

12th IAA SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FUTURE (D4)
Global Strategy for Space Elevators (3)

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SPACE ELEVATOR CONCEPT COMPARISON SUMMARY

Abstract

As the Joint Research Group of Japan Manned Space Systems Corporation and Obayashi Corporation, strongly believe that a space elevator will be the most important transportation system in space. Considering humankind is likely to reach the asteroids and planets in the near future, a space transportation system that is cheaper and easier than conventional rockets will be required, especially for the purpose of promoting business. Following the space elevator construction concept that was recently announced by Obayashi Corporation, we are discussing for potential international space business development. We believe that some advanced facilities and technologies planned to be used with the space elevator, including the floating Earth Port and the inflatable modules, should be spun off and utilized for other purposes during this long construction period. The Earth Port, for instance, could serve as a seaborne launch site for both commercial and governmental rockets during construction of the space elevator. Before assuming its function as the Earth Port, it could be a sub-orbital space flight station, a tourism center, or an astronaut training base. Another potential feature for spin-off is the inflatable structure that has been considered as a component of the GEO station in Obayashi's concept. Thus, the project could definitely benefit from collaboration with business even prior to the completion of the space elevator. On the other hand, IAA study group for Space Elevators concluded that Space Elevators seems feasible and we summarized its report and corresponded with the features of Obayashi's concept. This paper introduces our analyzed results for these two groups in perspective of technical/legal/policy issues like tether, climber, space station, spacecraft, core systems for modules etc