



NASA's New Millennium ST-9 Project

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NASA's New Millennium Program (NMP), will soon announce the final concept for the Space Technology 9 (ST9) mission, an integrated system validation project. This is the latest of a series of in-space technology validation activities that began in 1996 with Deep Space 1. The New Millennium Program identifies the technological capabilities needed for future space science missions and the technology advances that will help provide those capabilities. The ST-9 mission will validate one of five technology capabilities that NASA Associate Administrator has selected as candidates for flight validation. The ST-9 mission will validate one of five technology capabilities that NASA Associate Administrator has selected as candidates for flight validation. The five technology capabilities under consideration are of great relevance to the full breadth of the NASA's Space Science endeavor and are based on input from the space science community for guidance and concurrence. After careful review NASA is preparing a NASA Research Announcement (NRA) soliciting proposals for technology advances to provide needed capability for the following technology capability areas:

1. Solar sail capability-design metrics, scaling, deployment, propulsion and attitude control.
2. Large Space Telescope-structure and control dynamics, materials, structures, actuators, controls for fabrication, packaging and deployment, optical correction and active figure control, thermal control at cryogenic temperatures.
3. Formation Flying- autonomous operations, intersatellite communications, spacecraft formation control, and relative position estimation.

Aerocapture- system and performance modeling, aerodynamics and aerothermodynamics, thermal protection systems and structures, and guidance, navigation, and control.

1. 5) Pinpoint Landing and Hazard Avoidance-sensors/algorithms for guidance and navigation, aerodynamic/propulsive maneuvering system options, terrain sensing and hazard recognition systems, and terrain sensors.
2. It is expected that NASA will issue the NRA for technology providers for each capability area in 2003 and that at least one these five technologies capability areas will be subsequently selected for the New Millennium ST-9 technology validation experiment.