



## DEFENSE TECHNOLOGY MONITOR

The American Foreign Policy Council's Review of  
Developments in Defense Technology

# Defense Technology Monitor: No. 2

March 2, 2016 **Richard M. Harrison, Paige Rotunda**

**Related Categories:** Cybersecurity and Cyberwarfare; Economic Sanctions; Missile Defense; Warfare; China

### U.S. SPACE DOMINANCE A DOUBLE EDGED SWORD

Ever since the first Gulf War, the United States has held a commanding lead in military technology - one manifested through the use of precision-guided munitions and near complete battlespace awareness. All of this has been made possible by the presence of several active U.S. satellite constellations in space. But America's exploitation of space could become a liability in the not-too-distant future. Over the past two decades, American adversaries have extensively documented the U.S. military's reliance of space assets, and are increasingly positioning themselves to prey upon this dependence. For example, recent war games have concluded that, during a potential escalation between the U.S. and China in the South China Sea, the PRC may consider preemptively destroying U.S. satellites, thereby degrading communications, reducing weapons precision, and mitigating a swift U.S. response. As a result, more and more officials and scholars are warning of potential U.S. vulnerabilities in space and calling for a shift in strategy, including the development of alternatives to the American military's current, extensive level of reliance on space-based assets. (*Washington Post*, January 27, 2016)

### THE AIR FORCE'S NEW NEW CYBER SHIELD

In today's world, U.S. military networks are under constant attack from cyber actors seeking sensitive information on weapon systems, operational logistics and other subjects. At least one branch of the military is fighting back, however. The Air Force recently took a major step toward combatting cyber intrusions by erecting what is essentially a major firewall around its network and reducing intranet access points by over 80 percent. According to Air Force Col. Pamela Woolsey, this step provides the service with greater situational awareness, allowing it to "look at the inbound traffic for any kind of computer virus and then block." As of yet, however, the new system's effectiveness is unproven, and it is not clear whether other military branches will follow suit and erect similar firewalls to prevent cyber intrusions. (*Wall Street Journal*, January 28, 2016)

### ALL EYES ON ELECTRONIC WARFARE

Maintaining control over the airwaves is key for future battles, and the ability to effectively jam, spoof, and detect enemy radar and radio will separate winners from losers in upcoming conflicts. The U.S. is in danger of allowing innovations by Russia and China to surpass them in this realm, however - a trend that is increasingly acknowledged by policymakers in Washington. In response, the Pentagon has assembled an influential executive committee led by former DARPA staff member Bill Conley to gather information on the evolution of electronic warfare (EW) technology and provide recommendations of ways by which to maintain U.S. competitiveness.

Lawmakers on Capitol Hill are also taking notice. Most recently, Sen. Mark Kirk (R-IL) and Sen. Kristen Gillibrand (D-NY) co-sponsored legislation aimed at ensuring that the Pentagon has flexibility in funding EW programs. Their bipartisan proposal calls for the 2016 defense policy bill to be amended by expanding the Pentagon's Rapid Acquisition Authority (RAA), thereby allowing the Defense Department to acquire and field EW technology faster. (Reuters, February 4, 2016; Breaking Defense, February 4, 2016)

### CHINA PUSHING NEW BOUNDARIES WITH ITS DRONES

The Chinese government has significantly bolstered its drone capabilities of late, and those unmanned aerial vehicles (UAVs) are increasingly becoming an export commodity. According to Michael Boyle of the Foreign Policy Research Institute, "many of the Chinese drone manufacturers are selling small UAVs capable of battlefield reconnaissance and some that can now be equipped with missiles." The market for Chinese drones, meanwhile, is growing steadily. While the U.S. is currently ahead in drone manufacturing capability, Congress has installed stringent export control laws for UAVs, making it difficult to export the technology and providing China with a larger share of the resulting market.

Moreover, China's UAVs may not remain unmanned for long. The PRC is also reportedly flirting with the idea of making drones capable of carrying passengers - raising the possibility that they could be used in the future for transporting soldiers into battlefield situations. (*Voice of America*, February 5, 2016)