Boeing-Led Team Developing Surface Navigation Concept for DARPA

How would U.S. ground troops navigate precisely and effectively if signals from the Global Positioning System (GPS) were not available? Boeing [NYSE: BA] and an industry team are getting the chance to tackle that problem under a concept development contract awarded recently by the U.S. Defense Advanced Research Projects Agency (DARPA).

The objective of the Robust Surface Navigation (RSN) program is to develop technologies that can exploit various "signals of opportunity" -- electronic waves emanating from satellites, cell phone towers and even television transmission towers -- to provide precise location and navigation information to ground troops when GPS signals are being electronically jammed or blocked by natural or man-made obstacles, such as foliage or buildings.

"The challenge is to develop an integrated system that can use all available signals -- not just GPS -- to provide accurate navigation information through one small receiver, thereby eliminating the need for an expensive, fixed infrastructure," said Bart Ferrell, Boeing Phantom Works program manager for Precision Navigation Programs.

The Boeing-led Robust Surface Navigation team is beginning its 15-month Phase 1 concept development contract.

The team includes ROSUM of Mountain View, Calif.; NAVSYS of Colorado Springs, Colo.; and Shared Spectrum, of Vienna, Va. "Leveraging the technical expertise and capabilities of this exceptionally strong team will help ensure the development of a very robust integrated system for surface navigation," Ferrell said.

ROSUM is the only company that has used broadcast television signals to locate mobile assets. It's also the first company to combine television and GPS signals for truly robust situational awareness in all environments. ROSUM's leadership comes from GPS, cellular and television industries.

NAVSYS provides high-quality technical products and services in GPS hardware design, systems engineering, systems analysis, and software design. Founded in 1986 by Dr. Allison Brown, NAVSYS is dedicated to promoting the use of GPS in a wide variety of commercial and military applications. It offers services in three primary areas: GPS, Inertial Navigation Systems, and Communications Systems.

Shared Spectrum has developed innovative cognitive radio technologies for government and commercial customers with challenging radio communications and networking needs. The company's expertise includes defense communications in extremely challenging RF conditions and commercial communications involving novel approaches to sharing and managing spectrum access.

Boeing is the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft combined. Additionally, Boeing designs and manufactures rotorcraft, electronic and defense systems, missiles, satellites, launch vehicles and advanced information and communication systems. As a major service provider to NASA, Boeing operates the Space Shuttle and International Space Station.
Phantom Works is the advanced R&D unit of Boeing. Its charter is to provide innovative technology solutions that reduce cycle time and cost of aerospace products and services while improving their quality and performance.
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