



DEFENSE TECHNOLOGY MONITOR

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Related Categories: Energy Security; Intelligence and Counterintelligence; International Economics and Trade; Military Innovation; Science and Technology; China; Israel; Russia

RUSSIA'S WINGED ANTI-DRONE SHOTGUN

Drones are now ubiquitous on the battlefield and in society, so the global defense industry is innovating on methods by which to disable rogue unmanned vehicles. The results range from the bizarre - such as drone-destroying eagles now being trained by Dutch police - to the more practical, such as ground-based electronic warfare weapons. Russia's Moscow Aviation Institute, for example, has designed a more conventional approach to the problem by creating a drone with a 12-gauge shotgun that serves as both the weapon system and fuselage of the aircraft. The drone in question is designed to take off vertically like a helicopter, and then assume the flight pattern of a traditional plane. However, it handles shotgun recoil well when the weapon fires during flight, while the wide dispersal of pellets makes the system more capable of disabling an adversary drone than one that uses simple single-shot bullets. (*Sputnik*, April 1, 2019)

PONDERING IRON MAN POTENTIAL

Today's robot suit designs are still a long way from the capabilities demonstrated by Tony Stark's Iron Man exoskeleton in the Marvel Avengers movies. However, we do appear to be inching closer to that goal. A British company called Gravity has developed a jet-powered suit that can propel its operator up to an altitude of 10,000 feet — an impressive feat in and of itself, and a major milestone in super soldier suit design. Unfortunately, unlike the U.S. Special Operations Command's TALOS exoskeleton, Gravity's flying armor is not designed for combat. Still, if improved upon, the Gravity design could eventually enable stealth insertions of troops into hostile environments. (*Business Insider*, April 3, 2019)

TAKING C-RAMS FURTHER

Israel has experienced great success with its Iron Dome air defense system, which is designed for counter-rocket artillery and mortar (C-RAM) duties, and which has demonstrated its ability to neutralize barrages of rockets from the Gaza Strip on multiple occasions. Now German defense contractor Rheinmetall is seeking to take C-RAM systems one step further. In a first, Rheinmetall's new "Cheetah" C-RAM unit is designed to also defend against precision guided air-to-ground bombs dropped from an aircraft — which can cause significantly more damage than can artillery shells. The mobile systems will carry up to 60 missiles and use radar and short-range interceptors to eliminate threats and protect tactical targets from air and ground attack. (*Popular Mechanics*, April 4, 2019)

CHINA'S DRONE SHIP

China's government is seeking to solidify its expanding territorial claims in the South China Sea through the use of new technology. China has reportedly developed an amphibious drone boat named the "Marine Lizard" to transport troops, conduct patrols, and carry out surveillance operations in waters throughout the Asia-Pacific. The vessel is outfitted with anti-aircraft and anti-ship missiles, machine guns, and has treads that allow it to be used on land as well. The craft can be controlled remotely from more than 30 miles away, and has the ability to remain dormant for up to eight months at a stretch. It is not yet clear, however, when the "Marine Lizard" will become fully operational. (*South China Morning Post*, April 16, 2019)

RUSSIA RECONSIDERS AI REGULATION

The Kremlin appears to be in the process of rethinking the need to regulate lethal autonomous weapons systems (LAWS). After eschewing past dialogues at the United Nations on whether to adopt international norms that impose restrictions on development of "killer robots," Russia's Security Council has now changed its tune. At a recent security conference in Moscow, Russian Security Council Secretary Nikolai Patrushev reportedly stated, "we believe that it is necessary to activate the powers of the global community, chiefly at the UN venue, as quickly as possible to develop a comprehensive regulatory framework that would prevent the use of the specified [new] technologies for undermining national and international security... Modern technologies make it possible to create attack instruments with the use of artificial intelligence, genetics, and synthetic biological agents—they are often as deadly as weapons of mass destruction." (*Defense One*, April 25, 2019)