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BETHESDA, Md., July 13 [/PRNewswire/](#) -- Iridium Satellite LLC (Iridium) announces that, in conjunction with Boeing (NYSE: BA), the companies have 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 an 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 than are available with current technology. The GPS-aiding signals will provide appropriately equipped warfighters significantly improved capabilities for quickly locking on and maintaining 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 on demand on a global basis," 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 in a vehicle.

"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. "Due to the unique design of the Iridium global satellite network, we are able to help deliver added precision and robustness to this important capability used in U.S. Department of Defense (DoD) mission-critical operations."

The principle behind High Integrity GPS, also known in government circles as "iGPS," uses satellite signals from the Iridium low-earth orbiting (LEO) satellite communications 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 standalone GPS, which provides data within meters.

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

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

About Iridium Satellite LLC

Iridium Satellite LLC (www.iridium.com) is the only mobile satellite service (MSS) company offering pole-to-pole coverage over the entire globe. The Iridium constellation of 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 DoD, 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.

SOURCE Iridium Satellite LLC

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