Boeing Receives Contract To Design Prototype Communication Phased Array Antennas For Navy Submarines

The Boeing Company has received a $1.6 million contract to design satellite communications phased array antennas for Navy submarines. Boeing Phantom Works, the advanced research and development unit of the company, will manage the contract.

Under the two-year contract, Boeing will deliver an antenna with a planar, phased array architecture that exhibits low radar cross section to the Naval Undersea Warfare Center, Newport, R.I.

According to Dr. Gary Miller, Phantom Works antenna program manager, the flat, innovative design of the Boeing antenna makes it ideally suited for the unusual constraints of the submarine environment.

"The compact Boeing antenna can survive the submarine environment and deploy from a submarine mast," Miller said. "In addition, it will provide submarines with high-data-rate communications while minimizing system volume requirements and radar cross section."

The contract will be executed in two phases. During the first phase, Boeing will develop antenna designs that address the highest-priority submarine satellite communications (SATCOM) bands while meeting stated goals for antenna performance, antenna compactness, ability to address submarine environmental requirements, and stealth. The design approach will leverage related phased array technology developed by Boeing for other (non-submarine) applications.

In Phase II, Boeing will fabricate and test an antenna built to one of the designs produced in Phase I. Testing during this phase will include antenna electrical performance, radar cross-section, and environmental testing.

The second objective of Phase II is to project the performance and cost aspects of this antenna technology in a system context.

The program is based upon technology development activities funded by the Air Force Research Laboratory (Hanscom Air Force Base, Mass.), the Navy Space and Naval Warfare Systems Center (San Diego, Calif.), NASA's Glenn Research and Goddard Space Flight Centers (Cleveland and Greenbelt, Md., respectively) and by Boeing internal research and development programs.

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