Northrop Grumman Completes Installation of Assembly Stand for James Webb Space Telescope Flight Optics

REDONDO BEACH, Calif., Nov. 17, 2011 (GLOBE NEWSWIRE) -- Northrop Grumman Corporation and its teammate ITT Exelis have finished installation of the giant structural steel frame used to assemble the mirrors and instruments of NASA's James Webb Space Telescope (JWST). Northrop Grumman is leading the design and development effort for the telescope under contract to NASA's Goddard Space Flight Center in Greenbelt, Md.

The platform was painted to minimize contamination and has been installed in the Goddard clean room where test components of the telescope will be assembled by Northrop Grumman and ITT Exelis in late 2014. Installation of the assembly stand will be followed by the integration and certification of the mirror installation equipment.

ITT Exelis teammate JPW Companies in Syracuse, N.Y., built the 139,000-pound structure. Two other ITT Exelis teammates supplied additional elements of the assembly stand: Cranetech, Inc. designed and built the track system suspended above the stand and Progressive Machine and Design made the robotic arms attached to the track that install the mirror segments. The ITT Exelis team spent a year incrementally building and demonstrating the mirror installation equipment.

"Due to the excellent efforts of our teammate ITT Exelis, we have completed each of the major elements of equipment required to complete the assembly of the optical flight telescope," said Scott Willoughby, Webb Telescope vice president and Webb program manager, Northrop Grumman Aerospace Systems. "With the near completion of the final cryotest for the last six flight mirror segments, we are making great progress on the program."

"The integration equipment is a critical piece of the JWST program. Over the past three years, ITT Exelis has developed a risk reduction program to demonstrate the key elements of this equipment," said Rob Mitrevski, vice president and general manager, Intelligence, Surveillance and Reconnaissance Systems, ITT Exelis Geospatial Systems. "With the delivery of the assembly stand, all of the equipment is coming together in preparation for the telescope assembly effort."

The U-shaped assembly stand is built to support the weight of the entire optical telescope – a load of more than 3.7 metric tons. The platform is 24 feet high, 52 feet wide and 41 feet long. The robotic arm, mounted on a track above the face-up mirror, extends to 12 feet and moves up and down and side to side over a 30 foot x 30 foot area, installing the 18 mirror segments with micro-positioning capability.

The James Webb Space Telescope is the world's next-generation space observatory

and successor to the Hubble Space Telescope. The most powerful space telescope ever built, Webb will observe the most distant objects in the universe, provide images of the very first galaxies ever formed and study planets around distant stars. The Webb Telescope is a joint project of NASA, the European Space Agency and the Canadian Space Agency.

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