

## Boeing/Iridium Team Completes High Integrity GPS Program Milestones

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**ST. LOUIS, July 10, 2009** -- A team led by Boeing [NYSE: BA] with support from Iridium Satellite LLC today announced that it has achieved two major milestones to further develop and demonstrate capability enhancements to the High Integrity Global Positioning System (GPS) program for the U.S. Naval Research Laboratory.

The first milestone, completion of the Enhanced Narrowband (ENB) software modification to computers on Iridium satellites, enables second-generation GPS-aiding signals to be broadcast through the entire Iridium constellation. These broadcasts will enable rapid, more accurate GPS position fixes anywhere in the world. The GPS-aiding signal will allow appropriately equipped warfighters to quickly lock on and maintain a GPS signal, even while operating in restrictive environments such as urban areas, forests, mountains and canyons, as well as under enemy jamming attempts or amid battlefield radio frequency noise.

"The completion of this on-orbit software enhancement to the Iridium constellation represents a significant step toward delivering aiding signals with embedded GPS data anywhere in the world and on demand," said David Whelan, Boeing Integrated Defense Systems chief scientist and vice president/deputy general manager, Boeing Phantom Works. "This will provide warfighters with improved GPS anti-jam and time stability transfer capabilities."

The second milestone was a demonstration of the acquisition of a GPS signal under substantial jamming while moving.

"When a military GPS receiver is jammed, it cannot obtain a position fix, and movement only makes the situation worse," said Whelan. "Even from a cold start, it took only minutes for the High Integrity GPS-aided receiver, in a moving vehicle, to receive the GPS signal while being jammed. Without assistance from the High Integrity GPS system, a position fix would never have been obtained."

"GPS has become an indispensable tool for military operations, so we are pleased that we have reached these milestones with Boeing," said retired U.S. Air Force Lt. Gen. John Campbell, executive vice president of Government Programs, Iridium. "Because of the unique design of our global satellite network, Iridium is able to help deliver such added precision and robustness to this important capability used in U.S. Department of Defense mission-critical operations."

The principle behind High Integrity GPS, also known in government circles as "iGPS," uses satellite signals from the Iridium low-Earth orbit telecommunications system and the U.S. Air Force-operated GPS mid-Earth orbit navigational satellites. Iridium provides a high power signal and rapidly changing ground track to accelerate an initial position fix by users. The GPS system provides navigational data in time, location and velocity. The result is an augmentation to GPS that provides iGPS receivers with improved navigation, higher signal integrity, precision accuracy and more jam-resistant capabilities. High Integrity GPS also has the potential to provide geographic positioning data to within centimeters, a vast improvement over current stand-alone GPS, which provides data within meters.

The ENB software upgrade was completed on schedule and within budget, and will support a system-level demonstration later this year.

The team includes Boeing Phantom Works' Advanced Network and Space Systems, Iridium, Rockwell Collins, Coherent Navigation and experts from academia.

Iridium Satellite LLC ([www.iridium.com](http://www.iridium.com)) is the only mobile satellite service (MSS) company offering pole-to-pole coverage over the entire globe. The Iridium constellation of low-Earth orbiting (LEO), cross-linked satellites provides critical voice and data services for areas not served by terrestrial communication networks. Iridium's subscriber growth has been driven by increasing demand for reliable, secure, global communications. Iridium serves commercial markets through a worldwide network of hundreds of distributors, and provides services to the U.S. Department of Defense, and other U.S. and international government agencies. The company's customers represent a broad spectrum of industry, including maritime, aeronautical, government/defense, public safety, utilities, oil/gas, mining, forestry, heavy equipment and transportation. Iridium has launched a major development program for its next-generation satellite constellation, Iridium NEXT, which will result in continued and new Iridium MSS offerings. The company is headquartered in Bethesda, Md., and is currently privately held.

A unit of The Boeing Company, Boeing [Integrated Defense Systems](#) is one of the world's largest space and defense businesses specializing in innovative and capabilities-driven customer solutions, and the world's largest and most versatile manufacturer of military aircraft. Headquartered in St. Louis, Boeing Integrated Defense Systems is a \$32 billion business with 70,000 employees worldwide.

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