NASA Stardust Capsule To Go On Display At Smithsonian

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NASA's Stardust sample return capsule successfully landed at the U.S. Air Force Utah Test and Training Range at 2:10 a.m. Pacific time (3:10 a.m. Mountain time). The capsule contains cometary and interstellar samples gathered by the Stardust spacecraft. Image credit: NASA

(PhysOrg.com) -- Having returned the world's first particles from a comet, NASA's Stardust sample return capsule will join the collection of flight icons in the Smithsonian's National Air and Space Museum in Washington. The capsule will go on public display in the museum's Milestones of Flight Gallery on Oct. 1, the 50th anniversary of NASA.

Stardust, comprising a spacecraft and capsule, completed a seven-year, 3-billion-mile journey in 2006. A tennis racket-like, aerogel-lined collector was extended to capture particles as the spacecraft flew within

150 miles of comet Wild 2 in January 2004. Carrying the collected particles, the capsule returned to Earth Jan. 15, 2006, landing in Utah. Two days later, it was transported to a curatorial facility at NASA's Johnson Space Center in Houston.

"Very few people get to build something, launch it into space, see it be successful and then get it back in their hands," said Karen McNamara, Johnson recovery lead for the Stardust mission. "To be able to share this with the public is phenomenal."

The capsule joins the Wright brothers' 1903 Flyer, Charles Lindbergh's Spirit of St. Louis and the Apollo 11 command module Columbia that carried the first men to walk on the moon.

"The Smithsonian Institution's National Air and Space Museum is delighted to add to the National Collection the Stardust return capsule," said Roger Launius, senior curator of the Division of Space History at the museum. "As one of the premier space science missions of the recent past, Stardust will take its place alongside other iconic objects from the history of air and spaceflight. I look forward to helping to impart more knowledge to our visitors about the makeup of the universe using this significant and path breaking object."

Hardware provided to the Smithsonian includes actual flight components. Elements relevant to the science goals of the mission remain with NASA.

After successfully completing its mission, Stardust will use its flight-proven hardware to perform a new, previously unplanned investigation. The mission, called Stardust-NExT, will revisit comet 9P/Tempel 1. This investigation will provide the first look at the changes to a comet nucleus produced after a close approach to the sun. It also will mark the first time a comet ever has been revisited.

"Usually, when a piece of your spacecraft goes into the Smithsonian that means the mission's over," said Stardust-NExT project manager Rick Grammier, of NASA's Jet Propulsion Laboratory in Pasadena, Calif. "But the Stardust spacecraft is still doing the job for NASA and in February 2011, it will fly within 120 miles of the comet."

Stardust is a low-cost, Discovery Program mission for NASA's Science Mission Directorate. The Jet Propulsion Laboratory manages the project. Joseph Veverka of Cornell University in Ithaca, N.Y., is the mission's principal investigator. Lockheed Martin Space Systems of Denver manages mission operations.

Provided by NASA