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Related Categories: Arms Control and Proliferation; Europe Military; Military Innovation; Science and Technology; China; Russia

RUSSIA'S NEW DAZZLING DISORIENTER

Russia's repeated violations of the INF Treaty led the U.S. to formally withdraw from the Cold War-era arms control pact earlier this year. Now, the Kremlin appears to be flirting with breaking the 1980 Protocol on Blinding Laser Weapons. Reports from Russian state media outlet RIA Novosti indicate that the Russian navy has equipped two naval frigates, the *Admiral Gorshkov* and the *Admiral Kasatonov*, with a new dazzling weapon, dubbed *Filin 5P-42*. This strobelight-like weapon emits a high-intensity light that supposedly causes temporary blindness and disorientation in adversaries. In prior tests, the *Filin* reportedly temporarily impacted the ability of soldiers to aim their weapons, and was able to "effectively suppress" sensor technology, night vision goggles, and anti-tank missiles. (*Business Insider*, February 4, 2019)

RUSSIAN NUCLEAR-POWERED MISSILE COULD CRUISE FOR DAYS

Russian President Vladimir Putin has frequently boasted of his nation's superior weapon development. These claims could soon be lent additional credence if the *Burevestnik* missile (also known as "skyfall") proves viable. If the relevant technology is mastered, the nuclear-powered cruise missile has the potential to circumvent many existing U.S. missile defense systems because of its vastly enhanced flight time, maneuverability, and ability to fly along a southern trajectory. As opposed to traditional cruise missiles, which utilize turbojet or turbofan engines and can usually cover around 1,000 miles before fuel runs out, a nuclear-powered missile could potentially fly for days using very complicated routes and maneuvers to outsmart adversary air defense systems. (*Popular Mechanics*, February 6, 2019)

U.S. ARMY CASTS NET TO CAPTURE DRONES

The prevalence of adversary drone use in combat continues to rise, and the U.S. military has struggled to find inexpensive and effective countermeasures. Now, however, Army engineers from the service's Armament Research, Development, and Engineering Center (ARDEC) may have hit upon the answer. Their newly developed system uses a 40mm grenade sized projectile stuffed with a net that springs open prior to impact, and which can be fired out of grenade launchers already commonly used in the U.S. Armed Forces. Previous strategies for neutralizing small drones have involved nets pulled by friendly drones, which required trained pilots, as well as firing on drones with conventional weapons, which has been deemed too expensive. (*Real Clear Defense*, February 8, 2019)

CHINESE DRONES TRENDING TOWARD AUTONOMY AND LETHALITY

China's military modernization has placed a priority on integrating artificial intelligence (AI) capabilities in warfare, especially with regard to drones, which today are largely piloted remotely. As these Chinese-made drones continue to decrease reliance on humans to complete missions, questions of AI-guided lethality have arisen — particularly as Beijing exports the UAVs to regions where U.S. troops are present. China's *Blowfish A2* is the perfect example, since its manufacturer, Ziyang, offers to sell the UAV equipped with missiles or machine guns and able to "autonomously perform complex combat missions... and targeted precision strikes." These types of lethal and increasingly autonomous drones are finding buyers in international markets around the Middle East, where they have already seen combat, as well as in Asia and Africa. (London *The Sun*, February 10, 2019)

A STEP CLOSER TO SUPER SOLDIERS

Chinese scientist He Jiankui came under fire last year when he published a study documenting his germline editing of twin human embryos, and new developments have only rekindled attacks on his work. Germline editing entails passing on traits to future generations, and Dr. He used the infamous CRISPR gene-editing tool to remove the CCR5 gene, which made the twins' bodies impervious to HIV. However, new studies show that inhibiting CCR5 could also have the effect of boosting memory and cognition by increasing the amount of synaptic connections — providing recipients of the procedure an advantage over those born naturally. Publicly, governments have criticized Dr. He's work. However, it may mark the start of a broader trend of human experimentation to create citizens - and soldiers - who are smarter, faster, and stronger. (*National Review*, February 21, 2019; *News Medical Life Sciences*, February 22, 2019)