Space Elevator Transportation System SEATTLE 2018 REACHOUT

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August 2018

AGENDA

1. Review Progress during 2017

2. Topic ➔ Reaching out to others

BLUF – Bottom Line Up Font
We need to establish connections; knowledgeable connections

- We have a Baseline Space Elevator Transportation System – but it is poorly documented and it is hard to find,

  ➢ Rule # 36 -There is always a baseline;...tho' you may have to look for it.
  ➢ The baseline will change
    ➢ See Arch Note #4(Seek a baseline or 2), Arch Note #12 (2017 Conference), and Arch Note #14 ("Delineation")

The Year 2017 was a big year. It was so big that it has taken nearly 3/4 of 2018 to get our story straight; and if we could just get people to join with us and our vision; all would be good. Right?

Not really, we need to change or improve a few things and **then** all would be good. Right? Not really, we will need to change or improve a few more things and then all would be good.   Right? Well … maybe; but I doubt it. Therefore, I have an announcement!

We should be prepared for a decade of changes; followed by another series of changes; and after that, more changes. So, we need an orderly change approach. An immutable change approach is essential so that all working on the Space Elevator are working on the same thing.

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The Main Message   2017 - The year of change

The Galactic Harbour is the unification of Transportation and Enterprise

Space Elevator Transportation System is the *'main channel'* in the Galactic Harbour.

- GEO Node
- Earth Port
- Apex Region
- Climbers
- Tethers
- HQ & Ops Center

Businesses flourish as part of the Space Elevator Enterprise System

- Business support to Operational Satellites
- Interplanetary Efforts within reach
- Power and Products delivered to Earth
- Research

Catalyzing force
The need to solidify the view into a new plan of action

- In 2017 ➔ The complex inter-relationships of the elevator system AND the future enabled enterprises needed to be resolved; if only to temper apoplexy.

  ➢ Separate systems identified – a Transportation System and an Enterprise System
  ➢ "Separate but not segregated" paradigm to be enforced; cross system awareness avoids a 'bridge to nowhere' outcome.
  ➢ Collaborative involvement with Space Industries and other Space Elevators essential
  ➢ Overall Unifying, Operational View needed … The Galactic Harbour

Overview   The New Message in 2018

- By the middle of this century, we expect to have an operational Space Elevator Transportation System as part of a burgeoning Galactic Harbour

- The International Space Elevator Consortium laid out **seven** basic technology readiness statements that validates 2018 theme: _The Space Elevator Transportation infrastructure is closer than you think._

- In Support:

   The Chief Architect presented the **seven** point preliminary Technology Readiness Assessment, and connects those **seven** points to the next steps of engineering development for the Space Elevator's Transportation System; the Main Channel.

We need to start establishing connections

The Premise of the Study:

The magnitude of the Space Elevator Architecture demands that it be understood and supported by many. When completed, it will help all of mankind; all should be involved. But much needs to be coordinated and agreed to before the benefits can become real; and enabled by the Space Elevator Transportation System. ISEC should reach out; seeking to coordinate and reach agreements with a variety of players.

The #1 Ground rule of the Study:

It is important that the Space Elevator is seen as a TRANSPORTATION SYSTEM! This effort is about the Space Elevator Transportation System as the affordable and dependable access to space. However, we need legal, trade, and policy validation. We need jurisdictional authority. We need technological levers and insight. We need international collaboration. We need to reach out.

We need to start establishing connections

The #2 Ground rule of the Study:

The collaboration efforts defined in this study and in follow-on studies will place the Space Elevator Transportation System in everyone's plans. For context, the Out-Reach efforts to be defined and study in 2019 are <mark>NOT about the Space Elevator Enterprise System</mark> … that comes later. Soon – but later.

The Goals of the Study:

Primary Goals of the 2019 study:

- Establish "Out Reach" as an essential element of ISEC activities
  - Operate as one entity on each targeted effort.
- Validate our role with "others"
  - Governments / Academia / Professional groups

Secondary Goals of the 2019 study:

- Identify International entities with common or near common objectives; especially other Space Elevators.
- Identify the elements of overlap & underlap with respect to Space Elevator Transportation and Space Elevator Enterprise.

The 2019 Study Framework

Identify the key Out Reach Targets (enduring collaboration)

1. Strategic Technology protection and sharing– DARPA, DOD Space Policy, Air Force Research Lab (Space)
2. Space Traffic Management –
   - Department of Commerce identified as lead (versus the FAA)
   - Seek assignment of Air Space & Space space.
3. Identify International Jurisdictions and protections:
   - For the construction of a Space Elevator and its infrastructure.
   - For delivery of cargo to the Access City area
   - For an operating Earth Port
   - For the area between the Access City and the Earth Port
   - For the area between the Earth Port and the Apex Anchor

The 2019 Study Framework

Identify the key Out Reach Targets (enduring collaboration)

1. …
2. …
3. ..
4. Characterize Legal Structures - Identify AUTHORITIES
   - Law of the SEA,
   - Space Law,
   - The United Nation's COPUOS and the International Maritime Organization
5. Characterize Space Elevator's role in Long Term and Interplanetary Space Operations – NASA and the civil space authorities.

Define the Problems! … in each of the 5 cases.

Establish a communication channel with each Out-Reach target.

Portray the objectives of the Space Elevator Architecture to the Targets; Identify what we want!

Cite the basis for advocacy for what we want

Build an action plan for 2020

The 2019 Study Framework

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Don't Solve the problems! …

1. Establish rapport or report why not.
2. Define the issues;
3. Outline what kind of ongoing effort is necessary.
4. Consider doing only two or three teams.

Final Word

This is not outreach to industry. That falls under the Enterprise System.