New Mission Given To Lockheed Martin-Built Stardust Spacecraft

Stardust-NExT Mission Will Explore Comet Tempel 1 in 2011

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Lockheed Martin is on a team that has been awarded a $25 million contract by the National Aeronautics and Space Administration (NASA) for the Stardust-NExT (New Exploration of Tempel) mission. The mission gives a new assignment to the currently-orbiting spacecraft built by Lockheed Martin.

Stardust-NExT is a low-cost mission that will expand the investigation of comet Tempel 1 initiated by NASA's Deep Impact spacecraft. The mission uses the still-healthy Stardust spacecraft to perform a flyby of comet Tempel 1 on Feb. 14, 2011 and obtain high-resolution images of the coma and nucleus, as well as measurements of the composition, size distribution, and flux of dust emitted into the coma. Stardust-NExT will also provide important new information on how Jupiter family comets evolve and how they formed 4.6 billion years ago.

"The original Stardust mission was a huge success, but it's brilliant that we get to use the same spacecraft to perform new science that will continue our understanding of comets and our solar system," said Jim Crocker, vice president of Sensing and Exploration Systems at Lockheed Martin Space Systems Company.

Lockheed Martin will manage mission operations. At its Mission Support Area (MSA) near Denver, engineers will monitor the health and safety of the spacecraft, develop and send commands over the deep space network, and plan mission activities.

Dr. Joseph Veverka at Cornell University is the principal investigator. The Jet Propulsion Laboratory (JPL), a division of the California Institute of Technology, Pasadena, will manage Stardust-NExT for the NASA Science Mission Directorate, Washington, D.C.

"Following a deep space maneuver in September, and an Earth flyby in January 2009, we're planning on passing Tempel 1 by only 120 miles (200 km)," said Allan Cheuvront, Stardust-NExT program manager at Lockheed Martin Space Systems Company. "We should be able to clearly see the crater created by Deep Impact which was hidden by debris from the collision."

On Jan. 15, 2006, Stardust's sample return returned to Earth carrying particles comet Wild and interstellar dust samples collected during its seven-year, 3.2-billion mile primary mission.

The first science results show that comet Wild 2 contains nitrogen-rich organic molecules that could be related to the building blocks of life. Some of the material also found is from the super-heated center of the solar system and predates the completed formation of the Sun. Stardust flew through the comet's coma on Jan. 2, 2004 and captured particles in its sample return capsule.

Lockheed Martin Space Systems Company, a major operating unit of Lockheed Martin Corporation, designs, develops, tests, manufactures and operates a full spectrum of advanced-technology systems for national security, civil and commercial customers. Chief products include human space flight systems; a full range of remote sensing, navigation, meteorological and communications satellites and instruments; space observatories and interplanetary spacecraft; laser radar; fleet ballistic missiles; and missile defense systems.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2006 sales of $39.6 billion.

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