Boeing Marks Tenth Anniversary of First Launch of Block II Global Positioning System Satellite

Boeing [NYSE: BA] and the Air Force have commemorated the tenth anniversary of the first launch of a Block II Global Positioning System (GPS) satellite, the Company said today. GPS satellites provide precise navigational and timing data 24-hours a day for military and civilian users around the world.

"We are extremely proud of our role in the GPS program and in the quality of work our team has performed," said Jim Albaugh, president of Boeing Space and Communications Group. "The first Block II satellite was originally designed with a 7-1/2 year service life, and we now see the vehicle beginning its eleventh year on-station. The future uses of GPS are virtually limitless, and new applications are becoming a part of everyday life."

Boeing and the 50th Space Wing of the United States Air Force marked the anniversary in ceremonies at Falcon AFB, Colorado. The 50th Space Wing 2nd Space Operations Squadron is responsible for monitoring and controlling the GPS constellation.

Stephen O'Neill, director of government programs for Boeing Information & Communications Systems, presented Col. Jack Perroni Jr., Commander of the 50th Space Wing and Lt. Col. James McLaughlin, Commander of the 2nd Space Operations Squadron, with a one-fourth scale GPS Block II satellite model. "This model of the Block II satellite represents the Boeing commitment to the quality and workmanship that continues today on the GPS program," said O'Neill. "Each satellite of the constellation, and the associated ground monitoring and control systems, are integral to providing reliable and accurate worldwide navigation to both the military and civilian users."

The first Block II (SVN 14) that lifted off aboard a Delta II rocket from the Eastern Space & Missile Center, Cape Canaveral, Florida, on February 14, 1989, entered an orbit inclined at 55.1 degrees, and joined the constellation of Block I vehicles on-station.

During the past 10-years, SVN 14 has orbited the Earth over 7,300 times, and traveled approximately 750 million miles -- a distance equivalent to approximately 1,550 round trips to the moon. During 1999, four additional Block II satellites will complete 10-years on station, all of them surpassing the required Mean Mission Duration (MMD) of 6-years average for the entire constellation. In addition, the current constellation has more than 116 cumulative years of outstanding on-orbit performance.

The Block II vehicle was an improved version of the Block I, and now continues to evolve into the next-generation Block IIF. Since initial prototype work began in 1974, 40 GPS Block I, II and IIA satellites have been built at the Boeing satellite manufacturing facility in Seal Beach.

Under a contract awarded by the Air Force in April 1996, Boeing is developing the next-generation Block IIF (follow-on) satellite that will offer even greater performance and reliability and an increased on-orbit service life of 15-years. "As we now work to develop the next-generation Block IIF, we are continuing our efforts to work closely with the Air Force to achieve maximum performance that will further improve the quality evidenced in the earlier generation of vehicles," said Albaugh.

With a full complement of 24 satellites on-orbit, the GPS constellation was declared operational in 1995. Transmitting on two separate L-band frequencies, GPS now provides 24-hour instantaneous, precise and continuous three-dimensional navigation data to properly equipped military and civilian users in any weather conditions anywhere in the world.

Orbiting at 10,900 miles (20,200 km), the satellites complete a circuit of the Earth every 12-hours, enabling any worldwide user's equipment to "see" six satellites above the horizon at any given moment. Four satellites with suitable geometry are required for three-dimensional time, location and velocity calculations. The signals are precise enough to calculate time to greater than a millionth of a second (accurate to one second every 300,000 years), velocity within a fraction of a mile per hour, and location to within feet.

Providing support at a slightly less accurate level than military users, GPS continues to expand into the civilian area. Initial uses aboard passenger planes and ocean liners have extended to search and rescue operations, detailed mapping, geodetic surveys, commercial trucks and the automotive industry.

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