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STPI Report Assesses NASA Human Mission to Mars

ALEXANDRIA, VA (April 2019) – A new Institute for Defense Analyses (IDA) [Science and Technology Policy Institute \(STPI\)](#) report found that a 2033 departure date for a NASA Mars orbital mission is infeasible under current budget scenarios and technology development and testing schedules. The report, mandated by the NASA Transition Authorization Act of 2017, found that 2037 is the earliest a mission could feasibly depart for Mars, with 2039 being most realistic if there are delays or budget shortfalls affecting procuring or testing the Mars transport vehicle. Per NASA's request, the report used NASA's current and notional plans for human exploration as the basis for the evaluation, rather than independently developing a mission architecture or evaluating a range of architectures.

"NASA's current plans call for parallel progress building a lunar infrastructure, while simultaneously developing a host of new deep space technologies, new and complex system-level capabilities, and new acquisition and institutional relationships. With such ambitious content and fixed funding, the only remaining variable is schedule," said Bhavya Lal, STPI Research Staff Member and the project lead.

The NASA Transition Authorization Act of 2017 mandated that NASA "develop a human exploration roadmap...to expand human presence beyond low-Earth orbit to the surface of Mars and beyond, considering potential interim destinations such as cislunar space and the moons of Mars," with an expectation of a mission to Mars by 2033. Congress mandated NASA contract with an independent entity to conduct an assessment of these plans. NASA selected STPI to conduct this assessment.

"The impact of this report is a tribute to Dr. Lal and her team of researchers, doing what an organization like IDA does best: provide high-quality, independent, objective analysis for our nation's decision makers," said Mark Lewis, STPI Director. "I'm very proud of this specific product as well as the overall credibility that STPI has built in the space policy sector."

IDA is a not-for-profit corporation that operates three Federally Funded Research and Development Centers in the public interest. IDA provides objective analyses of national security issues and related national challenges, particularly those requiring extraordinary scientific and technical expertise.



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