

Architecture Note

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**The Space Elevator Enterprise will be based
on a Modular Construction, Modular Growth
and Modular Operating Standard**

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Personal Prolog

This is an Architecture Note. It is the opinion of ISEC's Chief Architect. It represents an effort to document ISEC's ongoing science and engineering discussions, and is one of many to be published over time. Most importantly, it is a sincere effort to be the diary, or the chronicle, of the multitude of our technical considerations as we progress; along the pathway developing the Space Elevator.

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The Space Elevator Enterprise will be based on a Modular Construction, Modular Growth and Modular Operating Standard

Building the Space Elevator -- Modular Construction

In the late 2030's, we envision seeing our Space Elevator, a space access transportation system, coming to its first operational standard; Initial Operational Capability (IOC). We see each segment of the Elevator coming to its own first operations status, ready to join with the other segments, and forming a revolutionary transportation system. The segments join. A system is built. An enterprise is birthed.

The space elevator transportation system will grow after IOC in an ordered and controlled fashion.

Growing the Space Elevator -- Modular Growth

After IOC, the Space Elevator will grow. As a transportation system, new and improved functions will be added. It will be a better transportation system. More Tethers will be added. More Climbers will operate; better payload handling will be developed. The Space Elevator will be more efficient and safer.

In addition, the Space Elevator will do things asked of it by our clients, our customers, and our investors. These additions will transform

the Elevator transportation system. The Elevator will be part of a larger entity. The Space Elevator will be an Enterprise of the Galactic Harbour. The Space Elevator transportation system will be the strong foundation for the enterprise and the enterprise functions & capabilities added to that foundation must have the same strengths as those in the foundation. That standard must be sustained in our approach of Modular Growth.

Operating the Space Elevator -- Modular Operations

The concept of modular operations is much more complex than first design, then build, then operate. Further, ISEC envisions operations well before IOC; pathfinding, deploying, and testing. We have a lot to do before we get to IOC. For the most part, these pre-IOC activities will be stepped, preliminary, operational ventures into our eventual ongoing, day-to-day operations. I see activities being executed by small space craft executing specific functions; surveillance, repairing, refueling, transferring, and more. At the 2016 Space Elevator Convention, I spoke of payload servicing and processing activities in the GEO NODE Region being conducted “F5”; Form, Fit & Function – Flying in Formation. The F5 formation is composed of several craft near each other and the client’s payload ...not assembled; gathered.

This establishes a notion that segments of the Space Elevator will be facilities – The Earth Port, the Tether, parts of the GEO NODE Region and so on. Some of the Space Elevator segments will offer distinct services -- which operate in a unique modular operational manner; see “F5”.

In closing

I have discussed much; my views and opinions. I have not discussed two key adjuncts to these notions; Substantive Communications and the engineering “Sequences”. Soon ...

Fitzer