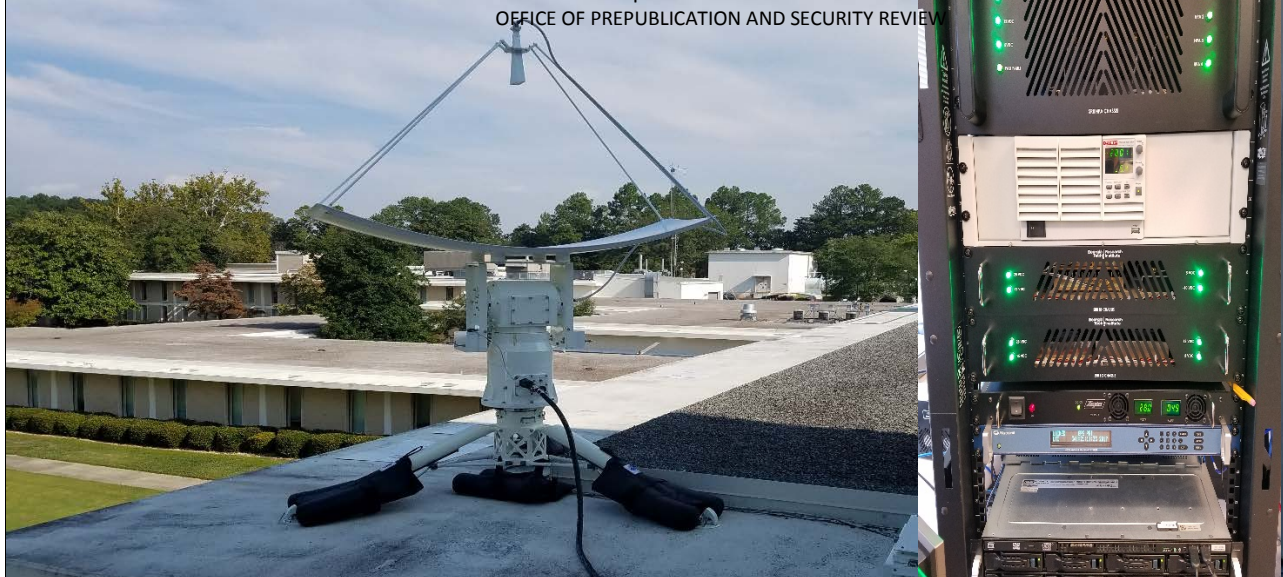


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OFFICE OF PREPUBLICATION AND SECURITY REVIEW



DS TAT Success Story

Software Reconfigurable Radar

Customer:	Office of the Assistant Secretary of Defense for Research & Engineering (ASD (R&E))
Challenge:	Radars have traditionally been built for specific applications. Developing a radar for a new application or modifying an existing radar can be difficult and costly.
Approach:	The objective of this effort was to develop core hardware and software architectures that could be tailored using additional software for specific radar applications. COTS components were leveraged for the fabrication and integration of the hardware into the radar system and software was developed to control common system functions. Previous tasking under DS TAT focused on the design of the system, while this follow-on phase focused on building and demonstrating a prototype. Successful demonstration of the radar system was performed in which software was used to vary the waveform parameters (pulse width, pulse repetition interval, modulation) of a typical radar system. Future work on DS TAT will involve leveraging new COTS modules and systems as they become available, and expanding the system to perform cognitive radar, communications, intelligence, and electronic warfare functions.
Value:	Demonstrating the ability to reconfigure a radar system for different applications using only software and minimal hardware changes will reduce the costs involved in designing and building new systems each time a need arises. This effort is in line with other efforts throughout the DoD to create more modular, easily reconfigurable systems built on common architectures. It also aligns with the ASD(R&E) imperative to create technology surprise through science and engineering applications to military problems.

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