SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Vehicles in Service or in Development (1)

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THE STATUS OF EPSILON LAUNCH VEHICLE'S FURTHER DEVELOPMENT

Abstract

The Epsilon Launch Vehicle, the newest version of Japan's solid propulsion rocket, has been further developed since its first flight in 2013. This development succeeds to the original Epsilon's design philosophy that providing small satellite manufactures with the efficient launch system and allowing them to have more flexible designs will increase space activities. As the first step toward this purpose, the effective development in the short term is ongoing. That includes the development of the new second stage motor, the compactization of the avionics component, and the optimization of the liquid propulsion system in the post boost stage. The development will increase the launch capacity and payload usable volume, and reduce the launch cost. This development will be applied to the second flight of Epsilon to be scheduled for 2016. As the second step, a research and development aimed at the further future is being conducted in the medium term. In this phase, some configurations are under consideration taking into account the synergy with Japan's Next Flagship Launcher, the successor of H-IIA Launch Vehicle. Simultaneously, some elemental technologies for the future launch system are being researched mainly in the structural and electrical fields.