

Boeing TSAT Laser Communications System Demonstrates Mission-Level Capabilities and Performance

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Boeing [NYSE: BA] and its partners became the first team to successfully demonstrate the ability of its Transformational Satellite (TSAT) laser communications system to deliver high-power operations at three data rates during recent U.S. Air Force tests.

The tests, which built on the capabilities and performance verified during three previous demonstrations, validated the system's performance to, and interoperability with, government laser communications standards.

The tests, conducted at the Massachusetts Institute of Technology's Lincoln Laboratory in Lexington, Mass., verified the traceability of results achieved during a February 2006 demonstration and evaluated the capabilities and performance of the upgraded telescope, new optical high-powered amplifier and additional data rate. The Boeing team completed communications performance and pointing, acquisition and tracking tests for 2.5, 10 and 40 gigabits per second data rates.

"We are extremely pleased with the results of these tests. Once again, Boeing and the government worked together to take another significant step in developing this key technology for the warfighter," said Howard Chambers, vice president and general manager, Boeing Space and Intelligence Systems. "With each demonstration, we are proving this technology is ready for implementation on TSAT."

TSAT will provide a secure, long-haul, high-capacity communications backbone for U.S. forces to ensure they have information superiority in any situation throughout the world. Boeing currently is executing a TSAT Space Segment Risk Reduction System Definition contract for the Space and Missile Systems Center, U.S. Air Force Space Command.

The brassboard-level hardware suite demonstrated consists of a precision space telescope and pointing electronics developed by Ball Aerospace & Technologies Corp.; an optical high-powered amplifier developed by LGS Innovations (formerly Lucent Technologies) and a low noise amplifier and optical modems developed by Boeing.

"Ball Aerospace and Boeing have teamed to bring laser communications from the realm of science and experimentation to engineering and implementation," said Drew Crouch, Ball Aerospace vice president and general manager for Advanced Technology & Products. "Since 1976, Ball Aerospace has refined its expertise in pointing, acquisition and tracking to now provide the capability necessary to enable TSAT laser communications."

"This critical milestone demonstrates the mission-level capability required by TSAT as well as Boeing's dedication to meeting its commitments to the customer and ultimately to the men and women in uniform," added Chambers.

Additional Boeing-funded demonstrations and environmental testing of the components in early 2007 will support the government's requirement for laser communications maturity prior to the Space Segment Design Review in April 2007.

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