

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems (4)

Author: Mr. Yuji Takaki
Mitsubishi Heavy Industries, Ltd., Japan

Dr. Shoyo Hyodo
Mitsubishi Heavy Industries, Ltd., Japan

Mr. Genki Nakai
MHI NGPSW, Japan

Mr. Hiromichi Hiraki
Mitsubishi Heavy Industries, Ltd., Japan

Dr. Junya Takida
MHI NGPSW, Japan

Mr. KEIJI SUZUKI
MHI, Japan

FUTURE SPACE TRANSPORTATION SYSTEMS OF MHI WITH MODULAR ENGINE

Abstract

The commercial space market had been focusing on the transportation to GTO. Because of the plans for Artemis program and Gateway, the platform for lunar exploration and deep space missions, that focus has changed to LTO, MTO, and manned space transportation. Furthermore, it is expected that the space market for LEO will dramatically expand owing to the effect of the mega-constellation satellites. As for future transportation, launch vehicles are required to decrease their costs and to obtain the capability of more frequent launches, and these are realized by the reusable launch vehicle. MHI is developing the modular type engines which is important to achieve the reusable system in terms of the redundancy and the adjustability for thrust level, and firing tests are scheduled in 2022s. In this paper, MHI's activities to develop the future reusable system are shown. The developing status and key technology for the modular type engines are also introduced.