U.S. Air Force and Raytheon collaborate to modernize space command and control system

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SPEARR keeps legacy SPADOC operating well into the future

COLORADO SPRINGS, Colo., April 3, 2019 /PRNewswire/ -- The U.S. Air Force Life Cycle Management Center and a consortium of tech firms led by Raytheon (NYSE: RTN) are modernizing and simplifying the legacy Space Defense Operations Center, a 1990s-era system that tracks and monitors space debris.

Dave Fuino, program director for Raytheon Intelligence, Information and Services, said: "Within just a few months we brought together a team, developed the technology to modernize it, got it on contract and held a series of demos to prove it worked. We went from concept to proving the solution in less than a year, which is really remarkable."

The SPADOC system reached the end of its planned service life. The U.S. Air Force is planning to replace it with modern systems that will simplify operations and provide greater space situational awareness and collision avoidance capabilities. However, the new system won't come online for several years.

"SPADOC provides critical space-tracking capabilities that we must sustain and maintain while we wait for new systems to come online," said Bob Taylor, U.S. Air Force Legacy Space Branch chief. "At the same time, it's critical that we address the obsolescence risk of an aging SPADOC system. So we came up with a really innovative, modern solution to this problem."

Raytheon and AFLCMC decided to emulate SPADOC's capabilities with modern computer hardware. The new emulated environment, SPADOC Emulation Analysis Risk Reduction, known as SPEARR, is designed to provide a more sustainable system that requires less maintenance. The new hardware will provide the same functionality as today's system, making it easy to learn and operate.

Additional benefits are significant reductions in power and cooling consumption. Most of these reductions are because all of SPADOC's capabilities are now integrated into two small server racks instead of spread over 1,000 square feet of an aging, analog computer system.

"We used proven emulation technology to help solve our challenge, significantly reducing obsolescence risk," said Taylor. "Innovations in programmatic and technical approaches drove a smarter, better and faster solution. The next step is to evaluate options for fielding SPEARR."

"Between the experience of our NORAD teammates, a.i. solutions, Zivaro and E&M Technologies, and leading emulation companies Fundamental Software and M2 Technologies, we addressed the aging SPADOC system. It's a game changer," said Fuino.

About Raytheon
Raytheon Company, with 2018 sales of $27 billion and 67,000 employees, is a technology and innovation leader specializing in defense, civil government and cybersecurity solutions. With a history of innovation spanning 97 years, Raytheon provides state-of-the-art electronics, mission systems integration, C5I™ products and services, sensing, effects and mission support for customers in more than 80 countriesRaytheon is headquartered in Waltham, Massachusetts. Follow us on Twitter.

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