

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
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FUTURE OF THE JAPANESE FLAGSHIP LAUNCH VEHICLE OVER NEXT DECADE

Abstract

This paper provides a comprehensive overview of the evolution of Japanese flagship launch vehicle, the H-IIA launch vehicle, over the next decade.

The H-IIA launch vehicle is currently operated as the flagship launch vehicle in Japan. It has performed successful launches since its maiden flight in 2001. It was transferred from JAXA to a private sector (MHI: Mitsubishi Heavy Industries, Ltd) in 2007 and is going to be operated by MHI for about ten years.

The next generation of the flagship launch vehicle, which will replace the current H-IIA, is studied. It aims a "revolution" of our flagship launch vehicle to achieve high reliability and safety enough to fly a human into the space, the most competitive price and the highly efficient operation scheme allowing high launch rates while minimizing recurring cost.

Meanwhile, the "evolution" (step-by-step upgrade) of the H-IIA towards the next generation of the flagship launch vehicle is also considered to respond to the short-term market needs. It aims to gain competitiveness by reducing the launch cost and improving the payload interface with maintaining the reliability. The improvement will be achieved in controlled, incremental steps to reduce the risk to manageable steps.

This paper introduces the system concept(s) of the next generation flagship launch vehicle of Japan and the possible evolution plan(s) from the current H-IIA to it.