Lockheed Martin, University Of Oklahoma Join To Develop Improved Weather Tracking And Warning Radar

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A joint research agreement between Lockheed Martinand the University of Oklahoma promises to triple the warning time for deadly weather, such as tornadoes, making it harder for dangerous and damaging storms to "sneak in under the radar."

Under the agreement, Lockheed Martin is providing funding to support the work of University of Oklahoma researchers as they explore which radar signals are best suited for a planned Multifunction Phased Array Radar (MPAR) that will provide more precise weather prediction and warning capabilities. Because of its increased power and accuracy, the new system will provide enhanced coverage with fewer radar units, saving taxpayers billions of dollars in purchase and life-cycle support costs.

The MPAR effort follows Lockheed Martin's work with the university and the National Severe Storms Laboratory to install and test the SPY-1 radar -- a phased array radar originally designed for air defense on Navy ships -- as a weather radar. That radar, now called the National Weather Radar Testbed, is undergoing testing and promises a threefold increase in the time available to warn people of tornadoes and other potentially deadly weather events.

"The National Weather Radar Testbed with the SPY-1 radar is a critical tool to study how phased array radar can improve weather tracking and response time," said Stan Ozga, Lockheed Martin's director for Naval Radar. "The MPAR will take advantage of the research with SPY-1 and is viewed as technology that can replace multiple overlapping radar networks for weather surveillance and tracking aircraft."

A June study from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (FCMSSR) touts MPAR as a solution that can reduce the number of radar surveillance units supporting weather and commercial aircraft surveillance by 35 percent, as well as provide $5.8 billion in savings in acquisition and life-cycle costs.

"A single MPAR network with the capabilities described in this report could perform all of the existing civilian radar functions," cites the report. "In addition, other existing and emerging needs not being adequately met by existing systems could be met with this same MPAR network."

Among its four major recommendations, the report recommends that the FCMSSR endorse MPAR risk reduction research and development and complete a cost-benefit analysis to establish the cost effectiveness of MPAR. Through Lockheed Martin's experience with phased array radar and the University of Oklahoma's expertise in weather surveillance, the research agreement provides the FCMSSR a head start.

Headquartered in Bethesda, MD, Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

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