

Example of Body of Knowledge on Modern-Day Space Elevators
www.isec.org

Modern-Day Space Elevators will be revolutionary as they exercise their strengths and open up the GEO belt, the Moon, Mars and beyond. However, finding and searching for details within a massive body of knowledge on space elevator transportation systems has become much easier as most is located at www.isec.org. This central location will help each of us understand how Space Elevators will enable humanity's dreams for both movement off planet and a better tomorrow in their neighborhood. When you look at Space Elevators and ask Why, The answer is described within this body of knowledge, but boils down to:

Strength One: Defeats the rocket equation with:

- Unmatched efficiencies (70% of mass to GEO and beyond, with reusable climbers the other 30%) – whereas rockets have 4% to LEO, 2% to GEO and 0.5% to surface of the Moon
- Unmatched velocities (7.76 km/sec at Apex Anchor - release to go beyond Mars, no fuel required) – as fast as 61 days with other trips ranging beyond that.

Strength Two: Empowers a transportation methodology with permanent infrastructures similar to moving from small boats crossing a large river to infrastructures such as a bridges moving traffic daily, routinely, safely, inexpensively, and with little environmental impact.:

- Daily releases to customer destinations such as Mars – resulting in transportation similar to “on time delivery” methodology.
- Unmatched movement of logistics mass (30,000 tonnes first year of operations — humanity only put up 20,000 tonnes by rockets between 1957 and 2020) – Once Space Elevators mature, the numbers quadruple.
- Provides “truck stops” along the way such as: a GEO station to refuel and construct satellites with additional assembly of mission space systems at the Top of the Gravity Well (Apex Anchor) with few limitations on size, mass or velocity.

Strength Three: As a Green Road to Space (see the full study report on ISEC.org) ensures environmentally neutral operations

- Leverages electricity to power climbers with no burning in our atmosphere.
- Does not leave space debris along the way as it delivers 100% of pad mass to GEO and beyond [70% payload, 30% reusable climbers]

The above discussion is explained well within the main body of knowledge of Modern-Day Space Elevators – www.isec.org. Currently, there is a vast collection of knowledge accessible with some special items being emphasized currently. My favorites are the 11 articles published inside two British Interplanetary magazines that are also accessible from our website.

Journal of the British Interplanetary Society, Volume 76 No.7 July 2023

Special Issue: Future Directions for Space Elevators

- Raitt, David: [Space Elevators: Introduction to This Special Issue.](#)
- Wright, Dennis H.: [Building the Space Elevator Tether.](#)
- Bartoszek, Larry & Dennis H. Wright: [Payload Design for the Space Elevator Climber.](#)
- Knapman, John M.: [Innovation and Research for Space Elevators.](#)
- Swan, Peter A. & Cathy W. Swan: [Huge Fast Spacecraft Travelling Our Solar System.](#)
- Woods, Arthur, Andreas Vogler, Patrick Collins: [The Lunar Space Elevator: A Key Technology for Realising the Greater Earth Lunar Power Station.](#)

SpaceFlight Magazine, Vol 65 No 06 June 2023.

- Adrian Nixon, John Knapman and Dennis Wright: [THE RIGHT STUFF: The space elevator's new tether material.](#)
- Fitzgerald, Michael: [GALACTIC HARBOURS: A galactic harbour is a permanent transportation infrastructure including](#)
- Swan, Peter: [COOPERATION & COMPETITION: A dual space access strategy](#)
- Swan, Cathy, [MODERN DAY SPACE ELEVATORS](#)
- Coppinger, Rob: [INCREDIBLE ENGINEERING: Japan's vision for a space elevator](#)

In addition, the rest of the website has over 800 citations/references, many descriptions of various aspects of future space elevators and short insights into on-going activities. In addition, the monthly newsletter covers current articles discussing our activities. Joining ISEC will also bring timely knowledge and interesting events.