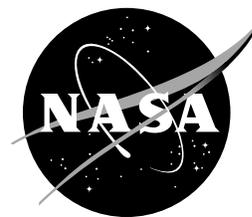


# NASA Facts

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## NASA's Space Launch Initiative: **The Next Generation Launch Technology Program**



NASA is aggressively pursuing new space vehicle and flight technologies in an effort to expand America's presence in space – building a future in which people and businesses will routinely travel, work and live in Earth orbit and beyond.

NASA's Space Launch Initiative was introduced in February 2001 to develop technologies and identify options for future space transportation systems, performing the critical analysis necessary for NASA to eventually proceed with full-scale development of a new reusable launch vehicle system.

In November 2002, NASA revised the Integrated Space Transportation Plan to evolve the Space Launch Initiative to serve as a theme for two emerging programs. The first of these, the Orbital Space Plane, is intended to provide crew-escape and crew-transfer functions for the International Space Station. The second, the Next Generation Launch Technology program, is developing technologies needed for safe, routine space access for scientific exploration, commerce and national defense.

The Next Generation Launch Technology program combines elements of two previous research efforts: the original Space Launch Initiative program – which sought to reduce the risk associated with flying a second-generation reusable launch vehicle in the 2012 timeframe – and NASA’s former Advanced Space Transportation Program, which pursued propulsion, launch and flight technologies intended to yield options for third-generation launch vehicle concepts capable of flight in the 2025 timeframe.

Now, the Next Generation Launch Technology program seeks to develop and mature innovative technologies based on these predecessors. The program is pursuing new research in the areas of propulsion, structures, vehicle systems, and ground and flight operations. Overall, the NGLT program will focus on the development of new technologies that provide NASA the means of improving safety and lowering launch costs.

The program is pursuing four significant technology areas:

- development of a reusable liquid-oxygen/liquid-kerosene rocket booster engine;
- development of hypersonic, air-breathing propulsion and airframe systems;
- development of cross-cutting launch vehicle system technologies, intended to support a broad variety of launch and flight vehicle architectures; and
- analysis activities to guide program investment and to ensure an appropriate fit not just with NASA’s needs, but with those of NASA’s civilian and government customers.

Through the National Aerospace Initiative, NASA and the U.S. Department of Defense will jointly develop the research and technology and determine the requirements to meet all the nation’s hypersonics, space launch and space technology needs. The primary goal of this research is to increase safety and reliability and to reduce overall costs associated with building, flying and maintaining the nation’s next generation of space launch vehicles. NASA anticipates that these advances will revitalize the nation’s space transportation capabilities, and dramatically improve NASA’s ability to conduct science and exploration missions in space.

In 2004, the program will decide whether to proceed with a Next Generation Launch Vehicle risk-mitigation phase, which includes research and testing of large-scale tanks, structures and engines. In 2009, NASA will decide whether to proceed with full-scale development of a specific vehicle enabled by the program’s technological advances. A decision also will be reached late in the next decade regarding future development of a hypersonic reusable launch vehicle, based on air-breathing propulsion systems now in development.

The Space Launch Initiative is the work of a nation, involving NASA, the U.S. Department of Defense, academia and private companies from around the country. All NASA field centers and the Air Force Research Laboratory – which includes facilities at nine Air Force bases nationwide – are active participants in the Space Launch Initiative and are vital to its success.

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