

Why Space Elevators?

To enable humanity's biggest dreams! To elevate efficiently!

To transform access to space for the good of humanity!

“Why Space Elevators?”

Space Elevator Transportation Systems (SETS) have:

- Unmatched efficiencies¹ (70% of mass to GEO and beyond, 30% of mass reusable climbers)
- Unmatched velocities (7.76 km/sec at apex anchor – daily release to go beyond Mars, no fuel required except for slowing down for safe delivery)
- Unmatched movement of logistics mass (30,000 tonnes in their first year of operations — humanity has only put up 20,000 tonnes with rockets (1957 - 2020))
- Unmatched environmental impact – approaches zero as the climbers are raised by electricity on the Green Road to Space

“What is a Modern-Day Space Elevator?”

The Modern-Day Space Elevator has evolved from a dream to a scientific engineering reality. Our understanding of the new 3-D material characteristics has enabled the transition to a real meg-project with five major thrusts:

- Space Elevators are ready to enter Engineering Development (Phase Two of development)
- Space Elevators are the Green Road to Space where SETS can join advanced rockets within a Dual Space Access Architecture
- Space Elevator's major strengths are as a permanent transportation infrastructure where movement of massive cargo to GEO and beyond enables new enterprises along the way.
- Space Elevator's Transformational Characteristics revolutionize the future of space

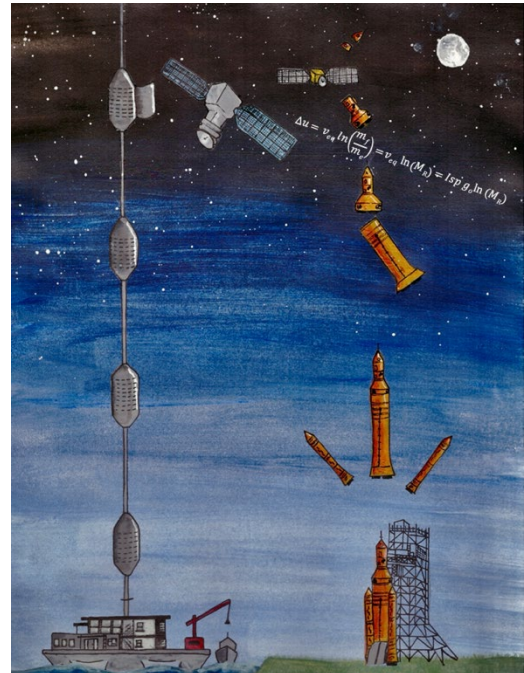
¹ Remember, rockets only deliver 2% of pad mass to GEO and 0.5% to surface of Moon or Mars. Space Elevators deliver 70% to GEO of the liftoff mass – indeed reusability is fantastic, but it does NOT improve efficiency.

“What is a Dual Space Access Architecture?”²

Another major concept solidified during recent research when looking at advanced rockets and the future of humanity’s needs from/in orbit. There should be cooperation and coordination between advanced rocket projects and Space Elevators once they start operations (approximately 2037). This Dual Space Access strategy will leverage the best of future rockets and Space Elevators allowing humanity to reach farther and sooner for the implementation of remarkable dreams. The modern-day Space Elevator will be transformational as a permanent space access infrastructure as they: are ready to enter engineering development, become a Green Road to Space, join the advanced rockets inside a Dual Space Access Architecture Strategy, and implement permanent transportation infrastructure characteristics leading to dominant support to customers. The image that has surfaced is: “Think of a bridge after centuries of using boats to cross a river.” When combining rockets and Space Elevators, the best of both are leveraged to help fulfill humanity’s dreams.

“Rockets to open up the Moon and Mars with Space Elevators to supply and grow the settlements. In addition, Space Elevators will enable Green Missions such as, Space Solar Power and L-1 Sun Shades. This approach is compatible and complementary with future rockets while leveraging the strengths of both inside a Dual Space Access Architecture.”

Dual Space Access Architecture - Image by Stanton



“What is a Green Road to Space?”³

Recent dreams have lead to a series of missions to support humanity’s needs to move off planet, requiring a massive movement of equipment and supplies (estimated at 1,000,000 tonnes to Mars). Space Elevators are the answer! In addition, humanity needs to support Earth centered space systems of large mass such as Space Solar Power (4,000 tonnes each x 600 satellites to GEO). The Space Elevator community's vision should be, that Space Elevators CAN move millions of tonnes of cargo - no-one else can with a beneficial environmental approach and timely delivery to multiple destinations. Space Elevators enable missions that cannot reasonably be accomplished with rockets and thus can help improve the human condition on Earth. And, they accomplish these significant missions without burning fuel in the atmosphere nor leaving debris along the way. Indeed, Space Elevator Transportation Systems are the Green Road to Space. *Space Elevators are the Green Road to Space - they enable humanity's most important missions by moving massive tonnage to GEO and beyond. They accomplish this safely, routinely, inexpensively, daily and they are environmentally neutral.*

² New ISEC Study to be released Nov 2023

³ Review ISEC study edited by Dr Eddy at www.isec.org pdf free