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Modern Day Space Elevators Entering Development (3)

Author: Dr. Peter Swan
International Space Elevator Consortium, United States

Mr. Michael Fitzgerald
International Space Elevator Consortium, United States

Dr. Cathy Swan
SouthWest Analytic Network, United States

KEYNOTE: SPACE ELEVATORS AS A TRANSFORMATIONAL LEAP FOR HUMAN MOVEMENT
OFF-PLANET

Abstract

The thesis of this research is that a Permanent Space Infrastructure would enable massive movement of cargo to GEO and beyond in a safe, environmentally friendly, inexpensive, daily and routine way – thus transforming the approach for humanity to escape the Earth’s gravity. How many dreams can come true when you can lift 30,000 tonnes to GEO and beyond per year at initial operational capability (170,000 at full operational capability)? The restrictions of rocket launches are well understood; but, when you beat gravity you: • enable Space Solar Power while supporting the Paris Accords • lift payloads as the Green Road to Space, helping to save our atmosphere • improve life on Earth with major accomplishments, in space • enable early completion of massive projects, such as lunar villages • shorten the time for delivery of 1,000,000 tonnes to Mars • enable early development of an L-5 settlement with millions of inhabitants

A Mars settlement will be used as an example: The most remarkable strengths of Space Elevators relate to being permanent transportation infrastructures. A recent study completed by the Arizona State University and the International Space Elevator Consortium illuminated some remarkable conclusions about supporting settlements on Mars (as an example of developing off-planet development). This movement off planet includes Space Elevators’: • Daily departures from the Apex Anchor towards Mars at great velocity (7.76 km/sec). • Support interplanetary missions (Fastest transit is 61 days to Mars, with a range of travel times during the 26-month planetary dance). • Supply massive payloads daily (170,000 tonnes per year from three Galactic Harbours). • Enable carbon negative operations for deliveries to Mars • Exit the gravity well while avoiding the burden of the rocket equation. • And, accomplish this daily, routinely, inexpensively and carbon neutrally.

Indeed, Space Elevators are the Transformational Leap For Human movement off-planet.