
Planetary Interaction Guide

Tres's comprehensive Handbook for the Absolute

Version 0.3

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Abstract

Work in progress...Some parts of this guide are inspired by posts on eve-forums by Steven Thomas, Cadde and various others.

Introduction

Since the Tyrannis expansion podpilots are able to interact with planets to a small extent. This means for now practically just the production of various trade goods (former NPC produced) from resources harvested and processed on planets.

The basic workflow to achieve this is as following:

1. scan the planet for available resource distributions
2. place the appropriate command center on the planet close to the hotspots you want to exploit
3. build the needed infrastructure around it, for example extractors, processors or links
4. set up extraction materials, processing schematics and material routes
5. wait for the output and export your products

This process will give you mostly (not only) intermediate materials not directly consumable by players. For higher level products you will need a more complex processing chain with im- and exports on several planets. As the number of planets a single podpilot can handle is limited you will need to create and coordinate a logistics network that spans over several podpilots and planets - metagaming at it's finest.

At the moment the whole show is about the creation of:

- Starbase Fuel (non-ice products)
- Nanite Repair Paste
- Player Owned Starbase Structures
- Outpost Construction Components
- T2 Components (non-moon sourced)
- Sovereignty Structures

Skills

As for everything in EVE there are also special skills for Planetary Interaction to improve your capabilities. Although it's absolute possible to place a basic command center on a single planet and have a go at it without any skill, if you want to run full-blown colonies on several planets, scattered over some systems, you'll want the following skills:

Remote Sensing. Rank 1, Prereq.: Science I

The ability to gather and analyze remote sensing data from satellites in orbit around a planet and to produce proper calibrated surveys. Level 1: allows scans within 1 ly, Level 2: allows scans within 3 ly, Level 3: allows scans within 5 ly, Level 4: allows scans within 7 ly, Level 5: allows scans within 9 ly

Planetology. Rank 3, Prereq.: Science IV, Remote Sensing III

The understanding of planet evolution and the fundamentals of resource extraction.

Advanced Planetology. Rank 5, Prereq.: Planetology IV

Advanced understanding of planet evolution and the fundamentals of resource extraction.

Command Center Upgrades. Rank 4, Prereq.: none

Each level in this skill improves the quality of command facility available to you, in turn allowing for a greater number of connected facilities on that planet. Cannot be trained on Trial Accounts.

Interplanetary Consolidation. Rank 4, Prereq.: none

For each rank in this skill, you may install a command center on one additional planet, to a maximum of 6 planets. You can have only one command center per planet. Cannot be trained on Trial Accounts.

Planets

For the whole thing to work you need planet(s) to get the raw materials from or respectively to run some processors on. If we look around we see plenty of them, about 9 per starsystem. A more closer look and some databank queries later we'll get the following figures:

Table 1. Planets of New Eden

| | Temp | Ice | Gas | Ocean | Lava | Barren | Storm | Plasma |
|---------|------|-------|-------|-------|------|--------|-------|--------|
| Empire | 2139 | 2710 | 5648 | 304 | 1467 | 1864 | 1921 | 231 |
| Outlaw | 2908 | 4689 | 9868 | 511 | 2804 | 3343 | 3395 | 386 |
| Jove | 183 | 350 | 693 | 35 | 200 | 232 | 257 | 27 |
| W-space | 2054 | 3502 | 7545 | 406 | 2002 | 2674 | 2597 | 299 |
| Sum | 7284 | 11251 | 23754 | 1256 | 6473 | 8113 | 8170 | 943 |

In sum that are 67253 planets (the 6 shattered planets included). Now, not each planet type has all the raw materials there are. Just 5 out of the 15 raw materials can be found per type. And another thing to note is the abundancy of the materials on the planets, which depends on the security level of the star system.

A null sec planet yields roughly 6-8 times more than a high sec planet.
Sec status vs CC, number of players on planet, ?structures on planet?

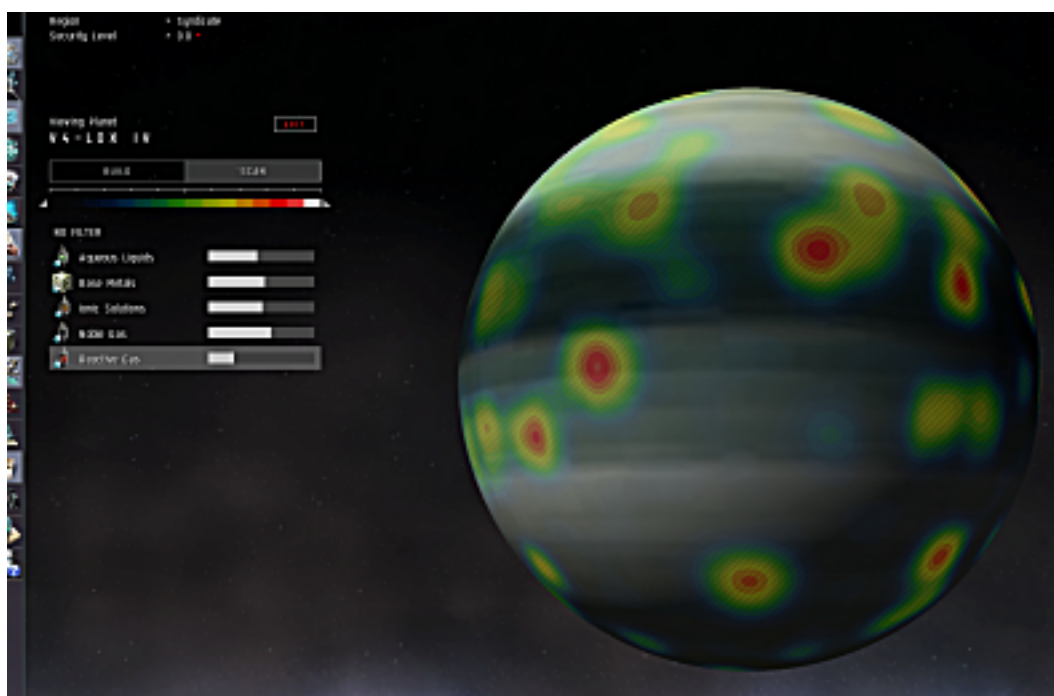
Table 2. Planettype vs Raw material

| | Barren | Gas | Ice | Lava | Ocean | Plasma | Storm | Temp |
|------------------|--------|-----|-----|------|-------|--------|-------|------|
| Autotrophs | | | | | | | | x |
| Aqueous Liquids | x | x | x | | x | | x | x |
| Base Metals | x | x | | x | | x | x | |
| Carbon Compounds | x | | | | x | | | x |
| Complex Organism | | | | | x | | | x |
| Felsic Magma | | | | x | | | | |
| Heavy Metals | | | x | x | | x | | |
| Ionic Solutions | | x | | | | | x | |
| Micro Organism | x | | x | | x | | | x |
| Noble Gas | | x | x | | | | x | |
| Noble Metals | x | | | | | x | | |
| Non-Cs Crystals | | | | x | | x | | |
| Planktic Colonie | | | x | | x | | | |
| Reactive Gas | | x | | | | | | |
| Suspended Plasma | | | | x | | x | x | |

Out of the 15 raw materials 3 are bound to a single planet type.

Scanning for Resources

If you go into planet view mode for a planet you'll see the following user interface by clicking on the 'SCAN' tab (the colormap on the planet comes up when you click on one of the abundance bars):



Abundancebar. The abundance bars for the raw materials give you an overview of how much of the raw material can be harvested at all from the whole planet and gets calculated in realtime. The math behind probably looks something like this: $\text{abundance bar value} = (\text{summarized actual available sources} / \text{summarized maximum possible sources})$



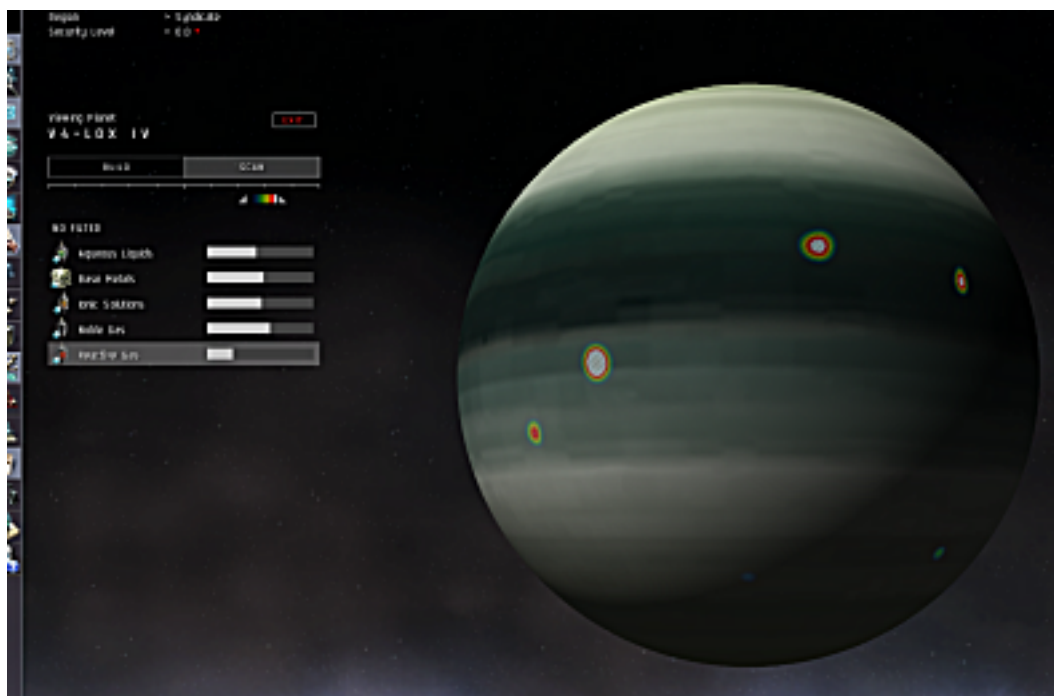
This only gives you an idea about the whole planets abundance, but it doesn't really tell you how big of a source rate you can find, especially at hotspots. To get this information you need to understand the colormap on the planet and have a play with the colorbar.

Colorbar. The colorbar has two handles at both ends (white triangles), so you can set the colors to indicate finer nuances of abundancies by moving them closer to each other. By holding and moving the narrow colorbar itself (grab it at the colors) you can slide through the abundance values with a higher resolution.



- In it's widest setting the colorbar goes from zero to maximum abundance (blue to white, 0% - 100%)
- In it's most narrow configuration the resolution of the colorbar is increased by a factor of 10 (so the minimum and maximum now is just 10% apart, f.i. the colorbar starts with blue at 72% till white at 82% - everything above and below won't be visible anymore and the colormap on the planet will reflect that)

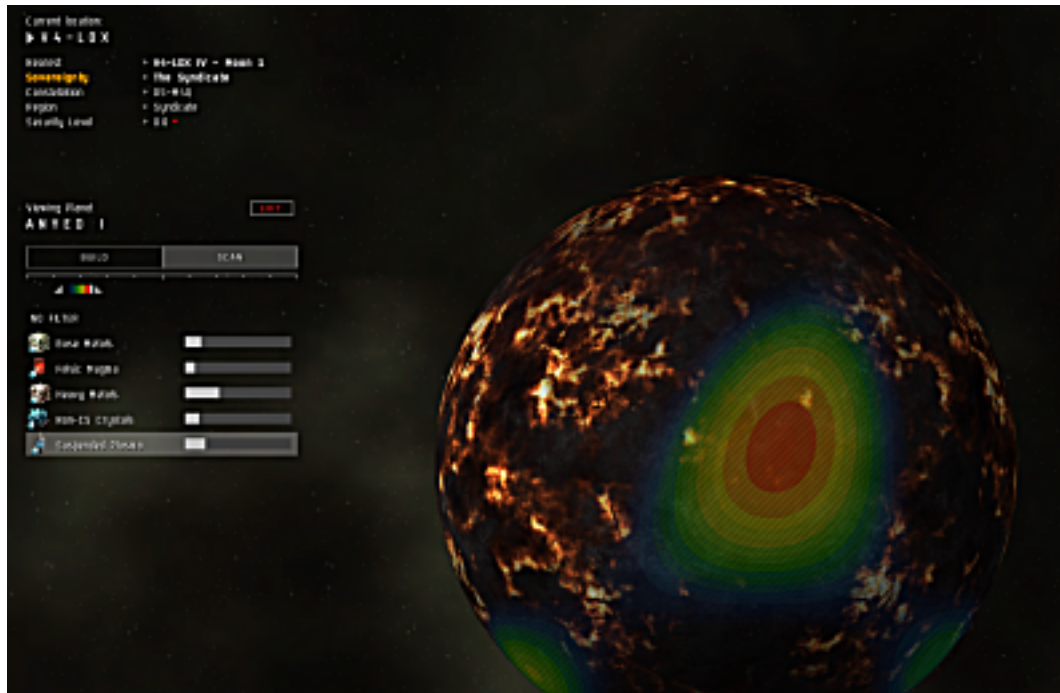
HowTo find a hotspot. You click on the abundance bar to get a colored distribution map overlay on the planet. Then you spin and roll the planet around until you think you got the most abundant spot. Now narrow the colorbar for 10x resolution. Check the hotspot by sliding the narrow colorbar slowly from the left to the right, so that the most abundant area just becomes white. You might want to spin and roll the planet again to make sure there are no better hotspots you might have missed.



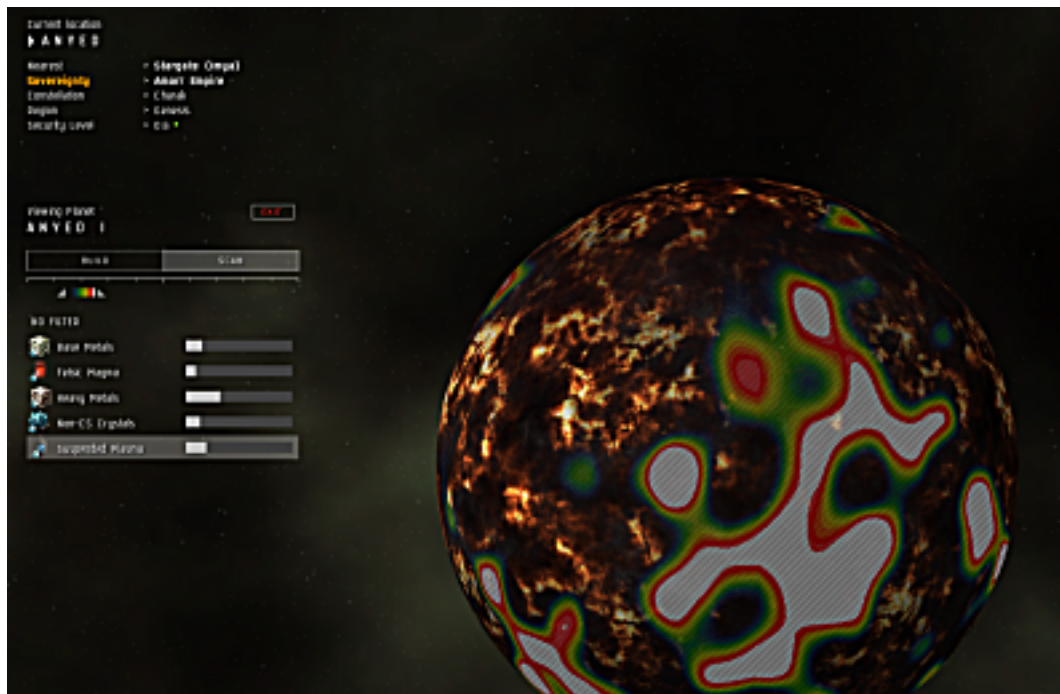
So, what's the deal with the range of the remote scanning skill. What does it look like to scan a planet from far away compared with a scan right next to it? Truth to be told, you want to be as close as possible to the

planet. This naturally serves just the purpose to scan for alternative planets you could colonize. Once you put down a command center the scan results will look the same from everywhere in New Eden.

So, this is how it looks like when you scan from 9 LY away (colorbar range 13% till 23%):



And this is how the same planet looks from orbit by scanning the same resource with the same setting of the colorbar:



So the conclusion is, that at maximum scan distance you won't even get a clue about the possible strength of the hotspots.

Planetary Structures

Now that you know where to get the most stuff you need some information about the structures you will work with. Most of the time you'll just look at symbolic representations of the structures you built on the ground (or let float in the atmosphere) in the form of pins. Each structure has a specific symbol on it's pin so you can easily spot it's function in your planetary networks:

Planetary Command Center - xCC



Planetary command centers are the infrastructural core of each colony, specialized for a planet type and come in 6 tiers. There are basic, limited, standard, improved, advanced and elite command centers. With a command center you can already export products from a planet via a planetary launch container. Command centers can't import products on their own. You can only place one command center per planet. Command centers need to be bought on market and shipped to the planet.

Extractor - EX



An extractor pulls material out of a planets crust, collects liquids or destilates gases. There are dedicated extractors for each of the 15 raw materials. If you set up an extractor you can choose between 4 levels of exploitation rates which affects the cycle time, the lifespan of the resource and it's extractable size. Extractors don't need to be bought on market.

Storage Facility - SF



A storage facility can be used as a buffer, a redistribution point and as a simple storage as the name already says. There can be different types of materials in the same storage at the same time. Storages don't need to be bought on market.

Basic Industry Facility - BP



The basic industry facility processes raw materials into processed materials. It's cycle time is 30 min. Industry facilities don't need to be bought on market.

Advanced Industry Facility - AP



Advanced industry facilities process processed materials into refined commodities and refined commodities into specialized commodities within 1 hour cycles. Industry facilities don't need to be bought on market.

High Tech Production Plant - HP

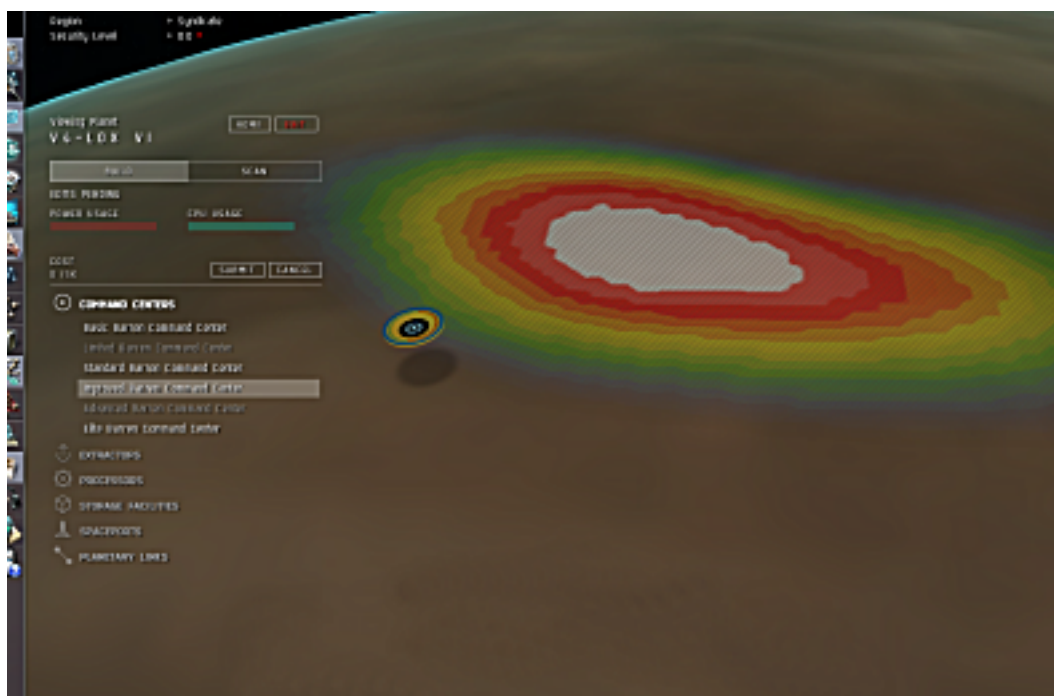


High tech production plants are only available on barren and temperate planets. With 1 cycle per hour they process specialized commodities and processed materials into advanced commodities. Production plants don't need to be bought on market.

Launchpad - LP



A launchpad serves as a connection to the customs office in the orbit of the planet. If you build one, the customs office in the orbit becomes accessible to you or it will even create one if there isn't one already. You can export and import products with it. Launchpads don't need to be bought on market.



HowTo install a CC. Be in space in the same starsystem as the planet you want to colonize. Have the matching CC in the cargohold of your ship and planet view open. In the 'BUILD' pane only the command center item will be highlighted, expand it. Depending on the type(s) of CC(s) in your cargohold there will be highlighted entries. Decide upfront where to place your CC as you can't spin and roll the planet during placement. Click the highlighted entry (mouse pointer gets a CC symbol attached) and click again on the planet where you want the CC to be. Click the 'SUBMIT' button to finalize your building or 'CANCEL' (equals R-CLICK with mouse) to start again.

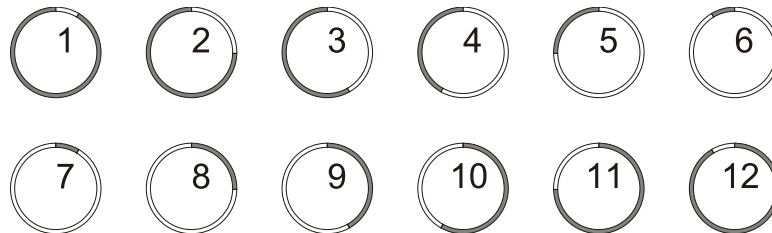
Table 3. PG and CPU for planetary structures

| PIN | PG | CPU | Cycle Time | Storage | Cost |
|--------|--------------|--------------|---------------|-----------|---------------|
| BCC | +6,000 MW | +1,675 tf | - | 500 m3 | ??? |
| LCC | +9,000 MW | +7,057 tf | - | 500 m3 | ??? |
| SCC | +12,000 MW | +12,136 tf | - | 500 m3 | ??? |
| ICC | +15,000 MW | +17,215 tf | - | 500 m3 | ??? |
| ACC | +17,000 MW | +21,315 tf | - | 500 m3 | ??? |
| ECC | +19,000 MW | +25,415 tf | - | 500 m3 | ??? |
| EX | -800 MW | -200 tf | 300-1,800 sec | - | 150,000 isk |
| SF | -700 MW | -500 tf | - | 10,000 m3 | 600,000 isk |
| BP | -800 MW | -200 tf | 1,800 sec | 120 m3 | 225,000 isk |
| AP | -700 MW | -500 tf | 3,600 sec | 1 cycle | 450,000 isk |
| HP | -400 MW | -1,100 tf | 3,600 sec | 1 cycle | 900,000 isk |
| LP | -700 MW | -1,600 tf | - | 10,000 m3 | 1,125,000 isk |
| Link-0 | - 0.26 MW/km | - 0.36 tf/km | - | - | - |

Let's say you placed a CC at your planet, got all excited about it, flew some fancy maneuvers and now can't see it anymore. Well, nothing easier than that. Either DoubleCLICK on the planet or click the 'HOME' button or re-enter the planet view mode. All of those actions executed on a planet (that you've already colonized) will spin, roll and zoom right on top of your CC.

HowTo install planetary structures. Access the planet mode from the maximum distance your skills allow you to. Choose from the 'BUILD' pane the structure group you want to built from and expand it. Decide upfront where to place your structure as you can't spin and roll the planet during placement. Click at the entry of the structure you want to build (mouse pointer gets a pin symbol attached) and click again on the planet where you want the structure to be. Click the 'SUBMIT' button to finalize your building or 'CANCEL' (equals R-CLICK with mouse) to start again.

Building the structures is one thing, understanding how to handle them another, especially the pins. Each pin has some indicators that tell you something about it just by looking at it. The colored outer ring gives you information about the usage of the storage volume of that structure, like a circular gauge with darker color for free space and brighter color for used space. The smaller white inner ring signals the status of the structure. A blinking ring tells you that the structure is waiting for something. A steady, but broken white ring tells you at what part of the actual cycle this structure is at (one cycle 1-6, next cycle 7-12):



When a pin has no smaller white inner ring it just means that it doesn't cycle. A special case is the command centre with it's half blue half red inner ring, cause this one tells you how much PG/CPU the installed other structures on that planet are consuming.

Structure detail window...

Installing Schematics at BP, Surveying for Deposits with EX

Links, Routes and Transfers

So you know the 'where' and you know the 'with what'. Let's get to the last bits before you know how to set up any production chain there can be. The structures need to exchange products with each other for this all to work. To be able to exchange products between them, the structures need to be connected by links where there can get transports - the routes - over it.

Link



Links connect pins like tracks or roads connect cities. They need PG/CPU to be run and can hold a limited volume of transports. To extend this limitation you can upgrade links over 10 levels, which will also increase their PG/CPU consumption. Links don't need to be bought on market and cost nothing to create.

Table 4. Link Upgrades for 100 km and 1,000 km

| Level | | Capacity | 100 km | | 1,000 km | |
|-------|------------------|--------------|----------|----------|----------|---------|
| | | | PG | CPU | PG | CPU |
| 0 | None | 250 m3/h | 26 MW | 36 tf | 161 MW | 216 tf |
| I | Local | 500 m3/h | 45 MW | 69 tf | 356 MW | 544 tf |
| II | Basic | 1,000 m3/h | 67 MW | 110 tf | 572 MW | 949 tf |
| III | Standard | 2,000 m3/h | 91 MW | 156 tf | 804 MW | 1411 tf |
| IV | Improved | 4,000 m3/h | 115 MW | 208 tf | MW | tf |
| V | Fast | 8,000 m3/h | 141 MW | 264 tf | MW | tf |
| VI | Expendited | 16,000 m3/h | 167 MW | 324 tf | MW | tf |
| VII | Express | 32,000 m3/h | ??194 MW | ??385 tf | MW | tf |
| VIII | Advanced | 64,000 m3/h | 222 MW | 454 tf | MW | tf |
| IX | State-of-the-Art | 128,000 m3/h | 251 MW | 523 tf | MW | tf |
| X | Experimental | 256,000 m3/h | 280 MW | 596 tf | MW | tf |

HowTo create Links. There are several ways to start the creation of links:

- from the 'BUILD' pane, 'PLANETARY LINKS' entry, then CLICK on the pin you want to start at
- by R-CLICK on the structure pin you want to start at and selecting 'Create Link' from the context menu
- by holding down [CTRL], then CLICK with the mouse on the pin you want to start the link from and then release [CTRL]
- with the 'CREATE LINK' button in the structure detail window in the 'LINK' tab

Links are all finished by a CLICK on the destination pin.

Route



Routes between structures can only be created, if one of the structure does work on a repetitive cycle and if there is already a link between them. Routes can't be created between non-cycling structures. You can have as many routes per link as you want, as long as the capacity of the link can carry it. Routes don't need to be bought on market and cost nothing to create.

5 hops max

Check the light teal dotted lines (those are THE links, VERY VERY BAD COLOR-CHOICE btw) between the two structures. No (marching ants) moving little dots - no routes. Each direction (bidirectional traffic) will have it's own moving dots. Also.. you can check the link for routes by just hovering over it. If there is a route running along it, there will be a percentage value popping up. The same can be achieved by hovering over the destination structure/pin. All incoming and outgoing routes will light up and the according percentage values will show up. However, if you got other routes already running over that link it might get confusing and not possible at all to see it easily. In that case you have to check source and destination for the routes to be sure

HowTo create Routes. As routes describe the arranged transport of products between structures you can create them from several points within the structure detail view window at several occasions.

HowTo make a Transfer between storages. As you can't create routes between storages, there need to be a way to get products from storage to another storage or the command center or the launchpad. open the detail window for the structure that contains the pile of products you want to transfer and click on the 'STORAGE' tab. Now CLICK on the 'EXPENDITED TRANSFER' button and a new window will open.

Launch and Customs Office

*work in progress.. Taxes
HowTo export or import products*

Processing Tree

work in progress..

Volume of goods

Production

work in progress..

depletion time vs source range vs extraction rate

Add something about max abundancy vs source rate.. it seems that when the colorbar is at most wide setting that white (100%) reflects 255u/min for a 5hour cycle. This means with the right setting for the colorbar at 78% you can actually see sustainability areas...

HowTo decide where to place extractors

FAQ & Changelog

FAQ

Are there any planets in can't colonize? You can't colonize shattered planets or planets in starsystems where another corp or alliance has sovereignty. Any other planet is colonizable by you Yes, also the ones in w-space.

Can I place more than one CC per planet? No.

Can I upgrade my CC without terminating my whole colony? No.

Can I attack other players colonies in any way? The only way to screw other podpilots for now is to extract at the very same spots they extract. DUST514 will bring other means to the table though.

Can I exchange products with other podpilots on the surface? This is planned for a future expansion and not available yet.

Changelog v0.2

- error in Table 2 - raw materials for ice planet solved

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