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IN THE NEWS

Capability Analysis - Winning the Invisible War: Gaining an Enduring Advantage in the EMS

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By: Bryan Clark, Whitney M. McNamara, and Timothy A. Walton

Related Experts: Bryan Clark, Whitney M. McNamara, Timothy A. Walton

The following article from the Center for International Maritime Security (CIMSEC) is adapted from a new report by the Center for Strategic and Budgetary Assessments (CSBA), *Winning the Invisible War: Gaining an Enduring U.S. Advantage in the Electromagnetic Spectrum*.

The explosion of mobile communications and emerging Internet of Things are turning the electromagnetic spectrum (EMS) into an increasingly crowded place. The advent of 5G, which needs wide swaths of spectrum in multiple frequency ranges to achieve high data rates, will only intensify this trend and create more conflicts between commercial and government users. The challenge of spectrum management and control will be acute for militaries, which depend almost entirely on the EMS for sensing and communications.

The American military is particularly affected by a congested EMS. U.S. forces deploy the most advanced networks of sensors and precision-guided munitions, relying on them for almost all operations. Adversaries like China and Russia have exploited this dependence during the last decade by developing and fielding a comprehensive array of electronic warfare (EW) systems to contest the spectrum.

If the DoD does not mount a new more strategic and proactive approach to fighting in the EMS and developing the requisite capabilities, adversaries could be emboldened to continue their efforts to gain territory and influence at the expense of U.S. allies and partners. Demonstrating the ability to survive and fight in a contested EMS could help U.S. forces slow Chinese and Russian activities and deter or dissuade these adversaries from more aggressive approaches to their objectives.