



DEFENSE TECHNOLOGY MONITOR

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April 11, 2018 **Richard M. Harrison**

Related Categories: Cybersecurity and Cyberwarfare; Economic Sanctions; Energy Security; Intelligence and Counterintelligence; Military Innovation; Missile Defense; Warfare; China; Iran; North Korea

CHINA TAKES THE LEAD IN RAILGUN DEVELOPMENT

China's People's Liberation Army Navy (PLAN) may have significantly increased the lethality of its warships with the addition of a rail gun - thereby surpassing U.S. Navy capabilities. China's Navy has reportedly installed a railgun on their Type 072III landing tank (LST) *Haiyang Shan* with a weapon very similar to the one being tested by the U.S. Navy (see *Defense Technology Monitor* No. 18). Unfortunately, although billions of dollars have been spent on the concept to date, and a functioning prototype does exist, the U.S. version has effectively been shelved due to funding issues. There is currently no clear evidence that the Chinese variant functions properly. If it does, however, it would constitute a significant development, providing Beijing with a cost effective solution to eliminating long-range targets, including enemy aircraft, missiles, and even hypersonic munitions. (*Popular Science*, February 1, 2018; *Newsweek*, February 2, 2018)

SEEKING MORE MISSILE DEFENSE IN THE PACIFIC

The February false alarm that erroneously alerted Hawaiians of an imminent incoming missile strike may have shaken local residents, but it also underscored a strategic challenge for U.S. military commanders: coping with North Korea's continued belligerence. Pacific Command head Adm. Harry Harris has outlined that the DPRK continues to test and produce increasingly sophisticated offensive long-range missiles which can threaten the U.S. and particularly the Westernmost territories of Guam and Hawaii. There is a need, Harris believes, for more robust missile defenses by which to counter this threat. Although the U.S. currently has its Ground-Based Midcourse Defense (GMD) system housed in Vandenberg, CA and Fort Greely, AK, these interceptors are operating without a high success rate and are limited in supply. According to Adm. Harris, these defenses need to be augmented and upgraded so the U.S. can successfully counter the "the threat that we'll face in two to three years." (*Washington Post*, February 14, 2018)

NEEDED: A RULEBOOK FOR CYBERWARFARE

World leaders and military planners continue to struggle with how to respond to, and when to employ, cyber attacks that can affect civilian infrastructure. In the latest call for clarity, UN Secretary General Antonio Guterres has outlined that, while "[e]pisodes of cyber warfare between states already exist," "[w]hat is worse is that there is no regulatory scheme for that type of warfare, it is not clear how the Geneva Convention or international humanitarian law applies to it." Some work in this domain is in fact being done, with NATO nations currently in the process of generating guidelines for Alliance responses to such cyber attacks. Guterres, however, has suggested that states work through the UN to develop such rules. (Reuters, February 19, 2018)

IRAN'S DRONES GET AN UPGRADE

Iran has continued to strengthen its military arsenal by adding precision strike weapons to its drones. According to the country's Defense Minister, Brigadier General Amir Hatami, the Iranian military is now producing drones "equipped with the smart Qa'em precision-striking bombs and different electro-optical explorers and different warheads, [and] can trace, intercept and destroy the target." This development could impact U.S. warfighters, since these upgraded drones may be deployed to the Syrian theater, where American soldiers currently operate and where U.S. and allied forces have already been attacked by Iranian-made unmanned vehicles. (*Washington Free Beacon*, February 5, 2018)

UP NEXT: ROBOTIC SUBMARINE HUNTERS

Drones have already altered warfare in the sky, and new technologies may now change the game below the surface of the water. Unmanned underwater vehicles (UUVs) now under development by various nations have the potential to considerably bolster existing anti-submarine warfare capabilities. Thus, the U.S. Navy (along with those of Russia and China) is designing UUVs that are capable of searching for enemy submarines and attacking them upon discovery. The unmanned craft can operate more stealthily than traditional manned vessels, and do so at greater depths for long durations of time, making them an asset to naval warfare. The technology for UUVs, however, is still evolving; like their aerial counterparts, UUVs still struggle with accurately performing complex decision-making tasks and striking targets autonomously, at least for the moment. (*War is Boring*, February 26, 2018)