

HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Human Spaceflight Young Professional Virtual Forum (9-YPVF.2)

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REVIEW OF THE INDIA'S HUMAN SPACE FLIGHT PROGRAM

Abstract

India is at a crossroads in its national space development program especially after the success of the Mars Orbiter Mission (MOM), also called Mangalyaan. Next in line is “Indian human spaceflight program” a proposal by Indian Space Research Organization (ISRO) to develop and launch for a two-member crew to Low Earth Orbit (LEO). In the early days, the Human Spaceflight was primarily motivated by national pride and military aspects. However, in recent decades, space exploration as a human environment, and scientific and technological progress dominated the motivation behind a manned mission programs. Rakesh Sharma was the first Indian citizen to go to space in 1984 aboard a Soviet mission. However, the trials for the India's manned space missions began with Space Capsule Recovery Experiment (SRE), launched on 10th January, 2007 using the Polar Satellite Launch Vehicle (PSLV) rocket C7, and safely returned to earth 12 days later. In December 2014, ISRO took a giant step towards to making its first manned space mission after it successfully launched its latest rocket Geostationary Launch Vehicle (GSLV) with a crew module for astronauts. The GSLV variant Mk III was launched from the Satish Dhawan Space Centre, which is located on the southern coast of India. The rocket carried a three ton payload, including its “Crew Module Atmospheric Re-entry Experiment (CARE)” beyond the earth's atmosphere. The testing of GSLV capped a triumphant year for its ISRO which also completed the low-cost ever mission to Mars in 2014. As per current status ‘First manned space mission’ is being planned by 2021. An Indian mission for Human spaceflight will not only increase the know-how of India on critical technologies but also make India independent for scientific exploration in space. Such a mission will benefit Indian industries as well as drive the University oriented research. The paper reviews the current scenario for feasibility of the mission by 2021.