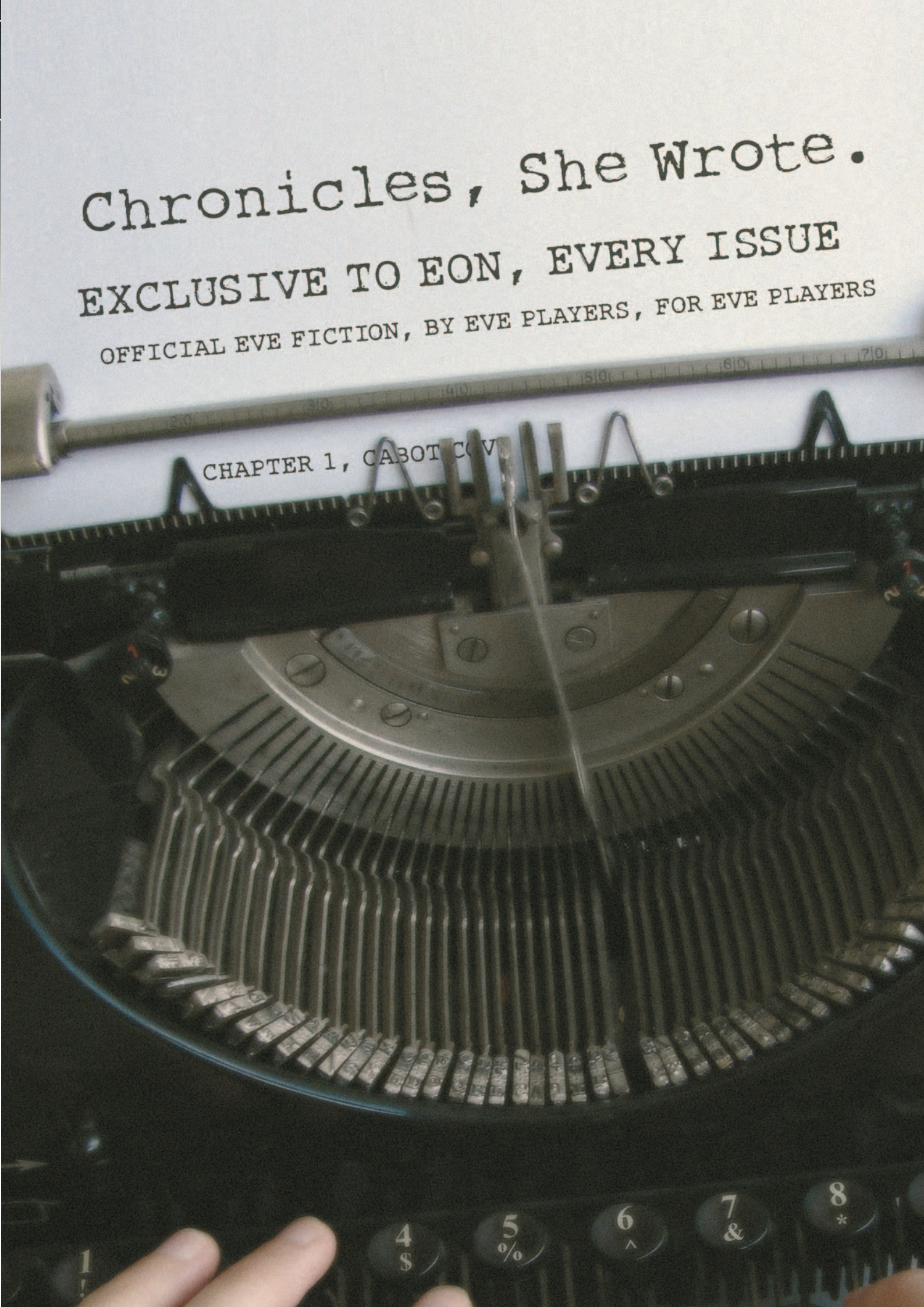
- Check that the offer and the requirement values are not reversed.
- Double check the zeros and numbers to ensure you are not misreading.
- Check the number of items for sale.
- Check if the item 'inside' the contract matches its advert.
- Check where the product is; do not go where you smell a trap.
- Be careful with courier contracts. Try to avoid the transporting one unit of tritanium for 100 million ISK contracts!
- Always check the market price. Do not let them fool you.

- Always check if you have docking rights to the station in 0.0 or else you may have paid for something you are unable to pickup.
- Use the Block feature. It is likely that all the contracts from the same person are scams.
- The most common reading error is when the Buy Order is short by a few zeros
- Don't buy via direct trade, where the price is different than what was discussed. Buy via contract instead.



CONTRACTS						
CREATE CONTRACT						
START PAGE MY CONTRACTS AVAILABLE CONTRACTS						
FILTERING OPTIONS						
VIEW						
All regions ALL ALL ALL Sort page by Simple view GET CONTRACTS						
ISSUED BY MIN PRICE MAX PRICE DESCRIPTION ITEM TYPE (EXACT) Item Extension (PLEX)						
CONTRACT	CONTRACT TYPE	FROM	TIME LEFT	PRICE / REWARD	LOCATION	
(Want To Trade)	Item exchange	Redd'n	12 days 12 hours	0 ISK	Belle (35 jumps)	
(Want To Trade)	Item exchange	Trademaster	12 days 7 hours	0 ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Mercantile	10 days	246.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Narcylodney	10 days 1 hour	250.00 Thousand ISK	Jyzen (38 jumps)	
(Want To Buy)	Item exchange	Demonhunter2	10 days 8 hours	279.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	DarkKisser	12 days 12 hours	280.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Thunderfish	10 days 20 hours	285.55 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Captain Rozer	12 days 23 hours	286.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Medals making	12 days 18 hours	300.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Vladimir Kacinski	10 days 18 hours	300.00 Thousand ISK	Jita (38 jumps)	
(Want To Buy)	Item exchange	Dedruher	13 days 20 hours	310.00 Thousand ISK	Jita (38 jumps)	

⤵ CONTRACTS ALLOW TWO PILOTS TO TRADE EQUIPMENT, ISK, WEAPONS, SHIPS, AND ITEMS THAT YOU CANNOT TRADE ON THE REGULAR MARKET



PLAYER-OWNED STRUCTURES

» THE POS

» THE CONTROL TOWER

» MOON HARVESTING

» THE ART OF REACTIONS

[THE POS]

➡ The following section provides introductory information on starbases, also known as Player-Owned Structures (or POSes). This will give you a glimpse into the complexities of Moon Surveying, Moon Harvesting and Reactions. Beyond that, you will have enough knowledge to explore the endless possibilities that POSes have to offer.

POS BASICS

Every POS anchored in space can be referred as such, regardless if it is just a Control Tower or a completely equipped mining, manufacturing, and researching battle station. Control Towers require the Anchoring skill trained to level I in order to deploy and online them.

It is important to know that only player-run corporations (as opposed to NPC corporations) may anchor and online starbases. To do that in 0.5 systems and higher, the appropriate Starbase Charter of the given sovereign race is required as an additional fuel. It can be seen as an 'operational license' to operate a POS in that race's space.

Anchoring a POS requires appropriate corp standing to the sovereign race. This standing changes at every downtime. It is calculated as the average faction standing of the corp members who have been in the corp for more than seven days. Important: You cannot anchor a POS at a moon if a Territorial Claim Unit (TCU) is already anchored there.

The standing requirement for anchoring in high-sec is always the security status x 10:

- 0.5 => 5.0 Corp Standing, 0.6 => 6.0 Corp Standing, 0.7 => 7.0 Corp Standing, 0.8 => 8.0 Corp Standing, 0.9 => 9.0 Corp Standing

The corp standing to a given race averages out the individual standing of its members to the race over time. This average is not immediate. It changes at every downtime following the steps below:

- Calculated at every downtime

- Only the standing of corp members older than seven days is included
- $\text{Standing} = (\text{Total standing of the characters giving standing}) / (\text{Number of the characters giving standing})$

It is important to note that a character that has no standing towards the given race and is not a member for more than seven days is not counted in the standing average. For example:

- **Character 1 Standing:** +8.86 towards Caldari
- **Character 2 Standing:** -0.5 towards Caldari
- **Character 3 Standing:** 0.0 No standing / neutral towards Caldari

If every character has been in the corp for more than seven days, then the corporation standing = $(8.86 + (-0.5)) / 2 = 4.18$. If Character 2 has not been a member for seven days yet, the corporation standing will be 8.86.



➡ **ANCHORING A POS REQUIRES APPROPRIATE CORP STANDING TO THE SOVEREIGN RACE. THIS STANDING CHANGES AT EVERY DOWNTIME**

[THE CONTROL TOWER]

➡ Let's review what a POS is made of. First of all you need a Control Tower. This is the soul of the whole starbase. It sets the CPU and powergrid capacity, which in turn sets how many modules and what kind of modules can be used with the tower. The anchored POS modules will only work if the tower is functional (online) and filled with fuel. An important feature of the POS is that only those who know the password can enter the forcefield and the POS can defend itself effectively against intruders, assuming that weaponry modules are online.

TYPES OF TOWERS

Towers are distinguished according to their race. Each one has a bonus typical for its given race. There is also an equivalent pirate modified version. These differ from their Empire versions typically in that they consume less fuel consumption and have more HPs. Their other important distinctive feature is their size. There are control towers, which are the largest, then medium, and small towers.

Large towers can equip more modules, and can handle the higher CPU and PG requirements of higher quality modules. However, large towers also have the highest fuel consumption. Since the fuel consumption of a small tower is about one-fourth that of a large tower, a small one cannot be equipped with many modules. Typically, small towers are used as research starbases in Empire territory, especially since weapon modules can be very demanding on CPU and PG.

Each pirate faction has a modified version of a racial tower. These special towers have better resistances and need less fuel to operate:

- Minmatar (Angel, Domination) Control Tower
- Caldari (Guristas, Dread Guristas) Control Tower
- Amarr (Blood, Sansha, Dark Blood, True Sansha) Control Tower
- Gallente (Serpentis, Shadow) Control Tower

TOWER DEFENCE

What is a tower good for? Firstly, when a tower is online, it emits an impenetrable shield around itself called a forcefield. POS modules can be placed inside the forcefield and POS weapons must be put outside. It looks like a huge bubble when it is online, while its strength depends on the size and type of the tower. The strength of a large POS can be up to 50 million hitpoints. Shooting down one of these will take a good amount of time, even with 100 battleships.

If the shield reaches the critical point of 25% of capacity, the POS will switch into 'Reinforced Mode', meaning its shield becomes untargettable. This inhibits logistics ships from repairing the shields when the POS has a Reinforced Timer. This mode is granted only when the POS has enough strontium clathrates in its fuel bay. The station burns this emergency fuel at the beginning of the reinforced mode and continues to burn it until it is entirely used up. Every POS module that needs CPU to operate will go offline and cannot be online again under Reinforced Mode.

The weapons that do not need CPU will stay active, providing defence, but if the attacking fleet manages to shoot your shields down to 25%, you probably will not have a 'weapon problem' since the weapons are usually the first modules to be targeted and destroyed.



«THE CONTROL TOWER»



You can configure your weapons to tell them under what conditions to activate. This can be defined by standings (which work best out in both low-sec and nullsec). They can be set to attack only if fired upon, or they can be set to open fire when only at war. Everybody who knows the password and has friendly standing can enter the forcefield freely.

Another useful attribute of the forcefield is that it prevents target locking from inside to outside and from outside to inside. Only the tower itself can be targeted from outside. It is useful to know that cloaking devices will not work within the forcefield. Lastly, you can access the strontium bay only if the shields capacity is above 50%.

OPERATING THE TOWER

First of all, you will need a free moon, because you can only anchor a POS to a moon. After you have chosen a suitable location, you have to bring the tower there. This is usually done via a transport ship because of the tower's size and the needed fuel. Launch the tower for your corp. Once it is in space, right-click on it and choose 'Anchor Structure'. Other structures are deployed in a similar way.

Control Towers place themselves automatically once launched.

The other POS modules will have to be placed and oriented by hand by use of the green arrows. Move the structure around until you are happy with its position, then right-click on an arrow and select 'Anchor Here'. After that, you just have to wait for the anchoring time, which is 30 minutes in the case of a large POS. You can only anchor a control tower in high-sec when you have the necessary starbase charters in your ship's cargo.

After the tower has been placed, it is useful to set password protection in order to deny access to unauthorized players. You can set it to allow free passage for corp and alliance members so they do not have to use a password. Right-click on the tower to access the 'Set Password' option. You can give the password by right-clicking on your ship or on your capacitor circle. Select 'Enter POS Password' and type it in.

When the POS is anchored and you have placed the required fuel in the fuel bay, online it by selecting the 'Online' option from its contextual menu; it will take 30 minutes.

FUEL REQUIREMENT

Every tower needs fuel to operate, this keeps the shield online and

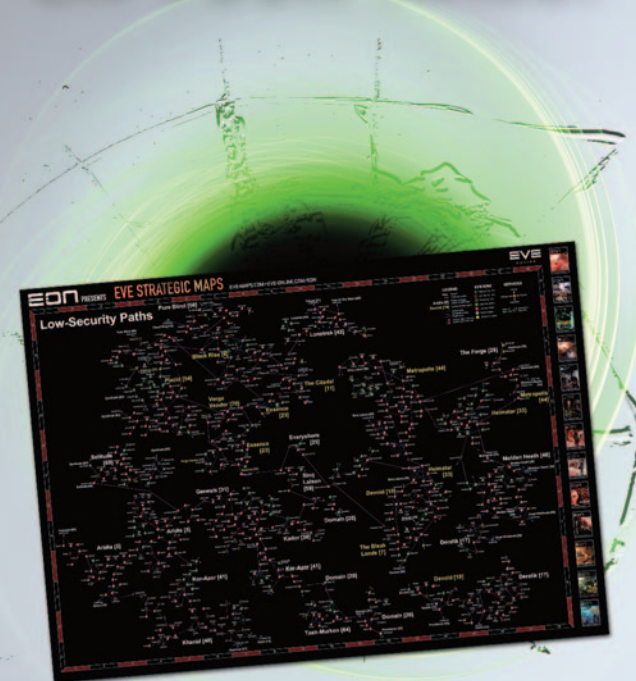
makes the placed modules work. You will need some trade goods and some other materials extracted from ice. A large tower consumes the needed fuel on a per hour basis. A medium tower consumes fuel every two hours. A small tower consumes fuel every four hours.

The needed isotope varies for every species:

- Nitrogen Isotope (Caldari tower)
- Helium isotope (Amarr towers)
- Oxygen Isotope (Gallente tower)
- Hydrogen Isotope (Minmatar tower)














Strontium Clathrates are only used in reinforced mode. The amount of Strontium placed in the fuel bay determines how long the reinforced state will last. The Liquid Ozone consumption rate is affected by the used grid capacity. For example, if the capacity of the tower is 5,000,000 but you only use 2,500,000, the tower will use only the half of the fuel.














BLACK HOLE ON YOUR WALL?





























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«THE CONTROL TOWER»

AMARR												
												
	PG	CPU	ENRICHED URANIUM	OXYGEN	MECHANICAL PARTS	COOLANT	ROBOTICS	ISOTOPEs	STARBASE CHARTER	LIQUID OZONE	HEAVY WATER	STRONTIUM CLATHRATES
Amarr Small	1,250,000	1375	1	7	2	2	1	113	1	38	38	100
Blood Small	1,250,000	1375	1	6	2	2	1	97	1	32	32	100
Sansha Small	1,250,000	1375	1	6	2	2	1	97	1	32	32	100
Dark Blood Small	1,250,000	1375	1	4	2	2	1	85	1	29	29	100
True Sansha Small	1,250,000	1375	1	4	2	2	1	85	1	29	29	100
Amarr Medium	2,500,000	2750	2	13	3	4	1	225	1	75	75	200
Blood Medium	2,500,000	2750	2	11	3	4	1	192	1	64	64	200
Sansha Medium	2,500,000	2750	2	11	3	4	1	192	1	64	64	200
Dark Blood Medium	2,500,000	2750	2	7	3	4	1	169	1	56	56	200
True Sansha Medium	2,500,000	2750	2	7	3	4	1	169	1	56	56	200
Amarr Large	5,000,000	5500	4	25	5	8	1	450	1	150	150	400
Blood Large	5,000,000	5500	4	22	5	7	1	383	1	128	128	400
Sansha Large	5,000,000	5500	4	22	5	7	1	383	1	128	128	400
Dark Blood Large	5,000,000	5500	4	16	5	5	1	338	1	113	113	400
True Sansha Large	5,000,000	5500	4	16	5	5	1	338	1	113	113	400

CALDARI												
												
	PG	CPU	ENRICHED URANIUM	OXYGEN	MECHANICAL PARTS	COOLANT	ROBOTICS	ISOTOPEs	STARBASE CHARTER	LIQUID OZONE	HEAVY WATER	STRONTIUM CLATHRATES
Caldari Small	687,500	1875	1	7	2	2	1	113	1	38	38	100
Guristas Small	687,500	1875	1	6	2	2	1	97	1	32	32	100
Dread Guristas Small	687,500	1875	1	4	2	2	1	113	1	38	38	100
Caldari Medium	1,375,000	3750	2	13	3	4	1	225	1	75	75	200
Guristas Medium	1,375,000	3750	2	11	3	4	1	192	1	64	64	200
Dread Guristas Medium	1,375,000	3750	2	7	3	4	1	169	1	56	56	200
Caldari Large	2,750,000	7500	4	25	5	8	1	450	1	150	150	400
Guristas Large	2,750,000	7500	4	22	5	7	1	383	1	128	128	400
Dread Guristas Large	2,750,000	7500	4	16	5	5	1	338	1	113	113	400

GALLENTE												
												
	PG	CPU	ENRICHED URANIUM	OXYGEN	MECHANICAL PARTS	COOLANT	ROBOTICS	ISOTOPEs	STARBASE CHARTER	LIQUID OZONE	HEAVY WATER	STRONTIUM CLATHRATES
Gallente Small	937500	1688	1	7	2	2	1	113	1	38	38	100
Serpentis Small	937500	1688	1	6	2	2	1	97	1	32	32	100
Shadow Small	937500	1688	1	4	2	2	1	85	1	29	29	100
Gallente Medium	1875000	3375	2	13	3	4	1	225	1	75	75	200
Serpentis Medium	1875000	3375	2	11	3	4	1	192	1	64	64	200
Shadow Medium	1875000	3375	2	7	3	4	1	169	1	56	56	200
Gallente Large	3750000	6750	4	25	5	8	1	450	1	150	150	400
Serpentis Large	3750000	6750	4	22	5	7	1	383	1	128	128	400
Shadow Large	3750000	6750	4	16	5	5	1	338	1	113	113	400

MINMATAR												
												
	PG	CPU	ENRICHED URANIUM	OXYGEN	MECHANICAL PARTS	COOLANT	ROBOTICS	ISOTOPEs	STARBASE CHARTER	LIQUID OZONE	HEAVY WATER	STRONTIUM CLATHRATES
Minmatar Small	1,093,750	1500	1	7	2	2	1	113	1	38	38	100
Angel Small	1,093,750	1500	1	6	2	2	1	97	1	32	32	100
Domination Small	1,093,750	1500	1	4	2	2	1	85	1	29	29	100
Minmatar Medium	2,187,500	3000	2	13	3	4	1	225	1	75	75	200
Angel Medium	2,187,500	3000	2	11	3	4	1	192	1	64	64	200
Domination Medium	2,187,500	3000	2	7	3	4	1	169	1	56	56	200
Minmatar Large	4,375,000	6000	4	25	5	8	1	450	1	150	150	400
Angel Large	4,375,000	6000	4	22	5	7	1	383	1	128	128	400
Domination Large	4,375,000	6000	4	16	5	5	1	338	1	113	113	400

⇒ EVERY TOWER NEEDS FUEL TO OPERATE, THIS KEEPS THE SHIELD ONLINE AND MAKES THE PLACED MODULES WORK

« THE CONTROL TOWER »

THE STATE OF THE POS

Right-clicking on a tower and selecting ‘Manage’ will bring up a screen with the following information:

- The size and type of the POS
- The rate of fuel consumption
- How much fuel is in the fuel bay and how long it will last
- The state of the Shield, Armour and Structure
- Resists of the Shield
- How much PG and CPU are available

The Structure tab has access to the list of POS modules, their state, and their fuel consumption. The following options can be reached directly through this tab:

- **Anchor:** Anchor the previously launched module in space; it is required to set the module online.
- **Unanchor:** Unanchoring an offline module will allow it to be scooped.
- **Put Online:** You can remotely online modules from within the protection of the POS’s forcefield, so in time of war you will not have to risk your ship.
- **Put Offline:** You can put a particular module offline, saving some precious (and sometimes necessary) fuel. This is a great solution if you want to save on fuel expenses by keeping protection modules offline when they are not needed. For example, offlining guns on high-sec POSes when not at war is common.

ATTACHED MODULES

There are POS modules for every industrial activity on a station. Typically, these modules can do their research jobs more quickly. There are also modules that can perform tasks that can only be done at a POS, for example, building supercapitals, moon harvesting, and reaction processing.

The following is a list of POS modules that can be anchored and online at a POS site. Some modules require specific conditions in order to be utilized, such as system security, and available PG and CPU on the tower. The easiest way to obtain these modules is to buy them on the market or via contracts. Then, take them to the Control Tower, which must be online, and launch, anchor and online the modules.



REFINING ARRAY

This is commonly known as a Mobile Refinery, or refining module. It enables you to refine extracted ores at the POS like you would at a normal station. However, the refinery efficiency is much lower than at a station. Ice is not affected by this drawback, because the refining person’s skills count with maximum efficiency. Note that it takes one to three hours to refine at a POS, and you can only refine one ore type at a time. There are several different module types:

MODULE NAME	CAPACITY	MAXIMUM EFFICIENCY	CYCLE TIME	PG	CPU
Intensive Refining Array	200,000 m3	75%	10,800 sec	750,000 mw	4000 tf
Medium Intensive Refining Array	25,000 m3	75%	5400 sec	375,000 mw	2000 tf
Refining Array	40,000 m3	35%	3600 sec	100,000 mw	700 tf



CORPORATE HANGAR ARRAY

This is commonly known as a Mobile Refinery, or refining module. It enables you to refine extracted ores at the POS like you would at a normal station. However, the refinery efficiency is much lower than at a station. Ice is not affected by this drawback, because the refining person’s skills count with maximum efficiency. Note that it takes one to three hours to refine at a POS, and you can only refine one ore type at a time. There are several different module types:

Capacity	1,400,000 m3
PG	100,000 MW
CPU	150 tf
Volume	4000 m3



SHIP MAINTENANCE ARRAY

You can park your ship here. However, upon docking, you will automatically be in your pod! Do not worry that your ship or your pod are in danger because the forcefield protects you. This module also provides fitting services within 3,000 meters range of it. The ship modules should either be in your cargo, or can be taken out directly if you are in range. Drag and drop them or open the fitting window and use it as if you were in station.

Capacity	1,400,000 m3
PG	100,000 MW
CPU	150 tf
Volume	4000 m3




«THE CONTROL TOWER»

MOON HARVESTING ARRAY

This array is the essential tool for moon harvesting. It is able to extract raw materials from the nearby moon, and then forward them to a storage silo or to a reactor. It is important to know that you can only harvest moons in 0.3 systems or below.


Capacity	-
PG	10,000 MW
CPU	500 If
Volume	4000 m3



SILO

Silos are storage spots for raw materials, processed materials, advanced materials or minerals, but they can only store one item of a particular type at a time. This can only be changed when it is empty and offline.


Capacity	20,000 m3
PG	50,000 MW
CPU	500 If
Volume	4000 m3



COUPLING ARRAY

The coupling array can be considered temporary storage between two modules. For example, if it is linked between a Moon Harvester and a Silo, then the harvested materials will be temporarily stored here. If this module wasn't linked, some materials could be lost when the silo goes offline for emptying. Coupling arrays can be especially useful when the two modules it links between are working at different speeds. Two harvesters and one reactor are a common combination for this. The harvesters each extract 100 units per hour, but the reactor can only process those materials in two hour cycles. So, in this case the materials are stored in the array until the beginning of the next cycle.


Capacity	1500 m3
PG	10,000 MW
CPU	155 If
Volume	4000 m3



ELECTRONIC WARFARE

There are many electronic warfare modules. Each one does a specific function, such as warp scrambling, warp disruptions, sensor dampening, stasis webifying, electronic counter measures, and energy neutralizing. These modules activate automatically depending on the security settings of the POS. Anchoring level III is required to place them.


Capacity	Varies
PG	Varies
CPU	Varies
Volume	4000 m3



TURRET AND MISSILE BATTERIES

The difference between normal and 'death star' type POSes is the ability to destroy enemies quickly. POS weapons come in different sizes, ranging from small to large. Some of the larger turrets can have an incredible range. For example, a Large Projectile turret online at a Minmatar POS with an 85x modifier can shoot to distances of 400km!

Capacity	Varies
PG	Varies
CPU	Varies
Volume	4000 m3




Small POS turrets use medium ammunition, medium turrets use large ammo, and large turrets use XL ammo. Do not forget to put the ammunition into the cargo of the weapon and load it as well. Only the same type of ammunition can be loaded into a weapon and put into its cargohold. All ammo will be depleted over time. Even the crystals of laser towers will wear over time, so they need to be changed.

MOBIL LABORATORY

This module is a crucial tool for research. There are several types: Mobile Laboratory, Advanced Mobile Laboratory, Experimental Laboratory. They each have a different combination of research slots and research bonuses.


Capacity	Varies
PG	Varies
CPU	Varies
Volume	Varies



SHIP ASSEMBLY ARRAYS

This module provides a facility for ship manufacturing. Different sizes are required to manufacture different ship categories. Advanced arrays are for manufacturing Tech II ships. There are also Assembly Arrays for different kinds of equipment such as ammunition, component, rapid equipment, and subsystem assembly arrays. Their name typically tells you what type of manufacturing they handle.


Capacity	Varies
PG	Varies
CPU	Varies
Volume	Varies



REACTORS

These are areas for mixing and matching various different substances.

Capacity	Varies
PG	Varies
CPU	Varies
Volume	Varies



«THE CONTROL TOWER»

SHIELD HARDENING ARRAY

Just like shield hardener modules, shield hardener arrays increase the resistances of the shield against different types of damage. There are modules for each of the four kinds of damage types. You can see the results of a test shooting in the chart below. The optimal hardener value is underlined. Since every race has resistance against two types of damage, it is common to fit hardeners that compliment these built-in resistances. Pay attention to the PG and CPU requirements of the modules you online so you have resources for other needed modules.

ONE MODULE		LARGE MINMATAR TOWER	
CPU	250	CPU	6000
Power	150,000	Power	4,375,000
With 16 hardener			
CPU			4000
Power			2,400,000
13 hardener (Optimal)			
CPU			3250
Power			1,950,000



RESIST / NUMBER OF HARDENERS	CRUISE MISSILE DAMAGE	CITADEL TORPEDO DAMAGE
EM	PARADISE	THOR
50% Base	256	9819
62% (+1)	195	7462
71% (+2)	148	5695
78% (+3)	113	4320
84% (+4)	82	3142
88% (+5)	61	2357
91% (+6)	46	1767

RESIST / NUMBER OF HARDENERS	CRUISE MISSILE DAMAGE	CITADEL TORPEDO DAMAGE
EXPLOSIVE	DEVASTATOR	DOOM
0% Base	512	19,638
25% (+1)	384	14,729
43% (+2)	292	11,194
57% (+3)	220	8444
68% (+4)	164	6284
76% (+5)	123	4713
82% (+6)	92	3535

RESIST / NUMBER OF HARDENERS	CRUISE MISSILE DAMAGE	CITADEL TORPEDO DAMAGE
EXPLOSIVE	DEVASTATOR	DOOM
0% Base	512	19,638
25% (+1)	384	14,729
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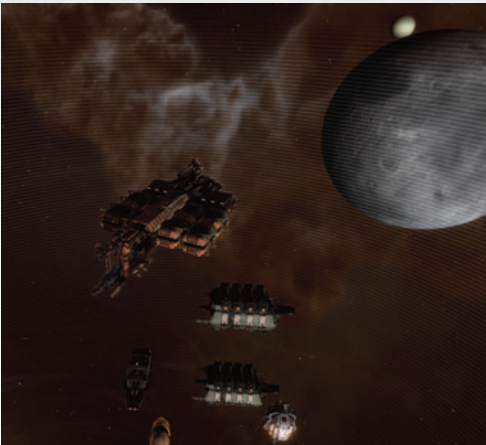
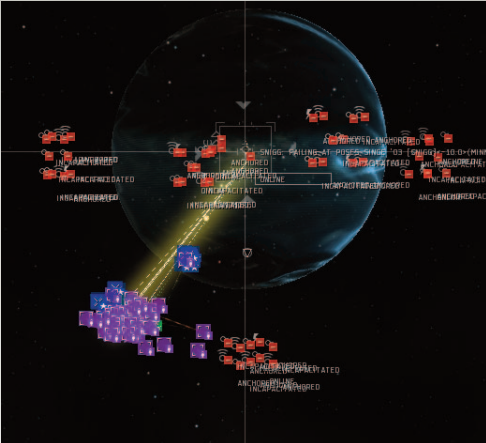
RESIST / NUMBER OF HARDENERS	CRUISE MISSILE DAMAGE	CITADEL TORPEDO DAMAGE
THERMAL	CATACLYSM	PURGATORY
25% Base	384	14,729
43% (+1)	292	11,194
57% (+2)	220	8444
68% (+3)	164	6284
76% (+4)	123	4713
82% (+5)	92	3535
86% (+6)	72	2749

It is not a direct prerequisite, but it is strongly recommended to use a transport ship with larger cargo capacity to haul the tower, modules, and fuel to the anchoring site. Freighters are the best. Carriers and industrials are close seconds. The size of the towers are 2,000 m3 (small), 4,000 m3 (medium), and 8,000 m3 (large). Most modules are around 4,000 m3, and the needed fuel is another tens of thousands m3. The transport of the harvested materials and manufactured reactions haven't been mentioned yet either. Do not forget about the need to haul these out.

SKILLS

- As with everything else, you need skills to anchor and use POSes, and you must have rights or roles to manage a tower, refinery and ship maintenance array.
- Anchoring:** Needed for the placement of modules and towers. Usually trained to level I will do, but POS Warfare Modules (jammers) need level III. Mobile Warp Disruptors need level III for smalls, level IV for mediums, and level V for large.
 - Starbase Defense Management:** This is needed for manual control of the weapons. The skill level of 'Rifleman' determines the number of controllable weapons a pilot can manage. The prerequisite is Anchoring level V.

⇒ SINCE EVERY RACE HAS RESISTANCE AGAINST TWO TYPES OF DAMAGE, IT IS COMMON TO FIT HARDENERS THAT COMPLIMENT THESE RESISTANCES



«THE CONTROL TOWER»

MODULE PROPERTIES

ARRAY	MAN	COPY	INV	ME	PE	RE	USABLE FOR	PROPERTIES
Advanced Small Ship	1	-	-	-	-	-	AF, Covert Ops, Interceptor, Interdictor, Stealth Bomber, Electronic Frigate	Base time multiplier: 0.75 Base material multiplier: 1.1
Advanced Large Ship	1	-	-	-	-	-	Black Ops, Marauder, Jump Freighter	Base time multiplier: 0.75 Base material multiplier: 1.1
Advanced Med Ship	1	-	-	-	-	-	Command ship, Exhumer, HAC, Logistics, Recon, Transport, HIC	Base time multiplier: 0.75 Base material multiplier: 1.1
Ammunition Assembly	5	-	-	-	-	-	All types of ammo (Tech I & Tech II)	Base time multiplier: 0.75
Component Assembly	10	-	-	-	-	-	Advanced & Capital Construction Components, Construction Components, Station Components, Tools	Base time multiplier: 0.75 Base material multiplier: 1.0
Drone Assembly	8	-	-	-	-	-	Every Drone (EW is, Fighters = Small Ship Assembly Array)	Base time multiplier: 0.75 Base material multiplier: 1.0
Equipment	6	-	-	-	-	-	Equipment, Modules, Implants, Material, Rigs	Base time multiplier: 0.75 Base material multiplier: 1.0
Mobile Lab	-	1	5	3	3	-	1 Copy slot (0.75 Time Multiplier) 3 ME slot (0.75 Time Multiplier) 3 PE slot (0.75 Time Multiplier) 5 Invention slot (0.5 Time Multiplier)	
Advanced Mobile Lab	-	3	2	2	0	-	3 Copy slot (0.65 Time Multiplier) 2 ME slot (0.75 Time Multiplier) 2 Invention slot (0.5 Time Multiplier)	
Large Ship Assembly	3	-	-	-	-	-	Battleship, Freighter, Orca	Base time multiplier: 0.75 Base material multiplier: 1.0
Extra Large Ship Assembly	3	-	-	-	-	-	Battleship, Carrier, Dreadnought, Freighter, Orca	Base time multiplier: 0.75 Base material multiplier: 1.0
Medium Ship	5	-	-	-	-	-	Battlecruiser, Cruiser, Industrial Ships, Mining Barge	Base time multiplier: 0.75 Base material multiplier: 1.0
Small Ship	10	-	-	-	-	-	Destroyer, Fighter Drone, Frigate, Shuttle	Base time multiplier: 0.75 Base material multiplier: 1.0
Capital Ship Assembly	1	-	-	-	-	-	Titan, Supercarrier	Base time multiplier: 1.0 Base material multiplier: 1.0
Rapid Equipment	5	-	-	-	-	-	Equipment, Modules, Implants, Material, Rigs	Base time multiplier: 0.65 Base material multiplier: 1.2
Subsystem Assembly Array	3	-	-	-	-	-	Tech III ship subsystem	Base time multiplier: 1.0 Base material multiplier: 1.0
Experimental Laboratory	-	-	-	-	-	3	3 Tech III Reverse Engineering (RE) Slot (1.0 Time Multiplier)	

The following chart shows whether a module can be anchored and put online in high-sec (minimum requirement of the system in brackets):

MODULE NAME	ANCHOR	ONLINE	NOTE
Advanced Large Ship Assembly Array	Yes	Yes	
Advanced Medium Ship Assembly Array	Yes	Yes	
Advanced Small Ship Assembly Array	Yes	Yes	
Ammunition Assembly Array	Yes	Yes	
Component Assembly Array	Yes	Yes	
Drone Assembly Array	Yes	Yes	
Equipment Assembly Array	Yes	Yes	
Extra Large Ship Assembly Array	No (0.4)	No (0.4)	Cannot Anchor in High-sec
Large Ship Assembly Array	Yes	Yes	
Medium Ship Assembly Array	Yes	Yes	
Small Ship Assembly Array	Yes	Yes	
Rapid Equipment Assembly Array	Yes	Yes	
Corporate Hangar Array	Yes	Yes	
Energy Neutralizing Battery	Yes	Yes	
Biochemical Reactor Array	No (0.3)	No (0.3)	
Medium Biochemical Reactor Array	No (0.3)	No (0.3)	
Medium Reactor Array	No (0.3)	No (0.3)	
Complex Reactor Array	No (0.3)	No (0.3)	
Reactor Array	No (0.3)	No (0.3)	
Moon Harvesting Array I	No (0.3)	No (0.3)	
Moon Harvesting Array II	No (0.2)	No (0.3)	Not in-game (yet)
Intensive Refining Array	No (0.3)	No (0.3)	
Medium Intensive Refining Array	No (0.3)	No (0.3)	
Refining Array	No (0.3)	No (0.3)	
Capital Ship Maintenance Array	No (0.0)	No (0.0)	Sovereignty Index 1 is required Supercap Const. Facil. Upg. req.
Ship Maintenance Array	Yes	Yes	
Capital Ship Assembly Array	No (0.0)	No (0.0)	Sovereignty Index 1 is required Supercap Const. Facil. Upg. req.
System Scanning Array	No (0.0)	No (0.0)	Not in-game (Removed)
Jump Bridge	No (0.0)	No (0.0)	Sovereignty Index 3 required Adv. Logis. Network Upg. req.
Cynosural System Jammer	No (0.0)	No (0.0)	Sovereignty Index 3 required Cynosural Supp. Upg. required
Cynosural Generator Array	No (0.0)	No (0.0)	Sovereignty Index 2 required Cynosural Nav. Upg. required
Experimental Laboratory	Yes	Yes	
Subsystem Assembly Array	Yes	Yes	
Polymer Reactor Array	No (0.3)	No (0.3)	

[MOON HARVESTING]>>



Before you harvest a moon, you need to survey it in order to find out what materials it will yield. Keep in mind that you only need to survey moons in 0.3 systems or lower, because you cannot anchor a moon harvester in higher security status systems.

Be careful when 'warping to zero' at moons. Should you arrive at an armed, online POS then your scanning operation will have a very short life. But look on the bright side, at least the owner of the POS will get your kill mail.

REQUIRED EQUIPMENT

You must choose a ship with sufficient cargo and CPU to put on an Expanded Probe Launcher, and have enough room for a lot of Moon Probes in your ship cargo. An ideal choice is the transport ship class. If there are 50 moons in a system and you want to survey them all, keep in mind the amount of cargo space you'll need in order to bring along enough probes for them all. Normally, the fitting setup can be something like:

- **High Slot:** Expanded Probe Launcher, Cloaking Device
- **Mid Slot:** Afterburner or Microwarpdrive
- **Low Slot:** Inertia Stabilizer, Nanofiber Internal Structure so you can align to the moon faster

SURVEY PROBES

These work the same as other probes (see the Exploration chapter for more details on probing). Launch them, then wait for the result. There are three types, which differ in scanning time and skill requirement. The faster a probe, the more skill is needed and also the more expensive they are.

- **Quest survey probe:** 40 minutes scan time, skills needed: Astrometrics III, Survey III
- **Discovery survey probe:** 10 minutes scan time, skills needed: Astrometrics III, Survey III
- **Gaze survey probe:** 5 minutes scan time, skills needed: Astrometrics V, Survey V

SURVEY PROBE: INFORMATION	SURVEY PROBE: INFORMATION	SURVEY PROBE: INFORMATION
QUEST SURVEY PROBE I	DISCOVERY SURVEY PROBE I	GAZE SURVEY PROBE I
DESCRIPTION ATTRIBUTES PREREQUISITES	DESCRIPTION ATTRIBUTES PREREQUISITES	DESCRIPTION ATTRIBUTES PREREQUISITES
SKILLS	SKILLS	SKILLS
PRIMARY SKILL REQUIRED	PRIMARY SKILL REQUIRED	PRIMARY SKILL REQUIRED
✓ Astrometrics Level III	✓ Astrometrics Level III	✓ Astrometrics Level V
✓ Science Level III	✓ Science Level III	✓ Science Level III
SECONDARY SKILL REQUIRED	SECONDARY SKILL REQUIRED	SECONDARY SKILL REQUIRED
✓ Survey Level III	✓ Survey Level III	✓ Survey Level V
✓ Electronics Level I	✓ Electronics Level I	✓ Electronics Level I
MAX FLIGHT TIME 2400.00 s	MAX FLIGHT TIME 600.00 s	MAX FLIGHT TIME 300.00 s

SURVEY PROGRESS

You have two options to start out with when surveying moons. On the one hand, you can warp to the given moon in your pod and check if there is something there or not (a POS will not shoot a pod under any circumstance). If no POS is already there, you can return later with a scanning ship.

On the other hand, you can warp to the given planet instead of the moon, and use the directional scanner, selecting a 360° angle. If you see a Control Tower, check the individual moons before warping there.

The point is to never warp blindly to a moon with a ship, because it might end with "WTFPWED" and a lossmail.

Now that you know what not to do, here is what you should do:

- Warp to the moon (provided it has nothing anchored to it already), if it does not show on the overview, add it, so it will be easier to target.
- Align to the moon and make sure you are moving toward it.
- Launch the probe. It will fly to the moon if you have aimed well. When the scan time elapses you will get the scan results. If you missed the moon, you will get a 'Probe Communication Failed' error message. If you succeeded, the Moon Analysis will become active and you can see what you have found there.
- Beware! If you leave the system, change ships or dock, you will not get the results!

At this point, you can cloak at a safe spot and wait for the results.

THE RESULTS

If the scanning is successful, you will see the raw materials the moon will yield as well as the abundance of that material. The abundance is an indication of how much of that material can be extracted in a cycle. This value varies from one to four.

If you found something you want to harvest, then plan ahead. In many cases, it is nearly impossible to set up and defend a POS, much less transport fuel in and reactions out, if you are smack in

the middle of enemy territory. Also, take a hard look at if the harvesting is worth the effort. POSes need fuel, which is not free, even if you harvest the ice. If the POS costs more than it will make, then you should do something more profitable, like NPC hunting, running missions, or simply mining.

MOON HARVESTING

Moon harvesting is similar to mining, but here a POS is used to harvest bigger ore, the source of which never depletes. The materials yielded will be the base materials for Tech II equipment, but they need to be processed into reactions first.

You will need:

- A mineable Moon in a 0.3 system or below
- A POS with a Moon Harvesting Array module
- A Silo to store the materials
- A Reactor if you want these materials to be processed

REACTION BLUEPRINTS

Reaction BPOs, like normal equipment and ship blueprints, are necessary to make something 'more complex' from raw materials. Processing reactions has several stages. The simplest way to understand this process is to think of it as baking bread.

RAW MATERIALS	PROCESSED MATERIALS	ADVANCED MATERIALS
Wheat	Flour	Bread

SCANNER		
SYSTEM SCANNER DIRECTIONAL SCAN MOON ANALYSIS		
MOON	PRODUCT	ABUNDANCE
B-2UL0 I - Moon 1	Hydrocarbons	1
B-2UL0 I - Moon 1	Atmospheric Gases	1
B-2UL0 I - Moon 1	Silicates	1
B-2UL0 V - Moon 1	Silicates	1
B-2UL0 V - Moon 2		
B-2UL0 V - Moon 5	Mercury	1

⚡ TAKE A HARD LOOK AT IF THE HARVESTING IS WORTH THE EFFORT. POSes NEED FUEL, WHICH IS NOT FREE, EVEN IF YOU HARVEST THE ICE

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« MOON HARVESTING »

In order to make advanced materials, you need the basic minerals and the appropriate blueprint. These can be further processed to create more complex reactions. You can sell the raw materials harvested from a moon if you want to. Dealing in reactions can get you into the market of Processed Materials, or if you want the big money then create advanced materials and Tech II equipment and ships.

There are two levels of processing: simple reactions and complex reactions:

- First step: Raw materials -> [Simple reaction blueprint] -> Processed Materials. So crops + skill (BPO) makes flour.
- Second step: Raw Processed Materials -> [Complex reaction blueprint] -> Advanced Materials. So flour + skill (BPO) = Bread.

In order to use these blueprints, you just need to put them into the reactor along with the necessary materials and start the reaction. Or, to be more specific:

- Right-click on the Reactor and choose Access Resources.
- Drag and drop the materials and the BPO into the reactor.
- Set the reactions from the tower's production tab before you start it.
- Start the reactor by onlining it.

Do not forget to link the silos and reactors on the production tab. Raw material that is stored in the silo is listed on the right. That same material should go into the reactor on the left. The resulting reaction will be displayed to the right of the reactor. Once this is all setup, click Apply to save the path. If you do not, it will not work.

HARVESTING

Before you can set up for harvesting, you must find a moon you want to harvest from. Once you've located this, and have placed the POS, the moon harvester and the silo, you must set up the workflow. By default, all tasks are offline. These can be modified through the control tower's interface. Keep in mind that any change in the workflow or process can only be done if the affected modules are offline.

- First step: Setting the Harvester(s). Open the Control Tower's management tool and go to the Production tab. Choose 'Change Type' at the moon harvest option, and then choose one of the materials you can harvest from the moon. Finally, click Apply.
- Second step: Choosing the Silo. Just like with setting up the harvesters, choose Change Type. You can choose only one material for storage.
- Third step: Linking. Once the materials have been set, all you have to do is to connect the harvester array's output to the silo's input. Do not forget to click Apply, and then set the modules online. Always online the silo first, and the harvester last.



「 THE ART OF REACTIONS 」



Now that you know how to harvest, how do you figure out what to harvest? There are two types of raw materials: gases and metals. Gases are more common. Metals are extremely rare.

GASES	
Atmospheric Gases	
Evaporite Deposits	
Hydrocarbons	
Silicates	

METALS			
Cadmium		Platinum	
Caesium		Promethium	
Chromium		Scandium	
Cobalt		Technetium	
Dysprosium		Thulium	
Hafnium		Titanium	
Mercury		Tungsten	
Neodymium		Vanadium	

Moon harvesting arrays can harvest 100 units in a cycle, but they can only harvest one material. If a moon yields two different raw materials then you will need two harvesters in order to pull them both. Once harvesting is set up, the process will continue automatically until you either stop the process or the destination silo is filled. In order to empty the silo, it needs to be offline, so a coupling array can be a useful buffer. It is not difficult to set this up. Set the harvester's output to the coupling array and link the array to the silo. When you empty the silo, you can avoid any gaps in harvesting with this setup.

Now that we have some raw materials, we can either sell them or process them further.

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«THE ART OF REACTIONS»

PROCESSED MATERIALS

If you want to process the raw materials further instead of selling them, you will need a reactor array and a BPO for that reaction. Just like when manufacturing modules and ships, new materials are created from combining raw materials in a reactor, according to a blueprint plan. The difference is that the raw materials are the minerals mined from moons instead of asteroids. You can only use the materials listed in the blueprint to manufacture the reaction. In other words, the reaction will only work with those materials.

Once anchored, the reactor needs to be set up for manufacturing. Place the blueprint for your desired reaction into the reactor's hold. The reactor automatically recognizes it and indicates whether one or more materials are needed for the reaction to start. Normally the reactor will check the content of the connected silo, and offers those materials for use. You can also supply the reactor with the necessary

materials directly from a harvester, but this is not as efficient.

After setting the source of the raw materials, select an output silo for the processed material or reaction. If everything is set, the reaction will start. In this case, the raw material from the silo or the harvester will flow to the reactor. Fitted with the appropriate blueprint, the reactor will create a new material. This new material flows to the output silo for storage. If you do not have a material needed for a reaction, you can buy it or get it by using another POS and transport the material to this POS for the reaction.

Once the reaction process is complete, the next step is to decide whether to take your product to market or use it to make more advanced construction materials.

Reactions, or processed materials created by reactors, are mixtures of the following gases and metals:















































REACTION NAME			RAW MATERIALS						PROCESSED MATERIAL	
	Caesarium Cadmide Reaction	+		100 x Caesium	+		100 x Cadmium	»»		200 x Caesarium Cadmide
	Carbon Polymers Reaction	+		100 x Hydrocarbons	+		100 x Silicates	»»		200 x Carbon Polymers
	Ceramic Powder Reaction	+		100 x Evaporite Deposits	+		100 x Silicates	»»		200 x Ceramic Powder
	Crystallite Alloy Reaction	+		100 x Cadmium	+		100 x Cobalt	»»		200 x Crystallite Alloy
	Dysporite Reaction	+		100 x Dysprosium	+		100 x Mercury	»»		200x Dysporite
	Fernite Alloy Reaction	+		100 x Scandium	+		100 x Vanadium	»»		200 x Fernite Alloy
	Ferrofluid Reaction	+		100 x Dysprosium	+		100 x Hafnium	»»		200 x Ferrofluid
	Fluxed Condensates Reaction	+		100 x Neodymium	+		100 x Thulium	»»		200 x Fluxed Condensates
	Hexite Reaction	+		100 x Chromium	+		100 x Platinum	»»		200 x Hexite
	Hyperflurite Reaction	+		100 x Promethium	+		100 x Vanadium	»»		200 x Hyperflurite
	Neo Mercurite Reaction	+		100 x Mercury	+		100 x Neodymium	»»		200x Neo Mercurite
	Platinum Technite Reaction	+		100 x Platinum	+		100 x Technetium	»»		200 x Platinum Technite
	Prometium Reaction	+		100 x Cadmium	+		100 x Promethium	»»		200 x Prometium
	Rolled Tungsten Alloy Reaction	+		100 x Platinum	+		100 x Tungsten	»»		200 x Rolled Tungsten Alloy
	Silicon Diborite Reaction	+		100 x Evaporite Deposits	+		100 x Silicates	»»		200 x Silicon Diborite
	Solerium Reaction	+		100 x Caesium	+		100 x Chromium	»»		200 x Solerium
	Sulfuric Acid Reaction	+		100 x Atmospheric Gases	+		100 x Evaporite Deposits	»»		200 x Sulfuric Acid
	Titanium Chromide Reaction	+		100 x Chromium	+		100 x Titanium	»»		200 x Titanium Chromide
	Vanadium Hafnite Reaction	+		100 x Vanadium	+		100 x Hafnium	»»		200 x Vanadium Hafnite

«THE ART OF REACTIONS»




































ADVANCED MATERIALS

Just like before, you can process the materials you already have further. These will be the basic materials for Tech II manufacturing. Every Advanced Material is made of two or more primary materials (as the primary materials are made similarly). Do not forget that if you want to change the reactor’s contents, you have to empty and set the silo to offline and the reactor as well. In practice, the process is the same as in the case of the Processed Materials, only with different materials and blueprints used.

REACTION NAME			PROCESSED MATERIALS						ADVANCED MATERIAL	
	Crystalline Carbonide Reaction	+		100 x Crystallite Alloy	+		100 x Carbon Polymers	»»		10,000 x Crystalline Carbonide
	Fermionic Condensates Reaction	+		100 x Caesium Cadmide + 100 x Dysporite	+		100 x Fluxed Condensates + 100 x Prometium	»»		200 x Fermionic Condensates
	Fernite Carbide Reaction	+		100 x Fernite Alloy	+		100 x Ceramic Powder	»»		10,000 x Fernite Carbide
	Ferrogel Reaction	+		100 x Hyperflurite + 100 x Hexite	+		100 x Ferrofluid + 100 x Prometium	»»		400 x Ferrogel
	Fulleride Reaction	+		100 x Carbon Polymers	+		100 x Platinum Technite	»»		3000 x Fullerides
	Hypersynaptic Fibers Reaction	+		100 x Solerium	+		100 x Dysporite + 100 x Vanadium Hafnite	»»		750 x Hypersynaptic Fibers
	Nanotransistors Reaction	+		100 x Sulfuric Acid	+		100 x Platinum Technite + 100 x Neo Mercurite	»»		1500 x Nanotransistors
	Phenolic Composites Reaction	+		100 x Silicon Diborite	+		100 x Caesium Cadmide + 100 x Vanadium Hafnite	»»		2200 x Phenolic Composites
	Sylramic Fibers Reaction	+		100 x Ceramic Powder	+		100 x Hexite	»»		6000 x Sylramic Fibers
	Titanium Carbide Reaction	+		100 x Titanium Chromide	+		100 x Silicon Diborite	»»		10,000 x Titanium Carbide
	Tungsten Carbide Reaction	+		100 x Rolled Tungsten Alloy	+		100 x Sulfuric Acid	»»		10,000 x Tungsten Carbide

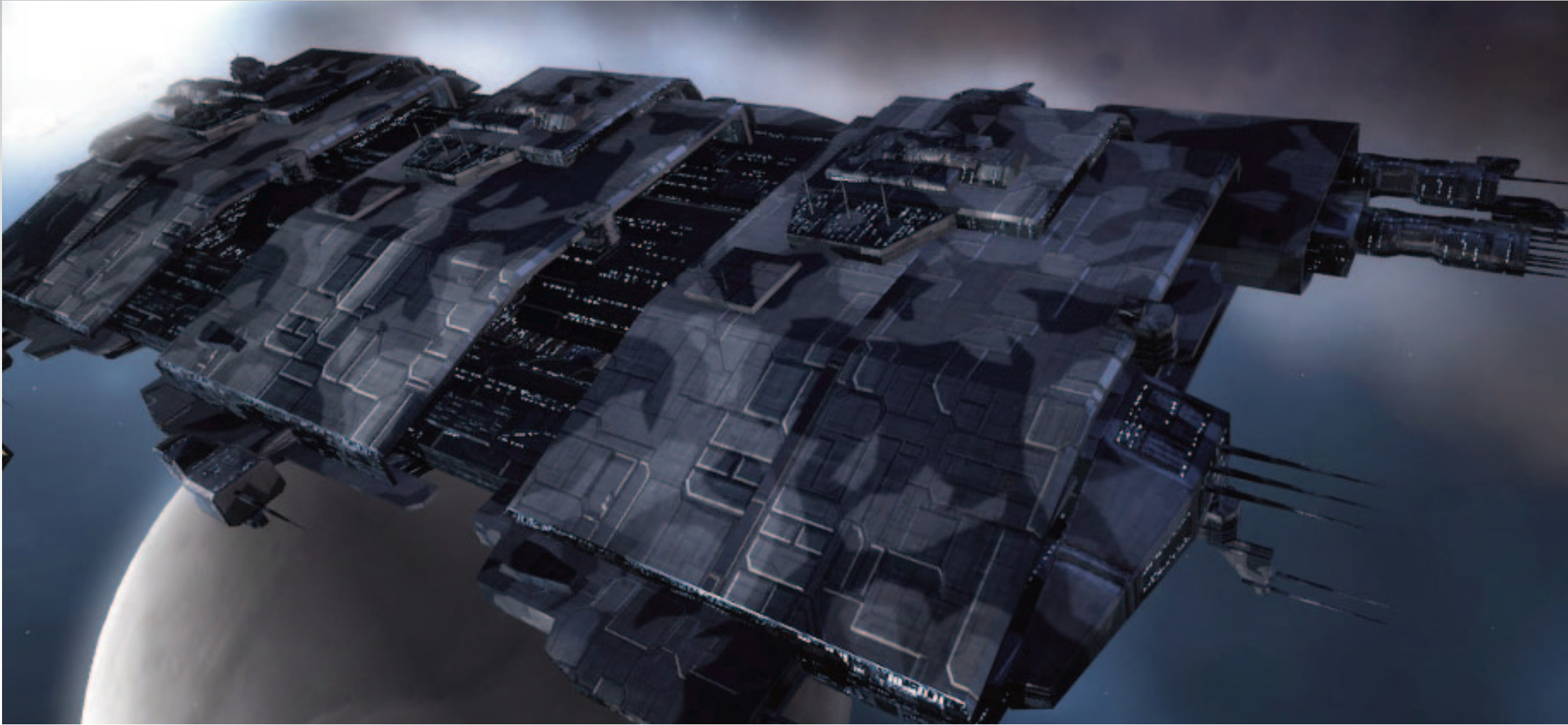
ALCHEMY – HUNTING THE PHILOSOPHER’S STONE

Making basic materials can be simple, but they don’t sell for that much. Making the most complex materials is far more lucrative. But how does it work? There are six reactions making these expensive materials from relative worthless ones. For example, take Ferrofluid. There are two ways to make Ferrofluid. The first method is to take 100 units of Hafnium and 100 units of Dysprosium to make 200 units of Ferrofluid. The problem is that Dysprosium is very rare, and is very expensive on the market. Dysprosium moons are even rarer, and are usually controlled by large alliances. The second method is less efficient, but much cheaper. One unit of raw Ferrofluid is processed from 100 units of Hafnium and 100 units of Cadmium. After refining them, there will be ten units of Ferrofluid and 95 units of Hafnium. Refining can be done anywhere. Naturally, the efficiency and standing rules apply for the refinery process in this case as well.

REACTION NAME		MOON MATERIALS			PROCESSED MATERIAL			AFTER REFINING		
 Unrefined Dysporite Reaction	+	 100 x Cadmium	+	 100 x Mercury	»»	 1 x Unrefined Dysporite	↻	 10 x Dysporite	+	 95 x Mercury
 Unrefined Ferrofluid Reaction	+	 100 x Cadmium	+	 100 x Hafnium	»»	 1 x Unrefined Ferrofluid	↻	 10 x Ferrofluid	+	 95 x Hafnium
 Unrefined Fluxed Condensates Reaction	+	 100 x Platinum	+	 100 x Vanadium	»»	 1 x Unrefined Fluxed Condensates	↻	 10 x Fluxed Condensates	*	
 Unrefined Hyperflurite Reaction	+	 100 x Chromium	+	 100 x Vanadium	»»	 1 x Unrefined Hyperflurite	↻	 10 x Hyperflurite	+	 95 x Vanadium
 Unrefined Neo Mercurite Reaction	+	 100 x Platinum	+	 100 x Mercury	»»	 1 x Unrefined Neo Mercurite	↻	 10 x Neo Mercurite	+	 95 x Mercury
 Unrefined Prometium Reaction	+	 100 x Chromium	+	 100 x Cadmium	»»	 1 x Unrefined Prometium	↻	 10 x Prometium	+	 95 x Cadmium

* Currently, Unrefined Fluxed Condensates do not leave and materials behind, ‘only’ ten units of Fluxed Condensates.

«THE ART OF REACTIONS»



AN EXAMPLE
Crystalline Carbonide is merely used here as an example. It should not necessarily be produced as it depends on the market. The prices used in the example may not be correct since they may fluctuate greatly.

- Investment**
- **Equipment:** Two POSes with modules are about 1 to 1.1 billion ISK. A freighter is 800 million ISK.
 - **Raw Materials:** Silicates, Hydrocarbon, Cadmium, Cobalt. The market price of the raw materials is approximately 122 million ISK for four weeks of mining.
 - **POS fuel:** The fuel for two Caldari large towers for four weeks is around 245 million ISK.

So the approximate total is 368 million ISK of cost every four weeks. The final product is 13,440,000 million units of Crystalline Carbonide. In this example, it is calculated with a sell price of 50 ISK per unit, which is 672 million ISK. The profit of the four weeks is about 300 million ISK. The expenses of running the POS are covered by this reaction (not calculating the freighter) within three to four months.
Putting up a POS can take about four to five hours, with some practice. Although it might seem enough to only online one POS, it is worth building two POSes simultaneously, since anchoring and onlining the modules take time. The true pro can setup four POSes at the same time.

TEAMWORK
As you can see, such a business operation is really time, energy and money-consuming. Complete production lines are set up and operated by several friendly corporations or alliances.
One POS, even if it is a large one, is not able to supply enough PG and CPU for so many harvesters, reactors and silo modules. Then there are still the POS defence modules to consider.
Fuel supply is an essential element. The expense and logistics of getting fuel to a POS can be difficult for a small corp to handle. Before embarking on a POS project, calculate the cost and profits to see if it is worth even attempting.
If you produce Tech II equipment on your own moon, you can make quite a profit, but remember to take into account what it costs to make that item. In the end, it may be most cost effective to share this operation among corporation members.

USEFUL ADVICE
There are two recommended setups:

- The hangar should be next to the tower, so that you can put the fuel in with just one move even when sitting in a shuttle.
- Likewise, the silos should be anchored within range of the hangar.

Set up your POS in such a way that it is easy to recognize which silo contains what materials, so that you do not have to constantly check the POS Production tab. For example, going from top to bottom, arrange the silos like this: basic materials, the reactor, then output materials. This produces basic materials from moon ore, and moves it to the reactor to create the complex reaction. A side silo in the line could be a coupling array. You never have to put the reactors offline if they empty into the coupling array and that in turn empties into a storage silo.

CARBON POLYMERS REACTION	CRYSTALLITE ALLOY REACTION	CRYSTALLINE CARBONIDE REACTION
<div>ATTRIBUTES</div> <div>REACTION</div>	<div>ATTRIBUTES</div> <div>REACTION</div>	<div>ATTRIBUTES</div> <div>REACTION</div>
RESOURCES	RESOURCES	RESOURCES
HYDROCARBONS 100 Units	COBALT 100 Units	CRYSTALLITE ALLOY 100 Units
SILICATES 100 Units	CADMIUM 100 Units	CARBON POLYMERS 100 Units
PRODUCTS	PRODUCTS	PRODUCTS
CARBON POLYMERS 200 Units	CRYSTALLITE ALLOY 200 Units	CRYSTALLINE CARBONIDE 10,000 Units

🔗 **SET UP YOUR POS IN SUCH A WAY THAT IT IS EASY TO RECOGNIZE WHICH SILO CONTAINS WHAT MATERIALS, SO THAT YOU DO NOT HAVE TO CONSTANTLY CHECK THE POS PRODUCTION TAB**

EXPLORATION

»» EXPLORATION BASICS

»» SCANNING

»» SIGNAL TYPES

»» WORMHOLES



[EXPLORATION BASICS]>>

➡ The EVE universe is full of hidden surprises and resources, all just waiting to be discovered. It takes a little bit of luck, some perseverance, and a lot of experience to find and exploit these hidden gems. Even in high-sec areas, it is possible to find interesting and relatively valuable locations, but the real profit in Exploration is in 0.0 and the unknown space of wormhole systems. Remember, such an undertaking is far from risk-free, given the lack of CONCORD when not in high-sec.

NECESSARY EQUIPMENT

- **Ships:** In order to explore the universe, you will need an appropriate ship. It is best to use a covert ops ship because of its scanning bonus and ability to cloak and warp cloaked. After finding and bookmarking a hidden site, you can switch to a combat vessel as needed.

Probe launcher:

- **Core Probe Launcher:** Exploration use only, in return it has very light fitting requirements: 15 CPU and 1 MW powergrid.

- **Expanded Core Probe Launcher:** Can be used for scanning ships, buildings, and drones in addition to exploration sites. 220 CPU and 1MW PG are needed.

There are ‘Sisters of EVE’ faction versions of these, which are easier to fit, have faster Rate of Fire and a 5% bonus to scanning strength.

Probes:

- **Combat Scanner Probe:** Used for scanning player ships, structures; fits into the Expanded Core Probe Launcher.
- **Core Scanner Probe:** The bread and butter of exploration, used for finding sites.
- **Deep Space Scanner Probe:** Launched from the Expanded Core Probe Launcher, you can scan for anything with it, although you won’t be able to pinpoint it, the larger scan radius is useful to determinate if the system has any sites or not.

The Sisters variants of these probes have a 10% bonus to scan strength.





SKILLS, IMPLANTS AND RIGS

The table below shows the skills, implants and the rig used for exploration, with a short description:



TYPE		NAME	DESCRIPTION	PREREQUISITE
	Skill	Astrometrics	Skill at using long-range scanners. It allows the use of one more probe per level. The first level allows using four probes	Science level III
	Skill	Astrometric Pinpointing	Makes scans more accurate by reducing deviation by 10% per level	Astrometrics level IV Science level III
	Skill	Astrometric Acquisition	Allows faster scanning. 10% reduction in the scanning time per level	Astrometrics level III Science level III
	Skill	Astrometric Rangelinding	This skill increases the probes’ strength by 10% per level	Science level III
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPF-0	2% increase in scanning accuracy	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPF-1	6% increase in scanning accuracy	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPF-2	10% increase in scanning accuracy	Science level III Cybernetics level III
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPG-0	2% reduction in scanning time	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPG-1	6% reduction in scanning time	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPG-2	10% reduction in scanning time	Science level III Cybernetics level III
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPH-0	Increases the probe strength by 2%	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPH-1	Increases the probe strength by 6%	Science level III Cybernetics level I
	Implant	Hardwiring- Poteque Pharmaceuticals ‘Prospector’ PPH-2	Increases the probe strength by 10%	Science level III Cybernetics level III
	Rig	Gravity Capacitor Upgrade I	Increases the probe strength by 10%	Jury Rigging I
	Rig	Gravity Capacitor Upgrade II	Increases the probe strength by 15%	Jury Rigging IV

«EXPLORATION BASICS»


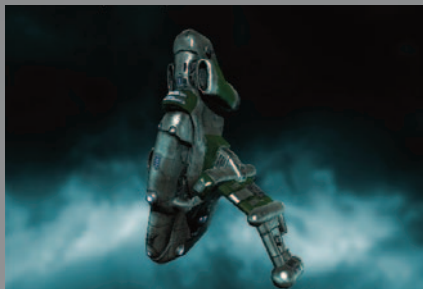


SHIP CLASS SHIP NAME	FRIGATE MAGNATE	
Ship Bonus	Amarr Frigate Skill Bonus (per skill level): 5% bonus to Small Energy Turret capacitor use 5% increase to scan strength of probes 5% reduction in survey probe flight time	
Prerequisite Skill	Amarr Frigate level II	
CLASS NAME	COVERT OPS ANATHEMA	
Ship Bonus	Amarr Frigate Skill Bonus (per skill level): 5% bonus to rocket damage 5% reduction of capacitor recharge time Covert Ops Skill Bonus (per skill level): -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes -10% bonus to survey probe flight time	
Prerequisite Skill	Amarr Frigate level V, Covert Ops level I	





SHIP CLASS SHIP NAME	FRIGATE HERON	
Ship Bonus	Caldari Frigate Skill Bonus (per skill level): 5% bonus kinetic missile damage 5% increase to scan strength of probes 5% reduction in survey probe flight time	
Prerequisite Skill	Caldari Frigate level II	
CLASS NAME	COVERT OPS BUZZARD	
Ship Bonus	Caldari Frigate Skill Bonus (per skill level): 5% bonus to Missile Kinetic Damage -5% bonus to Missile Launcher Rate of Fire Covert Ops Skill Bonus (per skill level): -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes -10% bonus to survey probe flight time	
Prerequisite Skill	Caldari Frigate level V, Covert Ops level I	



SHIP CLASS SHIP NAME	FRIGATE IMICUS	
Ship Bonus	Gallente Frigate Skill Bonus (per skill level): 5% bonus to drone control range 5% increase to scan strength of probes 5% reduction in survey probe flight time	
Prerequisite Skill	Gallente Frigate level II	
CLASS NAME	COVERT OPS HELIOS	
Ship Bonus	Gallente Frigate Skill Bonus (per skill level): 5% bonus to Small Hybrid Turret damage 10% bonus to Scout Drone Thermal damage Covert Ops Skill Bonus (per skill level): -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes -10% bonus to survey probe flight time	
Prerequisite Skill	Gallente Frigate level V, Covert Ops level I	



SHIP CLASS SHIP NAME	FRIGATE PROBE	
Ship Bonus	Minmatar Frigate Skill Bonus (per skill level): 5% bonus cargo capacity 5% increase to scan strength of probes 5%-reduction in the flight time of survey probe	
Prerequisite Skill	Minmatar Frigate level II	
CLASS NAME	COVERT OPS CHEETAH	
Ship Bonus	Minmatar Frigate Skill Bonus (per skill level): 5% bonus to Small Projectile Turret Damage 10% bonus to Small Projectile Turret Optimal Range Covert Ops Skill Bonus (per skill level): -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes -10% bonus to survey probe flight time	
Prerequisite Skill	Minmatar Frigate level V, Covert Ops level I	

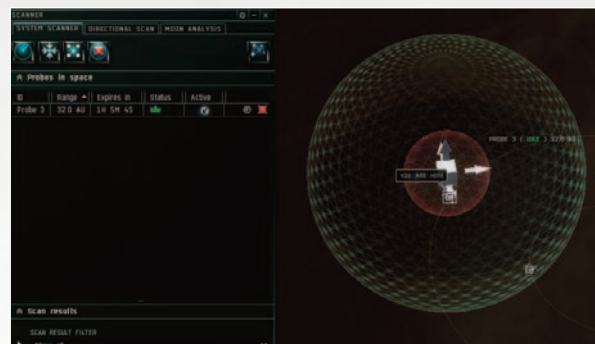
[SCANNING]

Ship all set up and ready to go? To find out where we should be heading, we need to know how to make the most of our scanners. So, load your new scanning ship with a probe launcher and probes, and let's get started.

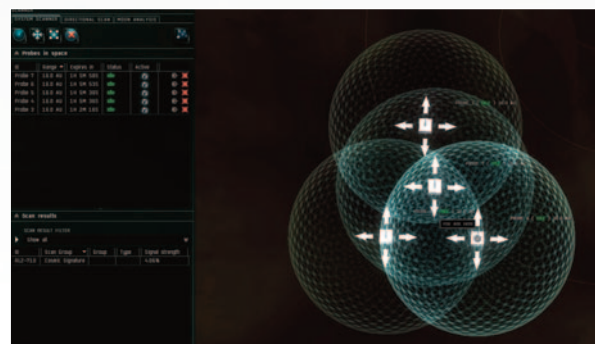
Undock, open the scanner window, launch a probe, set it to maximum range and perform a scan. One probe may not cover the entire system, so it is a good idea to launch more probes for maximum coverage (or use 'Deep Space' probes). You can adjust the probes' range by right-clicking its row in the scanner window and selecting one increment from the submenu. Start with the maximum range. You should also switch to the Solar System map, as you will spend a lot of time watching those spheres.



SCANNING STEPS



1 The results, if any, will be shown on the Scan Results part of the scanner window along with the signal's strength. The white-blue sphere is the selected probe's range, the arrows are used for moving the probe around, and the red sphere is the relative vicinity of the signal. We will cover that red area with additional probes. Using four to five probes is enough to find a site in most cases. For the rest of this chapter we will show a basic, but effective pyramid method.



2 Spatial thinking is rather important. Start by creating a triangle out of four probes around the lower part of the red sphere, move the fifth probe to the middle, and 'raise' it to the upper part of the red sphere. The basic idea is that we cover the red sphere's volume with the probes' collective scan ranges.



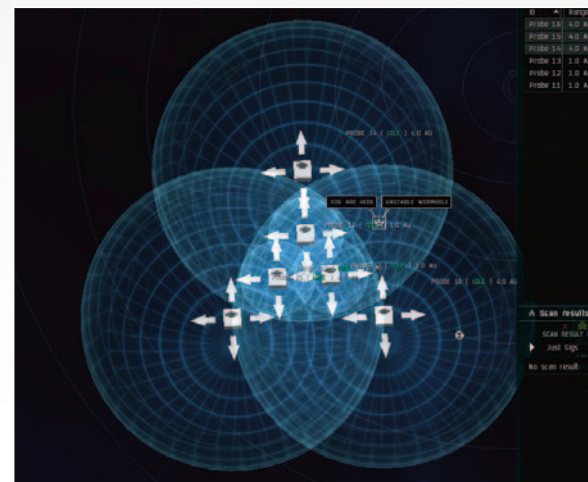
3 After another successful scan we see a red circle, which means that two of our probes see the signal and it's somewhere along that circle. Move the probes around the circle, to cover its entire length. You should also decrease the scan range by one increment.



4 We can certainly see that there is something, and the sole red dot tells us that at least three of our probes are locating it. Move the probes closer again and decrease their range. Try to maintain the pyramid formation.



5 Bingo! We can see that it is a Wormhole. We can bookmark it by right-clicking on the green dot. If we are in a combat ship, we can warp there right away, or we can fetch one if we are flying a covert ops to do our scans. Important: Do not forget to CALL BACK THE PROBES!



6 When the signal is not 100%, but probes are already set to the smallest range, then we must use more probes. The 'formation' shown in this image is a good example for getting better results.

RESULT TYPES

We can encounter three types of dots:

- **Red:** Bad signal, additional scan required.
- **Yellow:** Medium signal strength, revealing some attributes of the signal, but we still need to refine the search.
- **Green:** Signal strength is 100%, we can bookmark the spot right away.

If you leave the system, disconnect or dock, the probes will remain in their place until their time in space expires. You can reconnect to your active probes by using the reconnect button on the scanner interface.

⇒ **ONE PROBE MAY NOT COVER THE ENTIRE SYSTEM, SO IT IS A GOOD IDEA TO LAUNCH MORE PROBES FOR MAXIMUM COVERAGE**

[SIGNAL TYPES]>>



It is important to note that the system security status has a major impact on what class of Wormhole system we find and how difficult the sites are. Naturally, high-sec systems are the least profitable, low-sec (0.4-0.1) systems are the middle ground and finding a WH in nullsec usually means big business.

Currently there are six types of signals:

- **Unknown:** Combat sites, complexes. Usually everything shows up as unknown while the signal is weak.

- **Gravimetric:** Hidden asteroid fields.
- **Ladar:** Harvestable gas clouds.
- **Magnetometric:** Archeology and salvaging sites.
- **Radar:** Hacking site.
- Wormhole

Let's go into detail on each of the signal types:

UNKNOWN

TYPE	COMBAT SITE
Skills that you may need	A great deal of combat skills, mostly PvE related
Necessary equipment	A vessel capable of dealing with the NPCs and maybe collecting whatever remains
NPC Presence	Yes, they are everywhere!
What you can expect	Shooting, shooting and more shooting
Other Information	<p>Wormholes and combat sites both fall under the unknown signal. They are also sites that show up really early in scanning, if you have a signal at 20-30% and it says unknown, its either a combat site or a wormhole. (handy if you are/are not looking for these sites so you can either discard it or discard the other signal.)</p> <p>1.0-0.5: In most cases, you may find frigates and cruisers, sometimes a lone battleship may come, but that is very rare</p> <p>0.5-0.1: Mostly smaller craft, but more powerful and are worth more than in high-sec. There is also a bigger chance for battleships to show up</p> <p>0.0: Anything goes. Usually strong cruisers to start with, and it is quite common to run into six to eight battleships</p> <p>There is a chance that a combat site will escalate. If that happens, you will get a temporary bookmark in your journal. However, you will have a time limit to wipe the complex free of the NPCs ranging from a couple hours to about one day</p>



GRAVIMETRIC

TYPE	HIDDEN ASTEROID FIELD
Skills that you may need	Mining and beyond
Necessary equipment	Anything you can mine with. Sometimes it is a Deadspace pocket with an acceleration gate; that means no MWDs inside
NPC Presence	Always present, but be careful – after killing the last wave, the site may disappear. You should have a combat ship around, always tank these rats to avoid this while you are mining
What you can expect	You have your own private mining place
Other Information	Mostly non-respawning, low-sec ores, in varying amount

LADAR

TYPE	GAS CLOUD
Skills that you may need	Gas Cloud Harvesting level I (Mining level IV)
Necessary Equipment	Gas Cloud Harvester I (Gas Cloud Harvesting level I) or Gas Cloud Harvester II (Gas Cloud Harvesting level V)
NPC Presence	Usually only one larger wave of NPC fleet, W-space sites may have lone towers
What you can expect	Gas clouds. The product mined from gas clouds is used as raw material for combat booster manufacturing
Other Information	The gas clouds can deal a surprising amount of damage, battlecruisers or stronger ships are recommended

MAGNETOMETRIC

TYPE	ARCHEOLOGY OR SALVAGE
Skills that you may need	Archeology (Science level III, Survey level III and Electronics level I) , Salvaging (Mechanic level III, Survey level III, Engineering level I)
Necessary Equipment	Analyzer I (Archaeology level I) or Analyzer II (Archaeology level V), Salvager I (Salvaging level I) or Salvager II (Salvaging level V)
NPC Presence	Usually yes, W-space may only have towers
What you can expect	You can find Tech II BPCs, rig components and maybe invention skill books in these sites
Other Information	You have to use the proper module on the containers to access their content

« SIGNAL TYPES »

RADAR

TYPE	HACKING
Skills that you may need	Hacking (Science level III, Electronics Upgrades level III, Electronics level I, Engineering level I)
Necessary equipment	Codebreaker I (Hacking level I) or Codebreaker II (Hacking level V)
NPC Presence	Usually yes, W-space may only have towers
What you can expect	Decryptors, datacores, and data interface BPCs can be found here
Other Information	You have to use the proper module on the containers to access their content

WORMHOLE

TYPE	TAX-FREE TRANSPORTATION
Skills that you may need	Courage, luck and organization (and have the guts!)
Necessary Equipment	Friends, an organized and well-structured team
NPC Presence	Sometimes too many. Soloing is not recommended
What you can expect	It is the only place where Tech III production components can come from
Other Information	The next section will discuss this

W-SPACE QUIET TODAY?

IT CAN'T BE AS DEAD AS THE EON CHAT CHANNEL!

JOIN "EON" AND HELP GET THE PARTY STARTED*

*bring cake. And booze.

« WORMHOLES »

➡ These mystical bridges come and go as their time connecting to any one spot is limited. Depending on the places wormholes connect together, they are marked as follows:

- **K-System/K-Space:** The known universe, Empire and 0.0 (K-Space = Known Space)
- **W-System/W-Space:** The unknown part of space, the wormhole systems (W-Space = Wormhole Space)
- **K-W:** A K-space to W-space connection
- **W-W:** A W-space to W-space connection
- **W-K:** A W-space to K-space connection
- **K-K:** A K-space to K-space connection
- **WH:** Wormhole

INSIDE THE WORMHOLE

The scanned wormhole's exit will not appear until someone actually travels through it. After that, it is a two-way connection. Every wormhole has a maximum capacity of both time and mass that can travel through it before it collapses. I recommend getting used to bookmarking every wormhole upon discovery. It is embarrassing to be stuck in W-space because you do not know where the 'exit' is.

Speaking of time, wormholes can have a time frame spanning from a few hours to two days. In the case of mass, there is a limit and a capacity. The limit means the maximum mass that can pass through and the capacity means the total mass that the wormhole can transport in its lifetime. Every passing ship subtracts from this capacity. Capital ships cannot use wormholes to get into high-sec systems.

If you are trapped and do not have any means to search for a new wormhole, you can either self-destruct or wait until you find a kind person who can lead you out. You cannot clone jump out. Every wormhole system has at least one wormhole in it at any given time.

The W-space local chat channel does not show players in-system until someone speaks. Only those that chat show up in the local channel. You cannot be sure if you are alone or not just by looking at local. These systems are also not marked on the star map. W-space's security level equals that of 0.0 systems, so that's no CONCORD, and yes for bubbles.

It is possible to set up a POS, but it will provide an additional logistical challenge as W-space does not have any ice belts. Plan to go back to K-space every now and then to get more POS fuel.

➡ IF YOU ARE TRAPPED AND CAN'T FIND A NEW WORMHOLE, YOU CAN EITHER SELF-DESTRUCT OR WAIT FOR A KIND PERSON TO LEAD YOU OUT



« WORMHOLES »

WORMHOLE FEATURES

Some W-space systems have additional features, taking the form of wormhole anomalies. These anomalies will have an effect on every ship that is in the system, modifying various attributes, as seen in the following tables:

PULSAR	C1	C2	C3	C4	C5	C6
Shield	+25%	+44%	+55%	+68%	+85%	+100%
Armour Resist	-10%	-18%	-22%	-27%	-34%	-50%
Capacitor Recharge	-10%	-19%	-27%	-34%	-41%	-50%
Targeting Range	+25%	+44%	+55%	+68%	+85%	+100%
Signature	+25%	+44%	+55%	+68%	+85%	+100%

BLACK HOLE	C1	C2	C3	C4	C5	C6
Missile Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Ship Velocity	+25%	+44%	+55%	+68%	+85%	+100%
Drone Control Range	-10%	-19%	-27%	-34%	-41%	-50%
Inertia	+25%	+44%	+55%	+68%	+85%	+100%
Lock Range	-10%	-19%	-27%	-34%	-41%	-50%
Falloff	-10%	-19%	-27%	-34%	-41%	-50%

CATAclysmic VARIABLE	C1	C2	C3	C4	C5	C6
Repair Amount	-10%	-19%	-27%	-34%	-41%	-50%
Shield Transfer Amount	-10%	-19%	-27%	-34%	-41%	-50%
Shield Repair	+25%	+44%	+55%	+68%	+85%	+100%
Remote Repair	+25%	+44%	+55%	+68%	+85%	+100%
Capacitor Capacity	+25%	+44%	+55%	+68%	+85%	+100%
Capacitor Recharge	+25%	+44%	+55%	+68%	+85%	+100%

RED GIANT	C1	C2	C3	C4	C5	C6
Heat Damage	+10%	+18%	+22%	+27%	+34%	+50%
Overload Bonus	+25%	+44%	+55%	+68%	+85%	+100%
Smart Bomb Range	+25%	+44%	+55%	+68%	+85%	+100%
Smart Bomb Damage	+25%	+44%	+55%	+68%	+85%	+100%

MAGNETAR	C1	C2	C3	C4	C5	C6
ECM Strength	+25%	+44%	+55%	+68%	+85%	+100%
Target Painter Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
Dampener Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
TD Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
Damage	+25%	+44%	+55%	+68%	+85%	+100%
AOE Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Drone Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Targeting Range	-10%	-19%	-27%	-34%	-41%	-50%
Tracking Speed	-10%	-19%	-27%	-34%	-41%	-50%

WOLF RAYET	C1	C2	C3	C4	C5	C6
Armor Resist	+10%	+18%	+22%	+27%	+34%	+50%
Shield Resist	+25%	+44%	+55%	+68%	+85%	+100%
Small Weapon Damage	+25%	+44%	+55%	+68%	+85%	+100%
Signature Size	+25%	+44%	+55%	+68%	+85%	+100%

WORMHOLE SYSTEM CLASSIFICATION

The W-space classification goes from C1 (piece of cake) to C6 (OMG, send help!). Naturally, harder class systems may have a bigger impact on our wallet (positive or negative).

The names of the sites found inside can tell you what to expect:

CLASS (TIER) 1 – PERIMETER	CLASS (TIER) 2 – PERIMETER
Can be: Camp, Ambush Point	Can be: Checkpoint, Hangar
Heavy assault cruiser and battlecruiser usage, even alone, relatively easy to clean	Heavy assault cruiser and battlecruiser usage, more difficult, but still soloable
CLASS (TIER) 3 – FRONTIER	CLASS (TIER) 4 – FRONTIER
Can be: Outpost, Fortification	Can be: Command, Barracks.
The minimum recommended solution: 2x Heavy assault cruiser/logistic battlecruiser and 1x or 2x may be filled in battleship tank	5-8 man gangs, specialized support, ECM, possibly a battleship
CLASS (TIER) 5 – CORE	CLASS (TIER) 6 – CORE
Can be: Garrison, Stronghold.	Can be: Bastion, Citadel
15 people, battleships, Remote Repairers, ECM support	25 hardcore, remote repairing, ECM pilots are a must

Below are a couple of wormhole IDs. This data does not originate from the CCP database; I do not take responsibility for its accuracy.

- 1-6 leads to W-space
- 7 leads to high-sec
- 8 leads to low-sec
- 9 leads to 0.0 space

1	H121	H121	Q317	V301	Y790	Z647	Z971	
2	C125	D364	D382	G024	I182	N766	R943	
3	C247	L477	M267	N968	O477	O883	X702	
4	E175	M609	O128	T405	X877	Y683	Z457	
5	H296	H900	L614	M555	N062	N432	N770	V911
6	A982	B041	R474	S804	U319	U574	V753	W237
7	A641	B274	B449	B520	D792	D845	N110	S047
8	A239	C140	C391	J244	N290	N944	R051	U210
9	C248	E545	K329	K346	S199	V283	Z060	Z142

« WORMHOLES »

The following table gives a summary of experience about wormhole properties. The destination indicates the difficulty:

- WH 1-6 until the system is the difficulty of labelling (for example, 6 = Class 6)
- L = low-sec; H = high-sec; Z = ‘zero’-sec (0.0)

WH NAME	TARGET	MASS LIMIT (MKG)	MASS CAPACITY (GKG)	LIFETIME (HOURS)	MASS CAPACITY RECOVERY (MKG/HOUR)	THEORETICAL MAXIMUM MASS ALLOWANCE, ONE HOUR BEFORE COLLAPSING (GKG)
A239	L	300	2.00	24		
A641	H	1000	2.00	16		
A982	6	300	3.00	24		
B041	6	300	5.00	48	500	23.5
B274	H	300	2.00	24		
B449	H	1000	2.00	16		
B520	H	300	5.00	24	500	11.5
C125	2	20	1.00	16		
C140	L	1350	3.00	24		
C247	3	200	2.00	16		
C248	Z	1800	5.00	24	500	11.5
C391	L	1800	5.00	24	500	11.5
D364	2	300	1.00	16		
D382	2	300	2.00	16		
D792	H	1000	3.00	24		
D845	H	300	5.00	24		
E175	4	300	2.00	16		
E545	Z	300	2.00	24		
G024	2	300	2.00	16		
H121	1	20	0.50	16		
H296	5	1350	3.00	24		
H900	5	300	3.00	24		
I182	2	300	2.00	16		
J244	L	20	1.00	24		
K329	Z	1800	5.00	24		
K346	Z	300	3.00	24		
L477	3	300	2.00	16		
L614	5	20	1.00	24		
M267	3	300	1.00	16		
M555	5	1000	3.00	24		
M609	4	20	1.00	16		
N062	5	300	3.00	24		

WH NAME	TARGET	MASS LIMIT (MKG)	MASS CAPACITY (GKG)	LIFETIME (HOURS)	MASS CAPACITY RECOVERY (MKG/HOUR)	THEORETICAL MAXIMUM MASS ALLOWANCE, ONE HOUR BEFORE COLLAPSING (GKG)
N110	H	20	1.00	24		
N290	L	1800	5.00	24		
N432	5	1350	3.00	24		
N766	2	300	2.00	16		
N770	5	300	3.00	24		
N944	L	1350	3.00	24		
N968	3	300	2.00	16		
O128	4	300	1.00	24	100	2.3
O477	3	300	2.00	16		
O883	3	20	1.00	16		
P060	1	20	0.50	16		
Q317	1	20	0.50	16		
R051	L	1000	3.00	16		
R474	6	300	3.00	24		
R943	2	300	0.75	16		
S047	H	300	3.00	24		
S199	Z	1350	3.00	24		
S804	6	20	1.00	24		
T405	4	300	2.00	16		
U210	L	300	3.00	24		
U319	6	1800	50.00	48	500	23.5
U574	6	300	3.00	24		
V283	Z	1000	3.00	24		
V301	1	20	0.50	16		
V753	6	1350	3.00	24		
V911	5	1350	3.00	24		
W237	6	1350	3.00	24		
X702	3	300	1.00	24		
X877	4	300	2.00	16		
Y683	4	300	2.00	16		
Y790	1	20	0.50	16		
Z060	Z	20	1.00	24		
Z142	Z	1350	3.00	24		
Z457	4	300	2.00	16		
Z647	1	20	0.50	16		
Z971	1	20	0.10	16		

« WORMHOLES »

WORMHOLE PROPERTIES

When you have successfully scanned one wormhole and can see it, you can tell two important facts about it: how much time it has left to stay open and how used it is.

THE WORMHOLE'S AGE

WH INFORMATION APPEARING IN ITS DESCRIPTION	REMAINING TIME
This wormhole has not yet begun its natural cycle of decay and should last at least another day.	More than 24 hours until collapse.
This wormhole is beginning to decay, and probably won't last another day.	Less than 24 hours until collapse.
This wormhole is reaching the end of its natural lifetime.	Probably only have four hours or less.
This wormhole is on the verge of dissipating into the ether.	It could be said that this WH can collapse at any time.



THE WORMHOLE'S CAPACITY

WH INFORMATION APPEARING IN ITS DESCRIPTION	CAPACITY
This wormhole has not yet had its stability significantly disrupted by ships passing through it.	More than half capacity left.
This wormhole has had its stability reduced by ships passing through it, but not to a critical degree yet.	Less than half capacity but more than 10%.
This wormhole has had its stability critically disrupted by the mass of numerous ships passing through and is on the verge of collapse.	Less than 10% of capacity is left.



⇒ W-SPACE'S SECURITY LEVEL EQUALS THAT OF 0.0 SYSTEMS, SO THAT'S NO FOR CONCORD PRESENCE, AND YES FOR BUBBLES



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0.0 SPACE

» SOVEREIGNTY

» INFRASTRUCTURE HUBS

» INFRASTRUCTURE UPGRADES

» IHUB UPGRADES

» OUTPOSTS

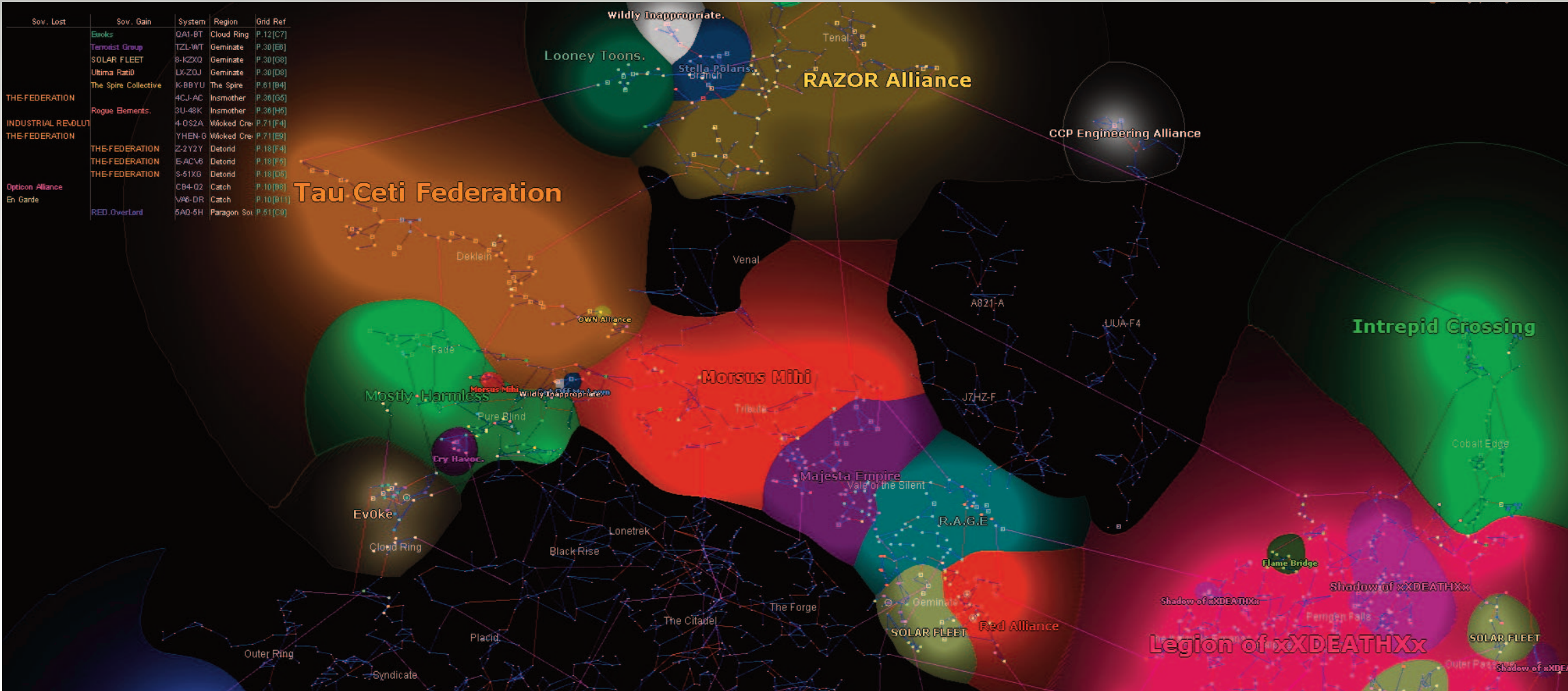
» STATION MANAGEMENT

» SUPERCAPITALS

» TITANS



[SOVEREIGNTY]



CLAIMING SOVEREIGNTY

As mentioned earlier, to claim sovereignty (or ‘sov’) you have to anchor and online SBUs at a minimum of 51% of the gates in a given solar system. This does not mean we clicked on the I-WIN-SOV button. By anchoring these, your alliance has only gained the ability to attack the stations or iHUBs currently in the system. The table below shows how many SBUs are needed for different systems:

NUMBER OF GATES	REQUIRED AMOUNT OF SBUS
System with 1 gate	$(1 \times 0,5 + 1)$ rounded down = 1 SBU
System with 2 gates	$(2 \times 0,5 + 1)$ rounded down = 2 SBUs
System with 3 gates	$(3 \times 0,5 + 1)$ rounded down = 2 SBUs
System with 4 gates	$(4 \times 0,5 + 1)$ rounded down = 3 SBUs
System with 5 gates	$(5 \times 0,5 + 1)$ rounded down = 3 SBUs
System with 6 gates	$(6 \times 0,5 + 1)$ rounded down = 4 SBUs

In case the number of active SBUs goes below the required amount, the process will be interrupted (like when an SBU has been destroyed, for example).



➡ TO CLAIM ‘SOV’ YOU HAVE TO ANCHOR AND ONLINE SBUS AT A MINIMUM OF 51% OF THE GATES IN A GIVEN SOLAR SYSTEM

➡ Supremacy, or sovereignty, of an area can only be held by an alliance. If an alliance has sovereignty in the system that has an outpost, then the outpost cannot be attacked nor conquered. The sovereignty holder of an area has the option to deploy Infrastructure Hubs (iHUBs) to improve the attributes of the given system or to provide new opportunities for the inhabitants. Sovereignty can only be held in nullsec and then only in non-NPC held systems.

The process of gaining sovereignty is based on really simple principals. To be able to gain sovereignty you must control a Territorial Claim Unit. After anchoring a TCU and it has finished the cycle to be online, the alliance who put it up will gain sovereignty over the system.

ABOUT TCUS

It takes five minutes to anchor a TCU and eight more hours to bring it online. Anyone who has the role of ‘Config Starbase Equipment’ in the corp or alliance can anchor the TCU on behalf

of the alliance. TCUs can be anchored anywhere in a system with the exception of within 50 kms of the control tower of a POS. A beacon is visible when it is anchored or online in a system, therefore anyone can warp to the TCU.

POS control towers cannot be anchored at a moon if a TCU is already anchored there. TCUs are vulnerable to attacks while they are in the ‘anchored’, ‘anchoring’ and ‘being online’ states. A TCU is invulnerable unless both of the following conditions are fulfilled:

- Sovereignty Blockade Units are anchored and put online at more than 50% of the gates in the system.
- The sovereign entity over the system does not possess an Outpost, Conquerable Station or an online Industrial Hub within the system.

A TCU can be anchored if the sovereignty status of the system is contested, but cannot be online if Sovereignty Blockade units are

present at 51% or more of the gates in the system. If the corporation that anchored the TCU leaves the alliance, the TCU will go offline.

The upkeep bill is issued to the corporation that anchored the TCU during the online period. If this bill has not been paid when the TCU is due to go online, it will instantly go offline. This means sovereignty will not be claimed, and the process has to be repeated again. Both the Station Manager role and the Config Starbase Management role are required in order to be able to offline or unanchor a TCU.

The CEO and the directors in the corporation that launched the TCU can transfer ownership of it to another corporation within the same alliance. This can be done from the contextual menu when you right-click on the structure. All open upkeep bills have to be paid before the transfer is possible. Ownership of the Infrastructure Hub within the system (if present) will automatically transfer at the same time.

« SOVEREIGNTY »

ABOUT SBUS

Anchoring takes five minutes per SBU. Putting one online takes three hours. Anyone with Config Starbase Equipment role can anchor or online the SBU on behalf of his alliance. The ownership of the SBU will belong to the corp and alliance of the pilot, who put it online. SBUs are visible on the overview once they are anchored. SBUs must be placed between 30 km to 150 km from the stargate. It does not matter who launches the SBU; an alliance can even disrupt their own sovereignty claim. SBUs are vulnerable to attacks, with the following exceptions:

- When all structures within a system that the SBUs caused to become vulnerable to into reinforce mode.
- All SBUs within a system will enter parallel reinforcement mode along with those structures.
- As soon as any of the structures mentioned above come out of reinforcement mode, the SBUs will become vulnerable once more.

If the amount of stargates within a system covered by an online SBU falls below 51% at any point during system conquest, the defender will be considered as having successfully defended their system and vulnerable structures (Stations, iHUB, TCU) will become invulnerable once more.

ADVANTAGES OF SOVEREIGNTY

Besides bragging rights, there are various benefits if the name of your alliance appears as sovereignty holder over a system:

- Gives special protection to the system. Without sovereignty, stations or outposts are vulnerable to attack at all times, even when SBUs have not been anchored at gates within the system. Stations will also not have protection in the form of ‘reinforcement timers’ if the station holder is not the sovereign entity over the system.

The ability to set up an iHUB is granted to the sovereignty holder. It has the advantage that the sovereign alliance has the option to anchor special POS modules like a Capital Ship Construction Array or a Jump Bridge if the necessary upgrades have been installed. POSes anchored in a system where your alliance holds SOV consume 25% less fuel. The system is displayed as belonging to the sovereign entity on the in-game starmap. It can take up to an hour for the starmap to update to display the new owner of a system once it is claimed.

➡ IF A BILL IS NOT PAID FOR A SYSTEM IN TIME, SOVEREIGNTY IS LOST (THE TCU GOES OFFLINE) AS SOON AS THE CURRENT BILLING PERIOD ENDS

SOVEREIGNTY

SYSTEM	CONSTELLATION	REGION
► Branch / KWCZ-A		
Dominant Sovereignty Holder: Habakuk SovTesting Alliance		
Kills last 24h (Destroyed / Pod Kills)		
Cyno Fields Active (Structures / Modules)		
Overview		
SOVEREIGNTY	SYSTEM	STATIONS
	Q-4DEC	0
	4DTQ-K	1
	EQI2-2	1
Habakuk SovTesting Alliance	313I-B	0
Habakuk SovTesting Alliance	J9-5MQ	0
Habakuk SovTesting Alliance	D4R-H7	1

Developement Indices

SYSTEM	STRATEGIC
4DTQ-K	
J9-5MQ	
D4R-H7	
313I-B	
EQI2-2	
Q-4DEC	

UPKEEP FEES

The alliance must pay upkeep in order to maintain sovereignty over a system. Each system is on a distinct 14-day billing cycle. The upkeep bill must be paid in before the billing cycle it applies to begins. If a bill is not paid for a system in time, sovereignty is lost (the TCU goes offline) as soon as the current billing period ends. Therefore, it is recommended that corporations responsible for paying the upkeep bill on behalf of their alliance set sovereignty bills to be paid automatically, and have enough ISK in the account which the upkeep bills are subtracted from. The first bill will be issued when the TCU comes online. If the bill is not paid the TCU will shut down immediately.

The ISK amount to be paid for each system depends on the amount of strategic infrastructure that has been established in the

system. Military and industrial upgrades do not affect the upkeep bill. The cost of the upgrade can be seen in the table below:

The corporation is billed for upkeep, regardless of the status of the iHUB. Essentially, the corporation responsible for paying the bills will be billed for the installed upgrades and the iHUB regardless whether it is active or not.

When an upgrade is installed in an iHUB, the upkeep cost will be deducted from the master division of the corporation wallet to cover the costs for the remaining days of the current ongoing billing period. If an alliance loses sovereignty, due to the upkeep bill going unpaid, or for any reason for that matter, all POS structures within the system that require strategic upgrades will go offline instantly.

UPGRADE/STRUCTURE	ISK COST PER DAY	ISK COST PER WEEK	ISK COST PER 30 DAYS
Territorial Control Unit	6,000,000 ISK	84,000,000 ISK	180,000,000 ISK
Supercapital Construction Facilities	1,000,000 ISK	14,000,000 ISK	30,000,000 ISK
Cynosural Navigation	2,000,000 ISK	28,000,000 ISK	60,000,000 ISK
Advanced Logistics Network	10,000,000 ISK	140,000,000 ISK	300,000,000 ISK
Cynosural Suppression	20,000,000 ISK	280,000,000 ISK	600,000,000 ISK

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[INFRASTRUCTURE HUBS]



➡ Alliances can improve their infrastructure in systems where they hold sovereignty with the Infrastructure Hub. Upgrades can then be installed and activated within the iHUB provided prerequisite Development Indexes to install each upgrade have been developed.

HOW THE IHUB WORKS

As Infrastructure Hubs must be destroyed by the attacker when conquering a system in order for the TCU to go vulnerable, they are provided with similar protection as conquerable outposts. Infrastructure Hubs are invulnerable to attacks unless SBUs have been anchored at more than 50% of the gates in the system. They have a dual reinforcement timer like stations. A desired reinforcement exit time can be entered by the CEO and all directors within the corporation that anchored it. Additional time is added to this predefined timer (24±2 hours).

For example, a desired reinforcement exit time is set to 18:00. The iHUB goes into reinforced mode at 11:00. The starting value is therefore seven hours. 24 hours are added to that value totaling up

to 31 hours. A random value between two and minus two is then added to that value, meaning that the station will come out of reinforce mode anywhere between 29 and 33 hours from when it was put into reinforce mode.

Meanwhile, dual reinforcement works as follows: Once an iHUB reaches 25% shield hit points, the iHUB goes into reinforcement mode. During this time the iHUB is invulnerable to attacks and cannot be remotely repaired. It will come out of reinforce mode at 0% shield hitpoints. Once an iHUB reaches 50% armor hitpoints it goes into the second reinforce mode. It will come out of reinforce mode at 25% armor hitpoints.

Should the defenders be able to remote repair either the shields or the armor following the iHUB exiting reinforce mode, the structure will re-enter the respective reinforce mode (shield/armor) when it reaches the right value again. When an iHUB reaches 0% structure hitpoints, it is permanently destroyed including all installed upgrades.

ABOUT IHUBS

An iHUB can only be anchored by members of the corporation that owns the online TCU within the system. This requires active

sovereignty for the deployment of an iHUB. It takes one hour to anchor the structure and another hour to online it. Only one iHUB can exist in a system at any one time, and sovereignty must be claimed before one can be anchored.

The Config Starbase Equipment role is required for anchoring and onlining an iHUB. Both the Config Starbase Equipment role and the Station Manager role are required for offlining or unanchoring an iHUB.

An iHUB must be anchored at a planet, but cannot share a planet with an outpost or conquerable station. Also, it can be anchored and put online in a system that does not contain any stations. When an iHUB is unanchored, all upgrades that have been installed in it are destroyed.

If a sovereignty holder loses sovereignty over a system for some reason while still possessing an iHUB within the system, then the iHUB will go offline and it cannot be put back online until sovereignty is regained. If the criteria for having certain structures such as Capital Ship Assembly Arrays within a system are no longer met due to the iHUB being destroyed, then all such Starbase (POS) structures will go offline.

When an iHUB is invulnerable, it is possible to target it, but not to damage it. However, the iHUB can be repaired while in reinforce mode. The iHUB only fits in a freighter, but freighters are unable to scoop any cargo or structure back in, so make sure that the right spot has been chosen for the iHUB. Once launched it will remain there.

⚡ IF A HOLDER LOSES SOVEREIGNTY OVER A SYSTEM FOR SOME REASON WHILE STILL POSSESSING AN IHUB WITHIN THE SYSTEM, THEN THE IHUB WILL GO OFFLINE AND IT CANNOT BE PUT BACK ONLINE UNTIL SOVEREIGNTY IS REGAINED

INFRASTRUCTURE UPGRADES »

➡ Development indexes measure activity in certain areas within a system. They have five levels, the higher the index level, the greater the benefits given in the form of additional infrastructure upgrades available to you.

The three development indexes are the Military Index, the Strategic Index and the Industrial Index. The military index can be raised by killing NPCs in a solar system. The strategic index measures the amount of time the current alliance has held sovereignty in that system and is measured on the following scale:

SOVEREIGNTY INDEX	REQUIREMENT
Level I	Sovereignty held for at least 7 days
Level II	Sovereignty held for at least 21 days
Level III	Sovereignty held for at least 35 days
Level IV	Sovereignty held for at least 65 days
Level V	Sovereignty held for at least 100 days

The industrial index is somewhat more complicated. Since the Dominion expansion, there has been a new sovereignty mechanic that allows the development of system indices based on usage levels. It was quickly noted that raising the military index was extremely easy and took little time to maintain, but that the industrial index would seemingly never increase regardless of how many miners you had. The Bloodtear mining fleet has personally created four level V industry systems over the past few months, and monitored them over a period of weeks to gather this information.

We've withheld publishing the report until after Tyrannis to update it with any changes. Tyrannis increased Rorqual boosted fleets by ~8.5% better yields per unit time, and altered a few ore refine tables. These things have been accounted for.

Industry is notoriously difficult to level up, and not much public information is available regarding details of the system. This report will attempt to answer all questions regarding the Industrial Index for the Dominion/Tyrannis expansion.

DATA COLLECTION

We directly monitored the iHUB index every 15 minutes over the course of system development. We managed to secure a remote system and upgrade it to level V from level I within 24hrs, with no one else in system. This gave us highly accurate numbers. Asteroid belts were scanned using a Rorqual scanner which can obtain an accurate read on the entire belt in one pass.

Hidden belt composition was recorded immediately after downtime right after they had respawned. This was repeated for many weeks, and was noted that all hidden belts of the same size are nearly identical.

THE SYSTEM

The industrial index decays at a rate of 1% per hour (or around 25% per day). The index is increased by the total volume (m3) of mined goods. The following is a table illustrating the amount of m3 required to be mined to maintain each level:

INDEX LEVEL	MINED VOLUME TO OBTAIN (M3)	VOLUME/DAY TO MAINTAIN (M3)	MAN HOURS/DAY TO MAINTAIN
I	1,500,000	750,000	4.55
II	3,000,000	1,500,000	9.1
III	6,000,000	3,000,000	18.2
IV	12,000,000	6,000,000	36.4
V	24,000,000	12,000,000	72.8

It should be noted that ice mining pulls up roughly half the volume of ore mining. So attempting to raise the index through ore mining is most preferred.

The belts respawn on a theoretical three-day timer (this is contested, with many people believing it is actually four days, or a random 35 days. Our information on this conflicts these and the report is based on the three-day belief). If you drop below the threshold to maintain a belt, it will still exist until its three-day timer is up, and won't come back until the index is back up.

The index level of your system at downtime is what determines what will spawn. Mining a hidden belt to extinction will respawn it within five minutes if there is no one left in the belt. The hidden belts must be scanned down using probes. The larger the belt, the harder it is to scan down.

INDEX LEVEL	WHAT YOU GET
I	Small
II	Moderate
III	Large
IV	Extra Large
V	Giant

Every upgrade gets you everything contained by the previous upgrades, plus the current.

⌚ IF YOU DROP BELOW THE THRESHOLD TO MAINTAIN A BELT, IT WILL STILL EXIST UNTIL ITS THREE-DAY TIMER IS UP



«INFRASTRUCTURE UPGRADES»

PERFECT MINER INCOME

These are calculated with perfect skills, perfect Rorqual boosts, and Tech II equipment, no drones. Skiffs are used only for mining mercoxite, Mackinaws only for ice, and Hulks only for ore. The cycle times got about 8.5% faster after Tyrannis due to doubling the Rorqual’s mining cycle boost effectiveness – which in turns makes gaining a high level industrial system much easier. These numbers are used throughout the rest of the report as means of estimating per profits/hr and manhours required.

SHIP	YIELD/ CYCLE	CYCLE TIME	YIELD/HR	VOLUME/ HR
Skiff	82	119.25	2475.5	99,018
Mackinaw	4	183.23	78.59	78,590
Hulk	5459m3	119.25	164,800m3	164,800

Now we’ll get into what each hidden belt contains, and what strategies you should use when mining them:

ORE	ISK/HR
Arkonor	61,182,258
Bistot	47,917,634
Crokite	36,227,258
Mercoxit	30,134,016
Gneiss	19,596,239
Dark Ochre	19,292,428
Spodumain	17,393,404
Scordite	15,449,794
Plagioclase	14,631,242
Kernite	13,905,731
Veldspar	13,609,610
Hedbergite	13,389,607
Pyroxeres	11,854,366
Hemorphite	11,435,033
Jaspert	9,804,862
Omber	9,245,769

SMALL ASTEROID CLUSTER

The small asteroid cluster is your first real foothold into the world of industry development. Up until this point you had to mine lots of small-time asteroids that typically evaporated seconds into your cycle, leading to vast inefficiency, annoyance, and the need to move within range of new asteroids.

The small asteroid cluster contains the single largest asteroid in the game, The Spod! The Spod is a whopping 4,000,000m3, at 250,000 units. It takes 24+ man hours to mine this guy out, and doing so is enough to push a fresh level I system up into level II. The entire belt is centered around The Spod.

The small belt is dispersed just enough to make you move 34 times if you’re mining it out completely. The combined total wealth contained in the small belt is 962mil, at 7.66mil m3, and takes 47 manhours to mine. If you mine the small belt to completion you’ll be halfway through level II. Average income in this belt is 20.5mil/hr per perfect miner. Cherry picking (mining ABCM – arkonor, bistot, crokite, mercoxite) potential in this belt is 300mil, taking 6.3 manhours at an average profit of 47.5mil/hr.

LIST OF ORES CONTAINED WITHIN		
ORE	AMOUNT	ASTEROIDS
Arkonor	20,000	4
Bistot	20,000	4
Crokite	25,000	2
Dark Ochre	70,000	2
Gneiss	35,000	1
Hedbergite	86,000	5
Hemorphite	83,000	8
Jaspert	120,000	5
Kernite	254,000	6
Mercoxit	0	0
Omber	300,000	5
Plagioclase	208,000	4
Pyroxeres	210,000	4
Scordite	0	0
Spodumain	280,000	2
Veldspar	406,000	5

MODERATE ASTEROID CLUSTER

The moderate belt is fairly dispersed with an even spread of ores. If you’re a Tech II miner (which you should be), then you’ll be swapping out crystals often in here, and be forced to move often (six or more times). The belt is around 150km long. The moderate belt is not worth mining to completion, it should only be cherry picked. The ABC represents 25% of the volume, and 50% of the value. This is the first belt you’ll encounter with Mercoxite. Mercoxite mining is HIGHLY inefficient with anything but a properly skilled skiff with mining crystals.

This belt is worth 801mil, which makes it worth LESS than the small. The volume is 5.35mil m3, taking only 34 manhours to mine out. The average income is 23.6mil/hr per miner, which is slightly higher than the small belt.

However, inefficiencies due to movement and constantly switching asteroids will bring the profit more in line with the small belt. Cherry picking potential however, is worth 484.5mil, taking 12.3hrs at a rate of 39.4 mil/hr.

LIST OF ORES CONTAINED WITHIN		
ORE	AMOUNT	ASTEROIDS
Arkonor	30,000	2
Bistot	35,000	4
Crokite	20,000	2
Dark Ochre	40,000	4
Gneiss	45,000	4
Hedbergite	100,000	4
Hemorphite	100,000	4
Jaspert	120,000	4
Kernite	400,000	11
Mercoxit	10,000	1
Omber	400,000	11
Plagioclase	840,000	11
Pyroxeres	965,000	11
Scordite	940,000	13
Spodumain	40,000	4
Veldspar	1,260,000	13



«INFRASTRUCTURE UPGRADES»

LARGE ASTEROID CLUSTER

The large asteroid belt (level III) is the most value asteroid belt you have. The large asteroid belt is completely minable from only two warp-in spots, which eliminates the need for movement (okay, have to move a little, but not more than 5km from those two spots). There are only a handful of asteroids, but each is very large, which makes mining them much easier as well. The belt itself is centered on a few white space coral type things which can and will bounce your hauler if you warp in too close to them. The mercoxit patch is close to one of the warpin spots, so steer clear of that when setting up. This belt is small at only 5.38mil m3, and takes only 34 manhours to complete. However, the average profit per miner is the highest of any belt, at 27.4mil/hr. This belt contains 44.6% ABCM by volume, which is the highest of any belt. The total belt is worth only 930mil, but because it's so small, it's easily the most profitable belt to mine to completion repeatedly. The cherry picking potential of this belt is 654.3mil m3, taking 16.2hrs, at 40.4mil/hr. Note that this is just under half the belt – which gives a fair estimate that this belt is worth a lot. This distribution demonstrates how concisely packed the asteroids are. Most occurrences are only in one asteroid, of a size slightly larger than the other belts.

LIST OF ORES CONTAINED WITHIN		
ORE	AMOUNT	ASTEROIDS
Arkonor	35,000	1
Bistot	50,000	1
Crokite	40,000	1
Dark Ochre	50,000	1
Gneiss	60,000	1
Hedbergite	80,000	1
Hemorphite	80,000	1
Jaspel	120,000	1
Kernite	400,000	4
Mercoxit	10,000	1
Omber	400,000	3
Plagioclase	0	0
Pyroxeres	0	0
Scordite	300,000	2
Spodumain	50,000	1
Veldspar	0	0

EXTRA LARGE ASTEROID CLUSTER

The extra large asteroid belt is composed like the moderate belt, but 100km long. As can be seen below from the asteroid counts, it contains lots of smaller asteroids, which will leave you shifting targets and moving frequently. The extra large is 11.2mil m3 which is more than twice the size of the large belt. Taking 70 manhours to mine, this is truly an extra large belt. It produces an average income of 22.4mil/hr. Cherry picking is worth 837.5mil, taking 21.6 manhours at a rate of 38.8mil/hr. This belt should be cherry picked for ABCM only.

LIST OF ORES CONTAINED WITHIN		
ORE	AMOUNT	ASTEROIDS
Arkonor	40,000	4
Bistot	60,000	5
Crokite	60,000	5
Dark Ochre	60,000	5
Gneiss	80,000	6
Hedbergite	200,000	7
Hemorphite	300,000	10
Jaspel	420,000	11
Kernite	500,000	12
Mercoxit	15,000	1
Omber	400,000	12
Plagioclase	560,000	12
Pyroxeres	765,000	10
Scordite	660,000	8
Spodumain	200,000	8
Veldspar	930,500	11

GIANT ASTEROID CLUSTER

The giant asteroid belt is a monstrosity. It's big, so you will have to move a few times if you plan to mine this thing out, but you'll be spending hours at each spot. Each asteroid is very large which means it'll take a long time before you have to change targets. Mining out the bistot asteroid takes 7.8 manhours by itself. The entire belt is 12.12mil m3, making it the largest hidden belt in the game. It takes 76 manhours from perfect miners to mine it completely. The total value is 1.81bil, yielding income of 23.8mil/hr per miner. The ABC ores compose more than a quarter the volume, and well over half the value. Cherry picking yields 1.06bil, takes 26.5hrs, and earns 40mil/hr. Mining this belt repeatedly may seem like a good idea, but you're still going to see more money if you cycle the large belt instead.

LIST OF ORES CONTAINED WITHIN		
ORE	AMOUNT	ASTEROIDS
Arkonor	50,000	1
Bistot	80,000	1
Crokite	80,000	1
Dark Ochre	100,000	1
Gneiss	100,000	1
Hedbergite	200,000	2
Hemorphite	300,000	3
Jaspel	500,000	4
Kernite	600,000	4
Mercoxit	15,000	1
Omber	500,000	3
Plagioclase	0	0
Pyroxeres	480,000	6
Scordite	0	0
Spodumain	200,000	1
Veldspar	0	0

BELT COMPARISON

We've pulled all the data from each belt together for quick comparison. It's amusing to note that the moderate and large belts are smaller than the small. The large asteroid belt has the highest percentage of ABCM, which gives it the highest average income rate if mined repeatedly.

	VOL (M3)	TIME	VALUE (MIL)	INCOME (MIL/HR)	PERCENT ABCM
Small	7,663,200	47	962	20.47	13.57%
Moderate	5,355,500	34	801	23.55	32.86%
Large	5,385,000	34	930	27.36	44.57%
xLarge	11,210,550	70	1,568	22.4	28.19%
Giant	12,124,000	76	1,811	23.83	32.66%

Now this is a perfect time to point out that mining only the ABCM is not enough to maintain the industry standing. Note that the belts are on a three-day respawn timer, thus you only mine the cumulative volumes. Below is a table of how sustainable each level is through only cherry picking. If you only wish to cherry pick, then a level II or level III system is ideal. The hidden belts are good at obtaining high-end minerals worth substantial sums. However, they are terrible at obtaining low-end minerals such as Tritanium and Pyerite. This is the great imbalance of hidden belts which limits their usefulness for deep space mining operations. You may be able to mine all the high-end minerals you need for construction jobs, but you'll still need to import low-end stuff. There is no good way to mine large amounts of low-end minerals, especially as Veldspar rocks evaporate within a cycle of two of being touched.



SOMETHING FOR THE LONG HAUL?



CONCORD WARNING:
IT MAY BE UNSAFE TO READ AND DRIVE

«INFRASTRUCTURE UPGRADES»

	VOL (M3)	TIME	VALUE (MIL)	INCOME (MIL/HR)	PERCENT ABCM
Small	346,666	750,000	46.2%	2.1	2.45
Moderate	933,333	1,500,000	62.2%	6.2	2.9
Large	1,733,333	3,000,000	57.8%	11.6	6.6
xLarge	2,786,667	6,000,000	46.3%	18.8	17.6
Giant	4,106,667	12,000,000	34.2%	27.6	45.2

MINING STRATEGY

This may sound foolish, since mining is point and shoot, but there are a number of things to take into consideration when setting up mining systems. The size of your corporation and number of regular active miners is obviously the most important. 12 miners can easily maintain a level I system with regular work, doubling the miner count for each level after that. Finding 32 regular unique miners to maintain a level V system is very hard. Most high level systems will be easier maintained by a few multiboxers sporting many accounts each.

Maintaining a level V system is possible, but not realistically feasible, nor desirable. For ideally mining a level V system, you'll want to cherry pick the small, moderate, extra large and giant belt, while cycling the large. You'll obtain 2,862 million from the non-large belts, and 930 million for each large you cycle. To maintain the required 36mil m3 to maintain level V every three days, you'll need to cycle the large belt five times, and completely cherry pick out the others. Doing this to minimally maintain level V is the most optimal way to milk the system, earning you 7.53bil every three days while taking 237 manhours (79hrs/day). This yields 31.8mil/hr for each miner involved.

Great, but is there a better way? Yes there is. For the same amount of work of sustaining a level V system, you can sustain two level IV systems. Cherry picking the small, moderate, and extra large, and cycling the large 2.25 times every three days, you'll earn 7.76bil, taking 233 manhours at a rate of 32.9mil/hr.

SPLIT RETURNS

Splitting your efforts between two systems decreases the chance that you'll be noticed by enemy forces. So now you're thinking we can continue this pattern of having twice as many systems, at one less industry level to earn more money. Having four level III systems requires cycling the large belt 1.15 times in each system every three days (which means eating the full belt and cherry picking the next one). This strategy earns 8.08bil and takes 56.25hrs per system (225hrs total). This yields 35.9mil/hr for each miner involved. This assumes that fresh belts spawn, you mine the large belt to completion on the first day it appeared, and then cherry pick the respawn, and leave it for three days to respawn naturally.

☞ IF THERE IS A STATION IN YOUR SYSTEM, YOU WILL GET TWICE AS MANY REDS. WITHOUT A WAY TO CONCEAL THE INDUSTRY STANDING, THIS IS UNAVOIDABLE

	VALUE	MAN HOURS	RATE
One level V	7.53bil	237	31.8 mil/hr
Two level IV's	7.67bil	233	32.9 mil/hr
Four level III's	8.08bil	225	35.9 mil/hr

CONSEQUENCES

The higher your industry rating the more 'reds' will come to visit you. If you have a level V system they will permacamp in cloaked vessels all day just to spite you. We've personally created four level V systems during Dominion, and all of them ended up being permacamped until they decayed back to level III. At any given point, only one or two solar systems in the galaxy will be level V industry, and players will seek you out. If there is a station in your system, you will get twice as many reds. Without a way to conceal the industry standing of your system this is unavoidable, and quickly renders any level V systems pointless. This is why you are much better off maintaining a series of lower level systems, which will not attract unwanted attention. Level IV systems are common throughout the game because they are easy to maintain, and reds will not permacamp them. Level III systems are ignored entirely. Couple this fact with the increased profit from having many smaller systems this is obviously the way to go.

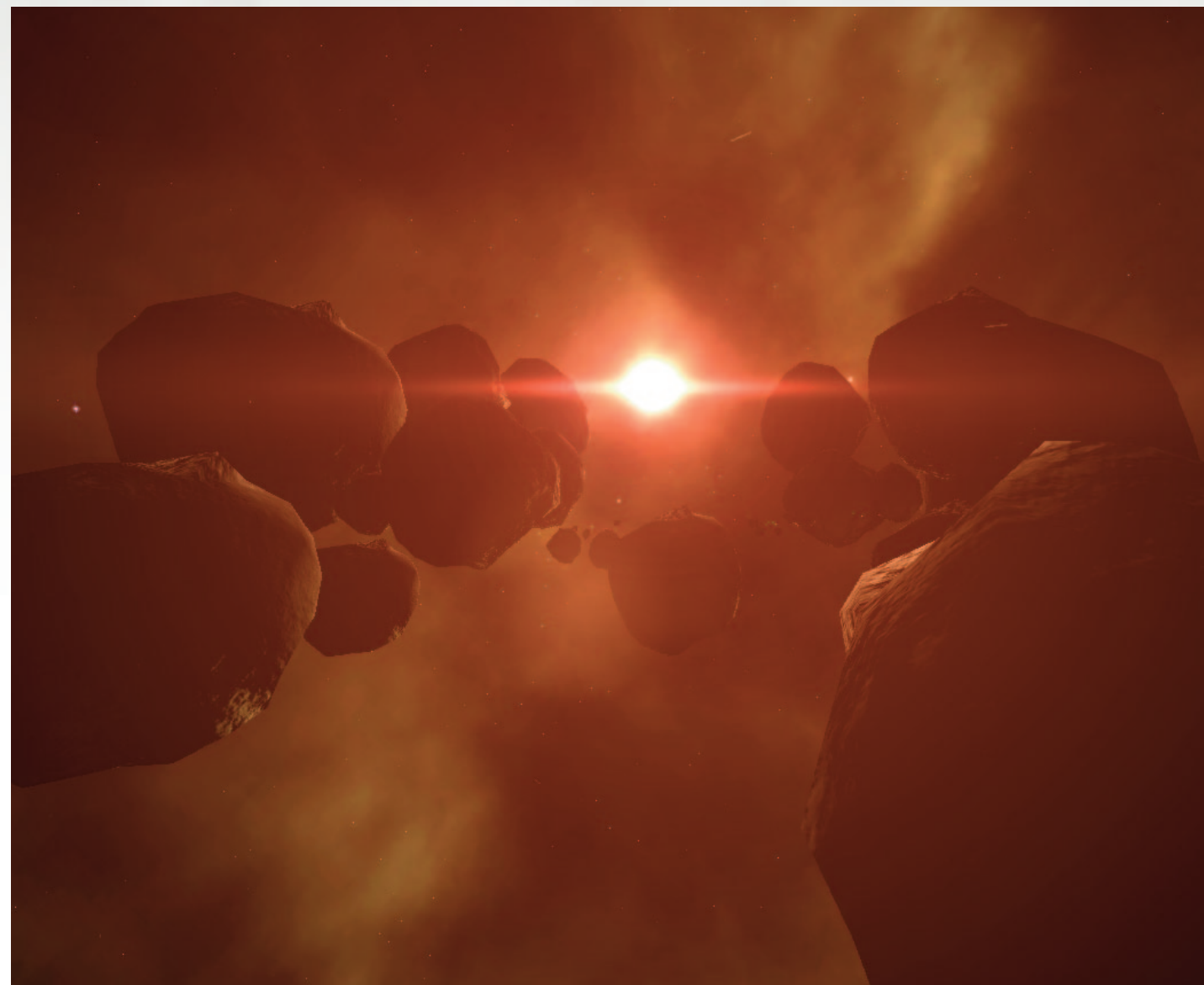
You work very hard to obtain your high level industry system, but you inevitably have to go to bed. If you're an American, expect all valuable ores to be poached long before you arrive. Downtime occurs in the middle of the night for Americans and middle of the day for Europeans. This gives a massive advantage to the European player base who can cash in on everyone else's work (earning the cherry picker's salary of 40mil/hr), while the people who actually maintain the system earn far less (around 15mil/hr on average).

The industry index system levels are exponentially larger than the last, making it very difficult to achieve high levels. Recent Rorqual boosts have improved mining yields by ~8.5%, making this a prime time to create industrial systems. The best hidden belt is the Large Asteroid Cluster at level III. It offers the best money when mined repeatedly. Maintaining a number of level III systems is preferable to fewer level IV or level V systems. Having many level III systems

offers better yields, and avoids the attention of reds who seek to disrupt your activities. A level V system is not feasible to maintain because afk cloaked campers will occupy your system within days, rendering it too risky to mine in. Europeans receive the most benefit from the hidden belt system, as all belts respawn during their prime time, leaving them with the most accessibility to the valuable ores. This leaves the American time zones without much profit to be had unless strict regulation is maintained over the system to prevent poachers. On average any given level is supported about 40% by cherry picking, but cherry picking alone will make you decay. The hidden belt system produces high end minerals very readily, but it is all but impossible to obtain tritanium and pyrite in any bulk from them. Time has never been better to go build up your industry index.

Important info:

- The military and industrial indexes are linked to activity within a solar system and are thus not affected directly by sovereignty transitions. In other words, these indexes will persist at their current levels should sovereignty be lost.
- The current index levels in a system can be seen by opening up the Infrastructure Hub Management Interface, or by checking the sovereignty dashboard for the system.
- Indexes do not increase if there is no online Infrastructure Hub present in a system.



[IHUB UPGRADES]

Infrastructure upgrades are bought directly off the market from NPC market orders. They can be installed in the iHUB if the appropriate conditions are met and the installer has the required roles. Installation can be done by dragging and dropping the upgrade from the cargo of the ship to the iHUB upgrade list.

UPGRADES INFORMATION

- Can be installed by pilots possessing the Station Manager role.
- Can only be installed if the prerequisite Development Index level has been reached.
- Military and industrial upgrades come in five different levels. Each level has the prerequisite of the level before it. For the level five upgrade, an existing level four is a must, and so on.
- Military and industrial upgrades will only take effect after the next server downtime, strategic upgrades will be in effect immediately.
- Strategic upgrades increase the upkeep costs for maintaining a system.

STRATEGIC UPGRADES

- Strategic upgrades allow alliances to anchor certain strategic structures in space. These structures can only be anchored at starbases (POSeS). Each strategic upgrade module has a particular index level.
- **Supercapital Construction Facilities:** As you can guess from its name, this strategic upgrade opens up the option of anchoring and onlining Capital Ship Assembly Arrays and Capital Ship Maintenance Arrays at starbases within the system. It is eligible for installation in iHUBs in systems with a strategic index level of one or higher.
 - **Cynosural Navigation:** This upgrade grants you the option for using Cynosural Generation Arrays. It requires a strategic index level of two or higher.
 - **Advanced Logistics Network:** This strategic upgrade gives the option of anchoring and onlining Jump Bridges at starbases within the system. It is eligible for installation in iHUBs within systems with a strategic index level of three or higher.
 - **Cynosural Suppression:** This upgrade gives the option of anchoring and onlining a Cynosural System Jammer at starbases within the system. It is eligible for installation in iHUBs in systems with a strategic index level of three or higher.

MILITARY UPGRADES

Military upgrades allow alliances to increase the rate at which wormholes and combat exploration sites spawn in a system. Each military upgrade module comes in five different levels, each level further increases the provided benefits.

- **Pirate Detection Array:** This military upgrade adds a guaranteed number of at least four cosmic anomalies to a system per level. Each anomaly will re-spawn instantly upon completion. A system will therefore be guaranteed to have at least 20 cosmic anomalies at all times with a Pirate Detection Array of level five installed.
- **Entrapment Array:** This military upgrade increases the chance of DED complexes spawning within a system. Every level of the upgrade increases the chance of the DED complex being a higher quality level.
- **Quantum Flux Generator:** This military upgrade increases the chance of wormholes spawning within a system. Every level of the upgrade gives increased benefits compared to the lower levels.

INDUSTRIAL UPGRADES

Industrial upgrades increase the quality of hidden asteroid belts and profession sites (Hacking, Archaeology and Salvage) in the system. Each upgrade has five levels and each level increases the efficiency.

- **Ore Prospecting Array:** Each level of this array ensures a new hidden asteroid belt is added to the system. Such hidden belts can be found with exploration and they contain mineable asteroids. When you deplete one of these belts, it will be replaced by a new belt. Note that the asteroids of such belts, if not depleted, will not grow at downtime. Improving the Ore Prospecting Array to the maximum of five provides five such permanent sites.
- **Survey Network:** This upgrade generates Hacking, Archaeology and Salvaging sites. The higher the level of this upgrade the better the quality is of the site generated.

THE SOVEREIGNTY DASHBOARD

Everyone can open the Sovereignty Dashboard for a given system. It is just a data sheet containing information about the system that displays who holds sovereignty there among other information. To access this, click on the Sovereignty link in the Current Location UI element at the top left in your client window.

The various indexes about the current system can be seen here. Use the tabs at the top to look at information on the constellation, region, or the whole EVE universe. The Change tab shows information about sovereignty changes (lost and won territories).

MANUFACTURING SOVEREIGNTY STRUCTURES

The following modules can now be manufactured at stations, so they no longer need to be transported from high-sec in a freighter under dangerous circumstances:

- Territorial Claim Unit (TCU), Sovereignty Blockade Unit (SBU), Infrastructure Hub (iHUB)

SYSTEM	CONSTELLATION	REGION	WORLD	CHANGES
► Recent Sovereignty Changes				
Dominant Sovereignty Holder: Amarr Empire				
Kills last 24h (Destroyed / Pod Kills)				12551 / 222
Cyno Fields Active (Structures / Modules)				557 / 3
OWNER	REGION	SYSTEM	CHANGE	DATE
Babylon 5..	Querious	P4-3TJ	Sovereignty gain	2010.12.20 03:21
Black Star Alliance	Fountain	A8-XBW	Sovereignty loss	2010.12.20 16:03
Bloodbound.	The Kalevala Expanse	EPC0-D	Sovereignty gain	2010.12.20 04:04
Cataclysm Enterprises	Providence	F-YH5B	Station gain	2010.12.18 15:44
Cataclysm Enterprises	Providence	F-YH5B	Station loss	2010.12.18 15:48
Circle-Of-Two	Catch	2J-WJY	Sovereignty loss	2010.12.18 18:38
Circle-Of-Two	Impass	H0HF-B	Sovereignty loss	2010.12.18 04:48
Circle-Of-Two	Tenerifis	7KIK-H	Sovereignty loss	2010.12.18 23:38
Cold Steel Alliance	The Kalevala Expanse	JT2I-7	Sovereignty loss	2010.12.18 04:38
Drunken Wookies	Geminate	D-19HJ	Station gain	2010.12.21 11:04
Echoes of Nowhere	Tenerifis	JD-SY	Sovereignty loss	2010.12.20 22:06
Evoke.	Providence	R3-K7K	Station gain	2010.12.18 15:03
Fallen Angels Alliance	Querious	K-B8DK	Sovereignty gain	2010.12.19 13:46
Fallen Angels Alliance	Querious	K-B8DK	Sovereignty loss	2010.12.19 23:47
Fatal Ascension	Fountain	4-EP12	Sovereignty gain	2010.12.18 11:38
Galactic Defence Consortium	Oasa	8QD-UU	Station loss	2010.12.18 21:40
Goats Unlimited	Providence	3KB-JD	Station loss	2010.12.19 00:22
Goats Unlimited	Providence	F-YH5B	Station loss	2010.12.18 15:44
Goats Unlimited	Providence	F-MGAB	Station loss	2010.12.18 23:52
Goats Unlimited	Providence	R3-K7K	Station loss	2010.12.18 15:03
Imperial Order	Providence	2V-CS5	Sovereignty loss	2010.12.18 01:16
Initiative Associates	Catch	Q-U96U	Sovereignty gain	2010.12.19 08:59
Initiative Associates	Tenerifis	3L3N-X	Sovereignty gain	2010.12.20 08:32
Initiative Associates	Tenerifis	IL-YTR	Sovereignty loss	2010.12.20 21:33
Initiative Mercenaries	Immensea	8QE-H6	Sovereignty loss	2010.12.18 06:01
Intergalactic Exports Group	Oetorid	QIM0-2	Sovereignty gain	2010.12.19 20:34
Intergalactic Exports Group	Oetorid	S-51XG	Sovereignty gain	2010.12.20 09:07
Interstellar Alcohol Conglomerate	Scalding Pass	U-IV6H	Sovereignty gain	2010.12.19 19:40
Kill Bill GmbH	Providence	F-YH5B	Station gain	2010.12.18 15:48
Legion of xXDEATHxX	The Kalevala Expanse	JT2I-7	Sovereignty gain	2010.12.18 18:14
M. PIRE	Catch	1P-WGB	Sovereignty gain	2010.12.20 15:17
Northern Coalition.	Providence	2V-CS5	Sovereignty gain	2010.12.18 09:19
Northern Coalition.	Providence	TXJ-II	Sovereignty gain	2010.12.21 12:19
Pelican.	Geminate	2H-TSE	Station gain	2010.12.19 11:04

[OUTPOSTS]>>

➡ Have you always dreamed about owning your very own station? Now, here is the chance! All you have to do is to open your market browser to order a few things. Well, it is not that simple, as an outpost is a player-built-station, and many, separately challenging conditions must be met. All outposts have some basic services (Market, Science & Industry, Repair Shop, Medical, Fitting, Bounty Office, and Insurance) and some race specific specialties.

Below are some useful tidbits regarding outposts:

- Outposts can be built only at the ‘warp in’ point of one of the planets in the system.
- Only one is allowed per system.
- Only alliances may build outposts. Independent corporations or pod pilots cannot anchor and online one for ‘private use’.
- Once built, outposts cannot be destroyed, but can be conquered.
- The core structure of the outpost, called the egg, is the most vulnerable, especially while deploying and anchoring. In this state, it can be attacked and destroyed. One hundred million hitpoints can go fast.

- Outposts do not have weapons like NPC stations.
- Outposts do not require fuel, they are self-sufficient after completion.
- It is essential to own the territory, i.e. to have the sovereignty.
- Several freighters are required to carry some of the bulkier components and you will also need a defensive fleet to protect this operation.
- Outpost Construction level I is required to create the egg, and can be built on stations including other outposts.
- Anchoring level V is required to anchor the egg in space.
- You will need about 25-30 billion ISK to build one.
- Every upgrade costs a fortune.
- If you lose sovereignty, you might lose your outpost as well, but no less than an enemy fleet will be needed for this.

OUTPOST CONSTRUCTION

To begin creating an outpost you will need the following skills:

- Mechanic V
- Industry V
- Anchoring V
 - Outpost Construction I
- Outpost Construction I-V are required for upgrades

You need an Outpost Construction Platform blueprint to create the egg that will become the core of the structure. Later, you can turn this platform into a full station. You can buy the BPO for 1.8 billion ISK from NPCs, or you can buy a BPC from players at a reduced price.

You do not have to buy the materials for the construction of the egg; you can manufacture these building blocks yourself. For example, the material requirements to build the Minmatar Service Outpost Platform and its Station Construction Parts are as follows:

ACCEPT QUOTE?				
NAME	REQUIRED	MISSING	DMG/JOB	WASTE
Raw Material				
✓ Station Construction Parts	11	0	100%	0.0%
✓ Station Hangar Array	11	0	100%	0.0%
✓ Station Storage Bay	11	0	100%	0.0%
✓ Station Laboratory	44	0	100%	0.0%
✓ Station Factory	176	0	100%	0.0%
✓ Station Repair Facility	11	0	100%	0.0%
✓ Station Docking Bay	11	0	100%	0.0%
✓ Station Medical Center	11	0	100%	0.0%
✓ Station Office Center	44	0	100%	0.0%
✓ Station Mission Network	11	0	100%	0.0%
Production Start Time	Now		Material multiplier (assembly line 6 item)	
Production Time	5 days 22 Hours 13 Minutes 20 Seconds		Material multiplier (skill based)	
Total cost	48,734.92 ISK		Time multiplier (assembly line 6 item)	
Install cost	1,007.75 ISK		Time multiplier (skill based)	
Usage cost	47,727.17 ISK			



BILL OF MATERIALS		
Station Construction Parts	11	<div>CONSTRUCTION COMPONENT BLUEPRINTS: INFORMATION</div> <div> STATION CONSTRUCTION PARTS BLUEPRINT</div> <div>ATTRIBUTES BILL OF MATERIALS MANUFACTURING</div> <div>Bill of Materials does not take into consideration the effic</div> <div>Skills [1]</div> <div>✓ Industry Level V</div> <div>Materials [8]</div> <div>Integrity Response Drones - [1]</div> <div>Nano-Factory - [2]</div> <div>Noxium - [1500]</div> <div>Organic Mortar Applicators - [4]</div> <div>Recursive Computing Module - [1]</div> <div>Sterile Conduits - [2]</div>
Station Hangar Array	11	
Station Storage Bay	11	
Station Factory	22	
Station Repair Facility	11	
Station Reprocessing Plant	110	
Station Docking Bay	11	
Station Medical Center	11	
Station Office Center	88	
Station Mission Network	11	

When the Outpost Construction Platform is ready on the station where it was built, you will need a freighter to carry it to its planned location. It is strongly recommended that you collect all the materials for construction as well, since you cannot pick up the egg from space. It is a great big 750,000 m3 monster, so only freighters can carry it, and you cannot load freighters in space (with a few exceptions).

⦿ YOU DO NOT HAVE TO BUY THE MATERIALS FOR THE CONSTRUCTION OF THE EGG; YOU CAN MANUFACTURE THESE BUILDING BLOCKS YOURSELF

«OUTPOSTS»

ANCHORING OUTPOSTS

Creating a station from the egg requires a few more steps. Before you bring it to its planned location check:

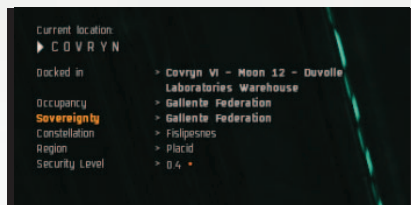
- There are no other outposts (existing or under construction) in the system.
- Your alliance has Sovereignty.
- You have the required roles to anchor it (Equipment Config).
- You have all the materials required to fully assemble your station.
- You can protect it while it is being built.
- You have enough freighter capacity to bring the egg and all the required materials to the construction site. You need at least four or five freighters just for the materials.
- Make sure you are in the right place where you want to anchor the station because once deployed it isn't possible to scoop back into your cargo.

If you are sure about everything listed above, you can right-click on the construction platform (the egg) and choose 'Launch for Corp'. You will see a warning message where you can confirm your intent to deploy the module.

If you have launched the egg and everything is right (you have sov, required skills, and roles) you can anchor the platform. It will take 60 minutes. When it is done you should fill it with the materials required for construction. 'Show Info' on the construction platform will list the required materials.

As a side note, if you only start checking the required materials at this point, you have made a big, and I mean BIG, mistake. It is important to know, that you can buy these materials from the market. Most of them cannot be manufactured. Some of them might even be considered illegal contraband in certain empires! Pay attention to this to avoid surprises!

Choose 'Access Resources' from the contextual menu to load building materials on the platform. Once fully loaded select 'Build' from the menu. Your outpost will be ready at the next downtime.



The following materials are required by the Minmatar Service Outpost Platform mentioned earlier:

NAME	AMOUNT NEEDED
Tritanium	387,522,911
Pyrite	32,293,575
Mexallon	6,055,045
Isogen	1,211,009
Nocxium	252,293
Zydrine	54,062
Megacyte	11,826
Carbon	5587
Construction Blocks	155,649
Coolant	12,489
Electronic Parts	19,871

NAME	AMOUNT NEEDED
Hydrogen Batteries	23,574
Mechanical Parts	16,876
Miniature Electronics	7465
Oxygen	25,468
Robotics	12,499
Silicate Glass	8846
Silicon	5489
Super Conductors	897
Synthetic Oil	17,874
Enriched Uranium	3511
Plutonium	1844

VERY IMPORTANT: Like with Secure Cargo containers, you can specify a password to access the contents of the platform, but, just like the containers, it is only possible while docked in station. You cannot specify a password if your platform is in your cargo hold! If you do not specify a password in time, you will not be able to do it before it is deployed.

The outpost construction process can take up to 24 hours, as it is always completed at the next day's downtime. When it is ready, your outpost will appear as a regular station on the overview. It will be visible for everyone. While it is very hard to build an outpost, once it is built, it cannot be destroyed, only conquered.

So, to sum up the steps needed for Outpost construction:

- Collect the resources (you'll need freighters and lots of ISK)
- Gain sovereignty
- Buy an Outpost Construction Platform BPO or BPC
- Build the Outpost Platform (required skill: Outpost Construction level I)
- Take the egg to its planned location, launch it (Launch for Corp) then Anchor. (Required skills: Outpost Construction level I, and Anchoring level V for anchoring)
- Load the platform with the materials required for outpost construction. Luckily you can use freighters for this duty.
- Start the outpost building process
- Wait for the next downtime. Your outpost will be ready

2005 WAS THE YEAR EVERYTHING CHANGED



Outposts
introduced
to New Eden



Cold War
begins, Red
Moon rises



Super
capitals
take flight




The first
issue of EON
goes on sale

OUTPOSTS

TYPES OF OUTPOSTS

As you already know from previous sections, each outpost has racial specialties. The following table lists what kind of services are available (with upgrades) on outposts of various kinds, complete with their stats:

OUTPOST TYPE	AMARR FACTORY OUTPOST	CALDARI RESEARCH OUTPOST	GALLENTÉ ADMINISTRATIVE OUTPOST	MINMATAR SERVICE OUTPOST
				
Basic Services Medical	✓	✓	✓	✓
Repairshop Fitting	✓	✓	✓	✓
Market	✓	✓	✓	✓
Bounty Office	✓	✓	✓	✓
Insurance	✓	✓	✓	✓
Booster Manufacturing Slots	10 Slots	5 Slots	10 Slots	×
Ship/Module Manufacturing Slots	20 Slots (-30% Manufacturing Time)	2 Slots	4 Slots	2 Slots
Laboratory – ME Slots	1 Slots	10 Slots (-30% Research Time)	2 Slots	×
Laboratory – PE Slots	1 Slots	10 Slots (-30% Research Time)	2 Slots	×
Laboratory – Copy Slots	1 Slots	10 Slots (-30% Research Time)	1 Slots	×
Laboratory – Invention Slots	×	10 Slots	1 Slots	×
Office Slots	4 Slots	8 Slots	24 Slots	6 Slots
Refinery – Base Efficiency	×	×	×	35%
Destroyable Services				
Cloning (54m HP)	✓	✓	✓	✓
Factory (40m HP)	✓	✓	✓	✓
Fitting (81m HP)	✓	✓	✓	✓
Laboratory (40m HP)	✓	✓	✓	×
Repair (13m HP)	✓	✓	✓	✓
Reprocessing (13m HP)	×	×	×	✓

DISABLING OUTPOST SERVICES

Various services available on outposts can be attacked independently, and the table above lists their hitpoints. You do not need to conquer the outpost or gain sovereignty to disable them. These services work like objects in space. They appear on the overview, they can be targeted, and they can be attacked. When a service gets into structure damage it goes offline and cannot be used. To online it again, it must be repaired to 100% structure, 100% armour, and 50% shield levels with remote repair modules. These services cannot be destroyed; they are only disabled.

UPGRADING OUTPOSTS

Upgrading an outpost is a two-step process. First, build and anchor an upgrade platform. Second, when your upgrade platform is ready you can build and install the planned updates. Like outpost construction, these steps always finish at daily downtime, so building a platform and installing an upgrade will be completed in two days.

As you can guess, constructing update platforms and individual upgrades work just like the outpost construction process. You build

an egg, launch and anchor it, fill it with required materials, choose the build option and wait for the next downtime. There are three different levels of upgrades. Each level gives you a different number of upgrade slots.

The three levels of upgrades are:

- Foundation Upgrade Platform: You need Sovereignty level II to build it, and it allows building one Basic Outpost Upgrade (Tier 1).
- Pedestal Upgrade Platform: You need Sovereignty level III and the Foundation Upgrade Platform to build it. It allows building one Intermediate Outpost Upgrade (Tier 2) and another Basic Outpost Upgrade (Tier 1).
- Monument Upgrade Platform: You need Sovereignty level IV and the Pedestal Upgrade Platform to build it. It allows building one Advanced Outpost Upgrade (Tier 3), and an additional Intermediate Outpost Upgrade (Tier 2) and another Basic Outpost Upgrade (Tier 1).

The upgrade slots from various level upgrades stack, so if you have all levels of upgrades you will have six upgrade slots.

UPGRADE NAME	SOVEREIGNTY INDEX NEED	OUTPOST CONSTRUCTION SKILL LEVEL	SLOT AMOUNT		
			TIER 1	TIER 2	TIER 3
Foundation Upgrade Platform	II	I	1	-	-
Pedestal Upgrade Platform	III	III	2	1	-
Monument Upgrade Platform	IV	V	3	2	1



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OUTPOSTS

So, to sum up, the steps needed for Outpost upgrading are:

- Buy an Upgrade Platform
- Take it to the outpost and launch
- Pay attention to the size of the Upgrade as they can be 500,000 m3 to 750,000 m3. Since only freighters can be used to get the upgrade to the location, a freighter cannot take back the upgrade once it is launched into space
- Anchor and link it to the outpost
- Fill it with the required materials
- Choose ‘build’ to build the upgrade
- It will be ready after the next downtime

And the step(s) required for a fully upgraded Outpost (deep breath):

- Gain Sovereignty Level I. Build the outpost. Wait for the next downtime. Gain Sovereignty Level II. Build the Foundation Upgrade Platform. Wait for the next downtime. Build the Basic Outpost Upgrade. Wait for the next downtime. Gain Sovereignty Level III. Build the Pedestal Upgrade Platform. Wait for the next downtime. Build the Basic Outpost Upgrade. Wait for the next downtime. Build the Intermediate Outpost Upgrade. Wait for the next downtime. Gain Sovereignty Level IV. Build the Monument Upgrade Platform. Wait for the next downtime. Build the Basic Outpost Upgrade. Wait for the next downtime. Build the Intermediate Outpost Upgrade. Wait for the next downtime. Build the Advanced Outpost Upgrade. Wait for the next downtime.

You can choose to build the three upgrade platforms (Foundation, Pedestal and Monument) first and only add the individual upgrades later. But do not forget that while these modules are anchored or being built, they are vulnerable and can be attacked. It is important to note that the various levels of upgrades of the same station service do not stack. You only get the benefits of the highest level upgrade. For example, with an Amarr Office, you only get seven offices, not 15 offices for three levels added together on a fully upgraded station. The same is true for the Refinery of a Minmatar Outpost. With the highest level of upgrade you may reach 50% refinery efficiency, but not more.

OUTPOST UPGRADES

Each and every outpost type has five of the seven upgrade paths available in the game. The possibilities seem to be limited, but you still have plenty of options with the six upgrade slots on a fully upgraded outpost. To build a Tier 3 upgrade you need the corresponding Tier 2 upgrade, which in turn requires the corresponding Tier 1 upgrade. This means an Advanced Platform Upgrade would instantly use up three points.

The available variations are as follows:

- One Tier 1 upgrade, one Tier 2 upgrade, and one Tier 3 upgrade is built with the prerequisite upgrades.
- Two Tier 1, and two Tier 2 upgrades are built (with the prerequisite upgrades also built).
- Four Tier 1 and one Tier 2 upgrades (with the prerequisite Tier 1).
- Five Tier 1 (but in this case there is an open slot for a Tier 2 upgrade).

The above options are only true if your outpost has all three Outpost Upgrade Platforms. You can choose to build fewer upgrades if the required upgrades are available.






The prices of upgrades:

- **Tier 1:** 1 Billion ISK
- **Tier 2:** 4 Billion ISK
- **Tier 3:** 16 Billion ISK

The Improvements tab shows the available upgrades. If you check the development tree you can see which upgrades are available and what effects they would have.

You can also check this list of possible upgrades even if you do not have the upgrade platform built, but in this case you will be unable to install the upgrades.



	 AMARR			 CALDARI			 GALLENTÉ			 MINMATAR		
	TIER 1	TIER 2	TIER 3	TIER 1	TIER 2	TIER 3	TIER 1	TIER 2	TIER 3	TIER 1	TIER 2	TIER 3
Factory Upgrade Platform												
Factory Slots	+5	+7	+9	+3	+5	+7	-	-	-	-	-	-
Tech I ship manufacturing time	40%	50%	60%	-	-	-	-	-	-	-	-	-
Tech II component manufacturing time	-	-	-	20%	40%	60%	-	-	-	-	-	-
Capital construction manufacturing time	-	-	-	-	-	-	20%	40%	60%	-	-	-
Module manufacturing time	-	-	-	-	-	-	-	-	-	20%	40%	60%
Laboratory Upgrade Platform												
ME slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
PE slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
Copy slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
ME research time bonus	-	-	-	-	40%	50%	-	-	-	20%	40%	60%
PE research time bonus	20%	40%	60%	-	40%	50%	-	-	-	-	-	-
Copy time bonus	-	-	-	-	40%	50%	20%	40%	60%	-	-	-
Office Upgrade Platform												
Office slots	+3	+5	+7	+3	+5	+7	+5	+7	+9	+3	+5	+7
Plant Upgrade Platform												
Factory slots	+3	+5	+7	-	-	-	+3	+5	+7	+3	+5	+7
Tech II ship manufacturing time	40%	50%	60%	-	-	-	-	-	-	-	-	-
Refinery Upgrade Platform												
Refinery maximum efficiency	10%	20%	30%	10%	20%	30%	10%	20%	30%	40%	45%	50%
Research Facility Upgrade Platform												
Invention slots	-	-	-	+5	+7	+9	-	-	-	-	-	-
Invention time bonus	-	-	-	20%	40%	60%	-	-	-	-	-	-

[STATION MANAGEMENT]



➡ The greatest advantage of owning an outpost is simple: You're the boss. You can decide who can use the various services. In fact, you can even decide who can dock at your outpost and who cannot. If you click the Station Management button in the lower right corner, and you have the proper permissions (i.e. you are a CEO, a Director, or have the Station Manager Role and your corporation owns the station) you can configure the various settings.

STATION DETAILS

Here you can set up some of the basic settings of your outpost:

- **Name:** This name will be visible on the Overview and on the map.
- **Description:** This will be displayed in the 'Show Info' window of your station.
- **Docking cost per volume:** You can set up a cost for docking in ISK/m³ (a bigger ship pays a higher fee).
- **Office Rental Cost:** The monthly rental fee for an office.
- **Reprocessing Station's Take:** If you have a refining facility at the outpost, you can set what percentage of the reprocessed materials will be taken as a fee for using the facility.
- **Reprocessing Output:** If you setup a tax on refining, you will need to specify which hangar division will be used as the destination for these reprocessed materials.
- **Reinforced Mode Exit Time:** You can specify the 'Reinforced Mode Exit Time' here.
- **Transfer Ownership:** You can give the outpost to another corp.

SERVICE ACCESS CONTROL

With these five settings (you can set them up separately for individual services) you can control who can enjoy the benefits of the outpost. Some names are misleading since they refer to standing and not security status:

- **Min Standing:** this is the minimum derived standing required to use the service.
- **Min Character Security:** this is the minimum corp-to-character (from the corp owning the station) standing required to use it.
- **Max Character Security:** this is the maximum corp-to-character standing allowed to use it.
- **Min Corporation Security:** this is the minimum corp-to-corp standing required to use it.
- **Max Corporation Security:** this is the maximum corp-to-corp standing allowed to use it.

COST MODIFIERS

This allows us to give discounts on cost of various services based on standings. For example, you can add discounts to docking fees, reprocessing taxes, etc. based on standing. It is often used to give discounts to corps who are close allies, but it can also be given to certain individuals as well.

Do not forget this value is a calculated percentage. For example, if the base tax is 25%, and you set up 1.8% here, and someone has a 10.0 standing towards you, the discount will be 4.5%.

CLONE CONTRACTS

On this tab, you can see who has a normal clone at your station, but it does not list jump clones. You can terminate such clone contracts for users and corporations. This is a necessary action when you conquer an outpost and want to make sure the previous owners will not have clones at the outpost. The clone is not lost in this case, but moved to a high-sec school station according to the characters' bloodline. Do not forget, you cannot remove jump clones this way!

OFFICES

This tab is useful for viewing and setting up who can rent an office at the outpost. It will also display who has rented an office there already: Who rents the slot, when the rental term expires, and what the rental fee is. The setting 'Publicly Available' can determine if others can rent that slot, and can be used to reserve a few office slots. If someone rents a slot and you unset this setting their rent will not be renewed after the end of the current term.

CONQUERING OUTPOSTS AND STATIONS

Each and every outpost and conquerable station has its own set of special defences. When the alliance that owns the outpost has sovereignty in the system these stations cannot be attacked in that no damage will be dealt to them. This defence can be negated if the attackers negate sovereignty. They usually use SBUs for this. Since these stations are very important tactically and they have significant value they have another line of defence: Dual Reinforcement. This only applies if the owner of the station has sovereignty; if they do not, then stations can be attacked without the use of SBU.



Dual Reinforcement of outposts and conquerable stations work in the following way:

- When the shield of the outpost or conquerable station reaches 25%, it enters Reinforced mode. In this mode it cannot be attacked and cannot be repaired. At the end of reinforcement mode, the shield drops to 0% and the station will become vulnerable and repairable again.
- When the armour of the outpost or conquerable station reaches 50% armour, it enters reinforced mode for the second time, and at the end of this mode it will have 25% armour.
- When the outpost or conquerable station reaches 0% structure it will become the property of the last attacker (the corporate entity who laid the final blow).

A player with the Station Management role in the corp can decide when the reinforcement mode will end in EVE time. The mode will end in the selected time + 48 hours give or take a two-hour timeframe. While the station is in reinforced mode it is invulnerable. If the selected time is 18:00 EVE Time (ET), and Reinforcement mode starts at 19:00 ET, then it is 23 hours base time. It is modified by 48 hours and +/- two hours. So the reinforcement time will last $23+48+/-2 = 69-73$ hours. After this time the outpost/station will be vulnerable again. If the reinforced mode exit time is not specified, the default exit time of 12:00 ET will be used. If a station is conquered, its structure and armour will be fully recharged. If the station is invulnerable, it can still be targeted and attacked, but all damage against it will be zero, regardless of the kind of attack. In this state, remote repair systems (and shield transfer systems) can be used to repair its structure, armour, and shields.

This state lasts as long as:

- The owner of the station has sovereignty.
- The system is not under an SBU siege, so the number of online SBUs in the system is less than 51% of the amount of gates.

[SUPERCAPITALS]

➡ The biggest ships in the EVE universe belong to the supercapital ship class. There are two kinds: supercarriers and titans. In addition to the cost of building these ships, there will be additional challenges once you are in the ship. The biggest dilemma is where to stow the thing, since it cannot be docked. If you store them at a POS without adequate protection, your enemies could destroy them easily. So once you have boarded one, leaving it is not an easy option.

Because they represent a significant ISK investment, they are also tempting targets, so you need a lot of support to move and defend one. Most supercapital pilots wouldn't trade their ships for the universe despite these challenges.

Below, we look at the first of the supercapitals, the supercarrier (or 'mothership'). We'll cover the mighty titans in the next chapter.

SUPERCARRIERS

Supercarriers are the second biggest ship type in the EVE universe and the third biggest item you can build. They are huge ships capable of carrying and using fighter and fighter-bomber drones. They are pretty much like a normal carrier except for the fact that they are much bigger and much more expensive. Here are some other noteworthy differences you should be aware of:

- They have a bigger hangar and drone bay.
- They cannot be built in stations, and cannot dock.
- They are immune to nearly every form of electronic warfare (ECM, normal Warp Disruptor, Stasis Webifier, etc.).
- They are affected only by Interdictor Bubbles, Mobile Warp Disruptors and Focused Disruption Generators (from heavy interdictors).
- They have six high slots instead of the five a carrier has.
- They use 99% less CPU for Warfare Link modules, and each Carrier skill level allows using one additional Warfare Link module.
- They can be fitted with Projected Electronic Counter Measures (Remote ECM Burst).
- In addition to the normal number of drones, you can fly three more Fighters or Fighter Bombers per Carrier skill level.
- They have a +200% bonus to the Fighter or Fighter Bomber control range.

Every race has its own supercarrier, with a race-specific specialty and additional bonuses that makes them ideal for some roles.

➡ **BECAUSE THEY REPRESENT A SIGNIFICANT ISK INVESTMENT, THEY ARE ALSO TEMPTING TARGETS**



AMARR — AEON

- 5% bonus to armour resistances per Carrier skill level makes it possible for the Aeon to have a very strong armour tank.
- 50% bonus to capital energy and armour transfer range per Carrier skill level.

CALDARI — WYVERN

- 5% bonus to all shield resistances per Carrier skill level makes it possible to build very strong shield tank for your Wyvern.
- 50% bonus to capital energy and shield transfer range per Carrier skill level.

GALLENTÉ — NYX

- 5% bonus to deployed Fighters or Fighter Bomber damage per Carrier skill level. It is a significant bonus to damage output compared to other supercarriers, but this comes with a moderate armour tank.
- 50% bonus to capital shield and armour transfer range per Carrier skill level.

MINMATAR — HEL

- 5% bonus to shield and armour transfer amount per Carrier skill level makes the Hel a very useful support ship if you utilize remote tanking, especially since it cannot be jammed. If four of them remote rep each other you have a very tough nut to crack.
- 50% bonus to capital shield and armour transfer range per Carrier skill level.

USES

Basically, besides carrying things, these ships are designed for fleet support roles. The EW immunity and the increased range for capital-sized remote repair modules make them ideal for this. They can be useful when defending a sieged POS if no one bumps it out of the forcefield. The POS forcefield helps protect it from a titan's doomsday attack. A supercarrier can then repair the defending fleet or the POS's defences as needed. Of course, they can also remote repair each other which makes these ships durable since they can repair significant amounts of hitpoints per seconds. But do not forget that even a supercarrier is vulnerable and can be destroyed.

FIGHTER BOMBERS

This kind of drone is a fighter boosted with more hitpoints and much stronger weapons. They may only be commanded by the pilot of a supercarrier. While they can be set to assist others, they cannot be delegated like fighters. With their increased amount of HP and their compact citadel torpedoes (smaller versions of the citadel torpedoes used by Caldari dreadnaughts) they are lethal. As with everything, using them comes with a price. Training the required skills (Fighters level V) takes a long time, not to mention that you need a supercarrier and all the skills to fly it in order to use the drones.

[THE TITANS]



In the Amarr tongue, their name is Imud Hubrau, or ‘Beast of Heaven’. To the Gallente, they are known as Soltueurs, or ‘Sun Slayers’. The collective name for these behemoths is titans, the largest space faring vessels ever constructed. The sheer cost in resources, manpower and time, as well as the necessary technological knowledge, makes construction of a titan-class vessel a venture only great alliances can usually fathom.

They are of great value to a fleet. Not only does a titan make an impressive flagship, but it functions as a mobile base of operations as well. Titans can turn the tide of war with their mere presence. Aside from their blistering armament and many-meters-thick armour, they boast the ability to transport entire fleets within their hulks across the expanses of space.

One notable incident occurred on the small, agricultural world of Goral, where a Gallente titan moving into orbit caused an abrupt

shift in tides, which flooded crop fields and farmland. The decrease in food production meant that the entire system, which depended on Goral for food stock, had to be supplied by merchants or face starvation. Since then, titan navigation systems have been programmed with fail-safes to prevent them from approaching a planet so closely.

The construction of a titan has, in recent years, become an option available to more than just the richest of alliances. With the advent of exploration, new resource-rich worlds have been discovered. For the construction of an Amarr corporation’s newest fleet addition, a lush, tropical moon was decided upon as a prime source for resource extraction. After decades of aggressive strip-mining, the moon’s surface had been mostly torn away. At the cost of tens of thousands of Minmatar slave lives, the titan was complete, leaving the moon a devastated, tectonically unstable hell.



TITAN ROLES

Titans are the biggest and meanest ships lurking in the EVE universe, and they fill some equally large fleet roles:

- Logistical Roles
 - The jump portal generators capable of transporting large fleets to distant solar systems within their range.
 - The on-board corporate hangars can be used as a mobile warehouse.
 - The clone vat bay makes creating jump clones possible, if this module is installed and online on the ship.
- Combat Roles
 - The so-called ‘Doomsday Device’ is an ultimate weapons of mass destruction (or ‘super weapon’) that can do significant damage. Anything with less than two billion HPs (damage can be increased by skills) is destroyed instantly by a doomsday device attack.
 - Raw firepower. The race-specific titan skill level significantly increases the damage of the heavy weaponry fitted to the ship.
 - Titans provide significant bonuses to their fleet members just by their presence (ok, you also need to be a ‘fleet booster’ too). And they can use many gang modules at once.
- PR Roles
 - Only the strongest alliances can afford to build or buy a titan, and can then put it to use. It is a great ego and morale boost to know your corporation can field one or more of these monstrosities.

TITAN ABILITIES

Each race has a titan class ship, including the Joves, although the Jove titan is rarely seen. Every such monster has a totally unique characteristic and is able to provide unique bonuses to the fleet it is part of. They do have one feature in common: they are very useful for either combat or logistics on the field of battle.

The following bonuses are the same in the case of all four races:

- Immune to almost every form of electronic warfare (ECM, normal Warp Disruptor, Stasis Webifier, etc.).
- It is affected only by Interdictor Bubbles, Mobile Warp Disruptors and Focused Disruption Generators from heavy interdictors.
- 99% less CPU use for Warfare Link Modules, and each titan skill level allows use of one additional Warfare Link module.
- Can fit and use a Jump Portal Generator.
- Can fit and use Clone Vat Bays (just like Rorquals)

AMARR – AVATAR

- 100% bonus to Capital Energy Turret damage per Amarr Titan skill level
- 7.5% bonus to gang members’ capacitor recharge rate per Amarr Titan skill level
- Can fit Judgement Super Weapon (Doomsday Device)

CALDARI – LEVIATHAN

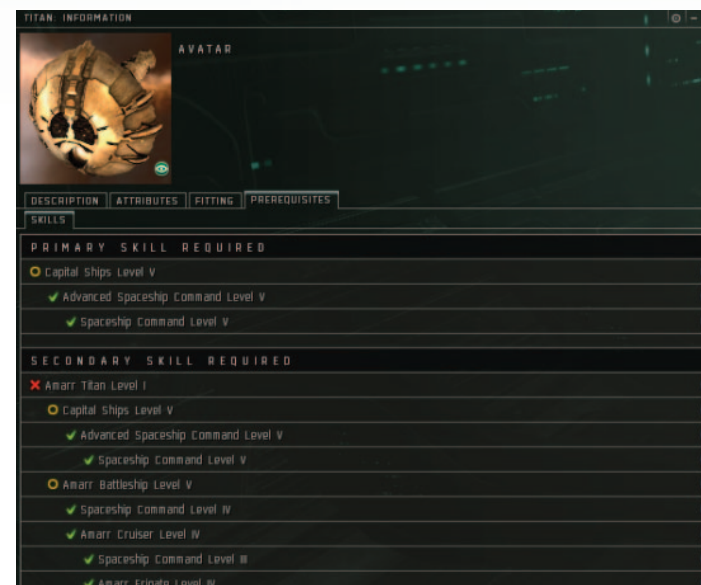
- 125% bonus to Citadel Missile kinetic damage per Caldari Titan skill level
- 7.5% bonus to gang members’ maximum shield HP per Caldari Titan skill level
- Can fit Oblivion Super Weapon (Doomsday Device)

GALLENTÉ – EREBUS

- 100% bonus to Capital Hybrid Turret damage per Gallente Titan skill level
- 7.5% bonus to gang members’ maximum armor HP per Gallente Titan skill level
- Can fit Aurora Ominae Super Weapon (Doomsday Device)

MINMATAR – RAGNAROK

- 125% bonus to Capital Projectile Turret damage per Minmatar Titan skill level
- 7.5% reduction in gang members’ signature radius per Minmatar Titan skill level
- Can fit Gjallarhorn Super Weapon (Doomsday Device)




APPENDICES

» USEFUL LINKS

» EVE-SPECIFIC ABBREVIATIONS

» AUTHORS & CONTRIBUTORS

[USEFUL LINKS]

 We've collected a number of useful links which can make your life significantly easier in EVE.

2D EVE MAPS BY OMBEY

A useful map, which contains the systems of EVE and a lot of info about each system's security status, number of asteroid belts, etc.
www.ombeve.co.uk

JOERD'S EXPLORATION GUIDE 2.01

Everything you always wanted to know about exploration.
myeve.eveonline.com/ingameboard.asp?a=topic&threadID=519470

TOXICFIRE'S ORE MAP

A detailed list of the ore occurrences in the EVE Universe.
www.fluidorbit.co.uk

EVE-CENTRAL

The best price-checking website we're aware of so far. Use it with caution, since there can be differences between the live game and the listed price. Always check the date of the last update to the site.
eve-central.com

REFINING YIELD CALCULATOR

To check how well you can refine when the in-game refining tool is not readily available.
eve.podzone.net/refining.php

EVE POLITICAL MAP

A relatively accurate political map. It is good to know who is going to kill you in a certain region.
go-dl1.eve-files.com/media/corp/Verite/influence.png

EVE STRATEGIC MAPS

An atlas of every region within EVE. Designed as a companion to the EVE player, EVE Strategic Maps provide a fast reference for PvP, PvE, Mining, Agent Running, Trade, or POS operations.
www.eve-maps.com

EVEGEEK

An well-organized website with useful advice about EVE in general. It is especially a good resource for industrial-oriented players.
www.evegeek.com

EVEMON

A very good character-monitoring and skill planning tool. It is important to know how long it will take to complete a skill, or what the prerequisites are. EVEmon gives you access to this information when not in game.
evemon.battleclinic.com

EVE GUIDES

Our personal favorite. You can find help for almost everything, from agents to POSes to Outposts. Definitely visit this site.
www.eve-guides.com

EVELOPEDIA

The Wiki site by CCP. Very useful, especially for new players. All players can add or update information on Eve here.
wiki.eveonline.com/en/wiki/Main_Page

EVE-ONLINE.HU

This is the greatest EVE-Online community site of the mighty and dreaded Hungarians. You might guess that Hungarians are involved with the making of this book!
www.eve-online.hu

EVE-INFO.COM

A site not only for Industrialists and miners, but agent mission runners can find useful information here too.
eveinfo.com

EVE FITTING TOOL

The best ship fitting and testing tool, it provides detailed information on fitting your ship.
myeve.eve-online.com/ingameboard.asp?a=topic&threadID=548883

EVE-MEEP

A useful industrialist guide with ME, PE, Invention, Reprocessing, and Manufacturing calculators.
www.eve-meep.com

EVE-AGENTS.COM

Are you looking for an agent? R&D, Internal Security, Administration, you can find them all here!
www.eve-agents.com

AGENT FINDER

Useful if you need to locate a particular agent.
eve.hidden-agenda.co.uk/agent.php

EVEONLINE.COM

Useful links for agent missions. A good place for mission runners to that also includes a lot of great information on COSMOS missions.
myeve.eveonline.com/ingameboard.asp?a=topic&threadID=148807

EVE-SURVIVAL.ORG

The haven of Mission runners, it provides detailed descriptions about missions including Epic Arc missions. Definitely visit this site!
eve-survival.org/wikka.php?wakka=MissionReports

EVE-HQ

A really well-organized guide which includes lots of useful tools.
www.evehq.net

CHRUKER'S EVE-ONLINE

A very good site with tons on information, including a success calculator for inventions, and some non-public information about items, like the Hit Points of POS Control Towers.
games.chruker.dk/eve_online

MY POS

This is a must for industrialists who run starbases.
www.eveonline.com/ingameboard.asp?a=topic&threadID=1258028

DOTLAN EVEMAPS

Maps with the most important info for fleet planning. Daily sov and outpost info, plus occupancy info for Factional Warfare.
evemaps.dotlan.net

DAOPA'S EVE-ONLINE

A superb site with information on what Loyalty Point (LP) stores offer, a wormhole (WH) database, a WH system list, etc.
www.ellatha.com/eve

EVE RADIO (PART OF THE GAMING RADIO NETWORK)

An internet radio station that's been broadcasting music and chat 24/7 to players across the globe since EVE's early beta period.
www.eve-radio.com

JMU WEBSITE

The website for the corporation and pilots who created this book, with loads of information. (Hungarian)
jmu.hu

BATTLECLINIC

Publisher-sanctioned tools and guides provided free to players. Battleclinic encourages an active community friendly to all.
eve.battleclinic.com

ENERLA

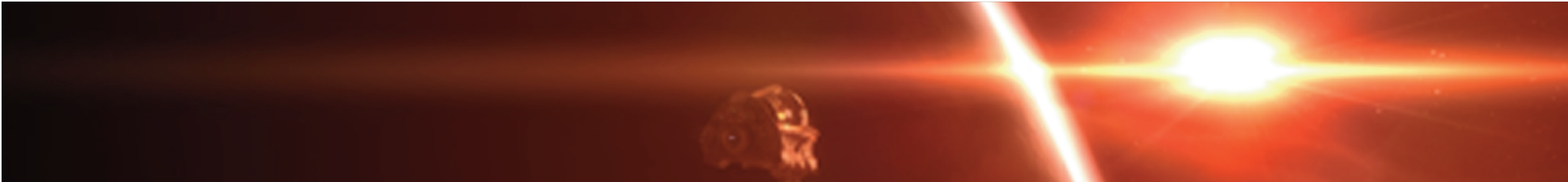
There is a world other than EVE (really!). This site has good articles and RPG-related forums. A must check (at least once).
www.enerla.net

EVE-WIKI.NET

Useful pages created by players. You are welcome to contribute.
www.eve-wiki.net/index.php?title=Main_Page

EON MAGAZINE

The official site for the official magazine of EVE Online.
eonmagazine.net



[EVE SPECIFIC ABBREVIATIONS] »

ABBREVIATION	ORIGINAL EXPRESSION	MEANING
'phoon	Typhoon	Minmatar battleship
AB	Afterburner	An afterburner increases the velocity of your ship
AF	Assault Frigate	Second generation of the frigate class
AFK	Away From Keyboard	Used to designate when you are not at the computer. If you need to go to the bathroom or you want to butter some bread, then just say AFK
AFAIK	As Far As I Know	Acronym, useful in chat
AP	Autopilot	We can travel without human interaction. Keep in mind that it will not use any modules and will not dock in a station for you
Apoc	Apocalypse	Amarr battleship
Ark	Arkonor	This valuable ore can only be found in 0.0 (do not confuse it with the Ark which is an Amarr jump freighter)
BB	Blackbird or Bye-Bye	Caldari cruiser, or the way to say goodbye in chat
BCS	Ballistic Control System	It increases the damage of missile based weapons (torpedoes included)
BD	Blue Death	The well-known fatal exception of Windows
BSD	Blue Screen of Death	As above BD
Bist	Bistot	Valuable Ore
BM	Bookmark	A spot in space. The coordinates are saved on the Places tab of your People & Places Neocom tool
BP	Blueprint	A blueprint is a requirement for manufacturing
BPC	Blueprint Copy	Copy of the original blueprint with limited production runs
BPO	Blueprint Original	The original blueprint that can be copied and it has infinite production runs
BS	Battleship	One of the largest ship classes
BRB	Be Right Back	For use in chat when you will be AFK for a very short time
BYOB	Bring Your Own Blueprint	Bring your own blueprint for production of the item, the minerals and components are already there
BYOM	Bring Your Own Minerals	Bring your own minerals for production of an item, the blueprint is already there
Bubble	Bubble	Mobile warp disruption generator or an interdiction bubble
CareBear	Care Bear	Most of the time it refers to someone who does not engage in any PvP, mission running or, or fighting of any type. A pilot who is not PvP-oriented
CAP	Capacitor or Capital Ship	The energy reserves of the ship or POS, or alternately, any ship that is bigger than a BS
CCP	Crowd Control Productions	The name of the company that created EVE Online
CCD/Con	CONCORD	The high-sec NPC police of EVE
Conquerable Station	Conquerable Station	Designates that a station in space can be taken over
Corp	Corporation	A player-run (or NPC) 'business' (similar to 'clans' or 'guilds' in other MMOs)
COSMOS	Cosmos	A special constellation containing agents and complexes which give special rewards or resources. Each race has their own COSMOS constellations
CPU	Central Processing Unit	The core of all computer systems in a ship or POS. Every module requires an amount of CPU to fit and activate it on a ship or POS
CSM	Council for Stellar Management	A player-run council that provides recommendations to CCP. The purpose of the CSM is to represent society interests to CCP
CTD	Crash To Desktop	Crashed to desktop/game crashed
Cyno	Cynosural Field	A special jump in point for ships with jump drives. Can be opened in low-sec or 0.0 spaces only
Dev	Developer	A developer of the game. You do not meet them too often, but you can read their blogs
DD/DDD	Doomsday or Doomsday Device	The main weapon system of a titan-class ship. It can kill almost anything in a blink of an eye

ABBREVIATION	ORIGINAL EXPRESSION	MEANING
Dom / Domi	Dominix	Gallente battleship that has a large drone capacity
Dictor	Interdictor	Tech II version of the destroyer class. Capable of dropping Interdiction bubbles
DPS	Damage Per Second	How much damage a ship can do to its target every second
DT	DownTime	Anytime that EVE is unavailable. Typically, it means that the game server is down for maintenance and is unreachable. Can be for daily maintenance or for major updates or patching
ECCM	Electronic Counter Countermeasures	A module designed to counter ECM jamming
ECM	Electronic Counter Measures	Defensive modules used for preventing enemy attack, such as keeping the enemy from targeting anything
Eff	Efficiency	Efficiency of a module or process
Emp	Empire	Usually a High-Sec area of space belonging to one of the four major races or empires
EW	Electronic Warfare	Everything pertaining to electronic warfare (ECM, Dampeners, ECCM, etc.)
Faction	Faction	Mostly outlaw corporations from each empire which stand against all authorities. (Blood Raiders, Sisters Of Eve, etc.)
FB	Fighter Bomber	The next generation of fighters mainly used against capital ships
FF	ForceField	The shield that surrounds a POS
Fit	Fit	The full rack of modules fit on a ship
Fitting	Fitting	The process of fitting your ships with modules, weapons and rigs
Freighter	Freighter	Hauling ships with the biggest cargo capacity available
Frig	Frigate	Small-sized ship, cheap, fast, and expendable
Gang	Gang	Several players in one fleet
Gank	Gank	Refers to the situation where an enemy or enemy fleet blows up your ship
GM	Game Master	Supervisor of a game, usually invisible to everyone
Grid	Grid	Section of known space where all parties and objects are visible to each other. Usually less than 1000 km across
HAC	Heavy Assault Cruiser	The Tech II version of the cruiser class with more damage potential, better tanking capability and velocity
Hed	Hedbergite	Mediocre ore
HeavyDictor/HIC	Heavy Interdictor	The combination of the HAC class and the interdictor class, can be a deadly trap for anyone
Hem/Hemo	Hemorphite	Mediocre ore found mostly in low-sec
HS	Heat Sink, see also high-sec	A module that increases the damage output of energy based weapons
High-sec	High Security Space	Anywhere in the EVE universe where a system's security status is between 1.0 and 0.5. It is always under sovereignty of one of the factions. CONCORD supervises these systems
HotDrop	Hotdrop	The act of opening up a cyno to allow one or more ships to jump into a system, usually directly into a combat
IC	In Character or I See	A player is playing a role (role-playing) or "I understand"
IGB	In-Game Browser	The built-in web browser in the EVE Online game client
iHUB/HUB	Infrastructure Hub	Access to a nullsec system can be upgraded with this structure
Indy	Industrial Ship	Cheap hauling or transport ship
Inty	Interceptor	Interceptor is a Tech II variant of the frigate class, usually very fast
Ingame	In-game	Everything that is happening inside the game
Insta	Instant Bookmark	A bookmark that allows you to warp immediately to a spot after undocking

« EVE SPECIFIC ABBREVIATIONS »

ABBREVIATION	ORIGINAL EXPRESSION	MEANING
ISK	Interstellar Credits or Industrial-Sized Knowledgebase	The currency used in the game or the title of this book
Jam	Jam	When a ships sensors are jammed, which means it cannot lock any target and will lose lock on any targets it previously had
JetCan	Jettisoned Can	You can throw out anything from your ship's cargo to space in a container. Anyone can steal form these containers and they will disappear after two hours on their own
Jumpdrive	Jumpdrive	Special drives on certain ships that enable them to jump to a friendly cynosural field, even from several systems away
KB	KillBoard	Webpages containing killed and lost ships statistics for corporations, alliances, or individual pilots
Kern	Kernite	Valuable ore
Lag	Lag	The unfortunate situation when things happen on a delayed basis, mainly due to internet/server issues
LG	Low Grade	The prefix of pirate implants which have +2 attributes
LS/Low-sec	Low Security Space	Every system in-game that has a security status between 0.4 and 0.1 and typically belongs to one of the four main factions
M1, M2	Miner1, Miner 2	Usually the marking of mining lasers
ME	Material Efficiency	One of the attributes of a blueprint. The higher the value, the fewer raw materials are required. Above a certain limit, the number of materials required will no longer improve, which is called 'perfect ME'
Mega	Megathron or Megacyte	Gallente battleship or a valuable ore
Mex	Mexallon	A common mineral which is fairly low priced
Mommie/ Mammie/Mami	Mothership (supercarrier)	Capital ship of high capacity, currently mainly suitable for transporting and controlling fighters and fighter bombers. The name is obsolete. The ship is now known as a supercarrier
MWD	Microwarpdrive	A module that significantly increases the velocity of a ship, its disadvantage is heavy CAP usage
Nerf	Nerf	When something is considered too strong and causes an imbalance in the game, it will be altered by CCP (usually reducing certain attributes or bonuses). Players benefiting from this strength typically do not like this
Noobship	Noobship	Every race has a starter ship which is provided to you free. You also receive one whenever you dock at a station in a pod if there are no other ships in your ship hangar there
Nocx/Nox	Nocxium	Common mineral, fairly cheap
NPC	Non-Player Character	Non-Player Character coded to act/react in a particular manner
OD/ODI	Overdrive Injector	Passive module that increases the velocity of a ship
OMG	Oh My God	Used in chat to say, "Oh My God!"
OMW	On My Way	Used in chat to say, "On my way!"
OOC/OUT	Out Of Character	When a role-player is saying his real thoughts and not his character's opinion
Outpost	Outpost	A station built by players out in nullsec. An important attribute is that it can be conquered!
P&P	People & Places	Part of the Neocom where you can search and keep track of pilots, systems, and bookmarks
POU/PDS	Power Diagnostic System	A passive module which gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate
Pipe	Pipe	A chain of systems which create a route between point A and point B where there are no alternate routes
Plag	Plagioclase	Common ore, fairly cheap
Plex	Complex	A place where NPCs congregate. Much like mission deadspaces, but can be seen on the overview and is always there in a fixed spot. There are also fixed and dynamic complexes which you can find through exploration
PoS/POS	Pod On Sight/Player-Owned Structure	Pod On Sight (rarely used) or a starbase owned and controlled by players that is anchored to a moon

ABBREVIATION	ORIGINAL EXPRESSION	MEANING
Pod/Padding	Pod or Padding	The escape pod of a ship that you always are in; can warp instantly but cannot be fitted and is highly vulnerable. If it is destroyed, you will lose the implants (if any) in your head
Point	Warp Disruption Point	The strength of a Warp Scramble or Disruptor module. It can be used as a descriptor (this ship has two points) or as a verb ("point that ship!" – meaning, activate a warp scramble or disruption module on that ship)
Probe	Probe or Scanner Probe	A frigate-class ship, or the device used to scan space to locate exploration sites or even ships (providing they're not cloaked)
Prod	Production	Manufacturing a ship, module or other item for use by oneself or other pilots
Pri	Primary	The primary target
PE	Production Efficiency	One of the attributes of a blueprint. The higher this value, the more the production time of one unit is reduced. Works the same way as described with ME
PG	Power Grid	The amount of power available in a ship or POS used to fit and activate powered modules
Pye	Pyerite	Common mineral, fairly cheap
Pyro	Pyroxeres	Common Ore, fairly cheap
PvE	Player Versus Environment	A player fights against NPCs
PvP	Player Versus Player	Players fighting against each other
Rat	Rat	NPC character. Most commonly the pirates in asteroid belts
Rax	Thorax	Popular Gallente cruiser and the ancient weapon of the HUNS
RCU	Reactor Control Unit	A module that increases the power grid of the ship
RE/Ref Eff	Refining Efficiency	How much yield one gets from breaking down raw ore into the minerals that comprise it
Ref	Refining	Turning raw ore into the minerals that comprise it
RoF	Rate of Fire	Time between two shoos
SBUs	Sovereignty Blockade Units	The structure required to gain ownership of a system
Scord	Scordite	Common Ore, relatively cheap
Scorp	Scorpion	Caldari battleship most often used for EW, that is often called as primary target in fleet actions
Scram	Scrambler	Prevents warp drive activation of the target ship
Sisi	Singularity	The test server for EVE available for the players as well
Slot	Slot	The hardpoints on the ships where you can install modules or weapons. On POSes/stations this is a place where you can manufacture, research, invent or perform some other science job
SOON™	Soon	Duke Nukem Forever; Check the related Wiki pages!
SOV	Sovereignty	Indicates who owns the given system
SPR	Shield Power Relay	Passive module affecting the ship's shield recharge rate
Stab	Stabilizer	Short for a Warp Core Stabilizer (WCS). It gives you a point of immunity against warp disruption or warp scrambling
SC/Supercarrier	Supercarrier	A capital ship with high cargo capacity for fighters and fighter bombers (formerly known as mothership)
Tackler	Tackler	The pilot(s) in the fleet whose role is to intercept the enemy and apply points and webs to their targets
Tank	Tank	The defensive capabilities of a ship, or in a fleet, the ship which has the best tank
T1/TI	Tech Level I	The first generation of ships and modules
T2/TII	Tech Level II	The second generation of ships and modules
T3/TIII	Tech Level III	The third generation of ship hulls and subsystems
TCU	Territorial Claim Unit	The structure that claims sovereignty for a corp or alliance over a system
Tier 1, 2, 3	Tier 1, 2, 3	The classification of ships and modules in a given class. The higher the number the better the attributes

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Motto	"Drones are like children, small, annoying, destructive and they never listen to you"

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Favoured Activity	PVP
EVE 'birth'date	2006.12.19
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