International and Regional Threats Posed by the LAWS: Russian Perspective

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Threat of Occasional Incidents

Threat of occasional incidents in the air, sea or deep waters.

Are LAWS capable to:

• Abide maritime traffic conventions and legal restrictions?
• Avoid computer failure when crossing the international date line?
• Stay away from protected marine habitats?
• Avoid running over a civilian on a jet ski?

Autonomous weapons systems lack the flexibility that humans have to adapt to novel circumstances.
Cyber Security Failures

Incidents might happen due to loss of communication, jamming, control interception or in other words because of communication security or cyber security failures.

Such weapons could be uncontrollable in real-world environments where they are subject to design failure as well as hacking, spoofing and manipulation by adversaries.

Reliability of control systems is closely connected with the cybersecurity as it includes encryption, security of communication and data, development of standards that ensure robust communication and data processing.
Terrorist Drone Attacks

Terror groups are eager to use unmanned drone aircraft for attacking shopping centers, sporting events and public gatherings.

Since 2004 terrorist organizations regularly use low flying drones for surveillance and reconnaissance purposes. These drones can be used for a bomb attack one day.

Global cities like Brussels, Istanbul, Paris, or Moscow are increasingly the targets of terrorist attacks.

Meanwhile numerous disturbed areas of the world might be even more sensitive target for terror attacks.
“We are absolutely ... sowing the seeds for the next round of people to hate us. The next round of terrorists, as we call them within the intelligence community.”

Christopher Aaron
Former officer for the CIA’s drone program

The vast majority of people killed by UAVs have not been the intended targets, with approximately 13% of deaths being the intended targets, 81% being other militants, and 6% being civilians. An estimated of 423 to 965 civilians have been killed including 172 to 207 children with 2497 to 3999 total killed.
Increasing Potential for Surprise Offensives

1. Anti-Submarine Unmanned Vessels
2. Submersible Combat Sensing Gliders
3. Hypersonic vehicles
4. Refueling UAV
5. Military Micro-Drones
6. Military Swarming & Centaur Warfighting
4. Additive Manufacturing
War Dehumanization by Diminishing Human Engagement

Engagement of LAWS diminishes the psychological impact of the casualties inflicted by the operators. Dehumanization of war, i.e. reduction of human participation in military actions looks very favorable because it permits MoDs to reduce salaries, healthcare and pensions bills.

Reduction of human involvement in military service will result in distancing of the human society from sufferings of those being defeated by the high tech army.
Provoking Ignorance of International Law

Modern AWS open the door for a non-contact warfare that allows saving troops, quick assaults and easy victories. Advanced weapons in general provide politicians a ground to ignore the international law for the sake of fast achievement of their goals.

Military superiority over political rivals let political leaders to use their military potential for solving international problems without a UN approval and with violation of the international law.
Proliferation of LAWS

Export of UAV and transfers of sensitive technologies used for production of such AWS as attacking drones may considerably destabilize situation in conflict zones and disputed areas.

Global expenditure on military UAVs will achieve revenues of $7.4 billion in 2016. Estimates predicts that the total worldwide UAV market will more than double over the next decade from current expenditures of $5.2 billion annually to $11.6 billion, totaling just over $89 billion in the next 10 years.

Many major UAV manufacturers export large numbers of drones to the both sides of regional disputes and conflicts.
Chance for a Global Superiority

Today superpowers rely on military force and global technological superiority in solving this problem. Some of those powers might believe that LAWS and other innovations like hypersonic vehicles, additive manufacturing etc. can help to keep their armed forces far ahead of their rivals.

Some National Military Strategies have the particular goal to gain Full Spectrum Dominance, i.e. the ability to control any situation or defeat any adversary across the range of military operations by taking advantage of rapid technological change.
Breaking Existing Military Balances

Nuclear deterrence between great powers is being marginalized in international security.

Some military strategists believe that smart, robot weapons can help restore deterrence and replace nuclear weapons and precision-guided conventional weapons.

Robot technologies make military planner to believe that they can evade the layered missile defences, defend bases against attack from precision-guided missiles and are able to operate at a much greater distance from an enemy.
Raising Regional and International Tension

Termination of the Anti-Ballistic Missile Treaty in 2002 triggered a new stage of international instability.

The deployment of advanced missile defense systems coupled with development of strategic LAWS gives rise to concerns, increases military expenses and the defense preparedness.

The present escalation of official statements opens the floor for mutual accusations and speculations which gradually make the public opinion believe that potential military conflicts between nuclear powers are inevitable and might start soon.
The disturbed international political environment could be a rather responsive space for provocations initiated by use of autonomous weapons.

Unmanned vehicles are more affordable than other military aircraft. With no human pilot at risk, drones could make it easier to decide to go to war.

"The proliferation of this technology will mark a major shift in the way wars are waged. We're talking about very sophisticated war machines here. We need to be very careful about who gets this technology. It could come back to hurt us."

Daryl Kimball, Executive Director of the Arms Control Assn.
Militaryization of Civil Tech Sector

Defense Ministries try to ride on the wave of the technological innovations and set up close alliance with the most advanced high tech corporations in order “to cultivate and facilitate a lasting relationship with new innovators and those who don’t always work with DoD, to help expand its innovative ecosystem of ideas.”

To get their hands on the latest software technology to manipulate and take advantage of large volumes of data, intelligence agencies invest in high tech start-ups, award classified contracts and recruit technology experts. We witness the rise of the something we might call the Military-Information Complex.
The Lack of Transparency

The most preserved state secrets:

- Navigation and Mapping tech
- Airborne or Space Laser
- Submersible vehicles
- Artificial intelligence
- Micro-devices
- Space weapons
- Electromagnetic weapons
- Engines based on new principles

The globally kept information taboo on the most advanced technological achievements in the military sphere fuel suspicions and tension in the international relations and push the world to the edge of a large conflict.
New Arms Race

In effort to maintain military balance many global military powers increase their defense spending and try to gain the most advanced military technologies.

The Pentagon’s budget includes:

• $3 bln - countering attack on U.S. naval forces;
• $3 bln - upgrade undersea systems;
• $3 bln - swarming operations by unmanned drones;
• $1.7 bln - cyber and electronic systems;
• $500 mln - war-gaming

Russian Mil Budget - $3.5 mln defense research total
New Arms Race

Unable to compete with the USA in development of the Anti-Ballistic Missile Defense or autonomous weapons Russia tries to find a so called “asymmetric response” to the potential US threat.

The purpose of the Status-6 as to “destroy important economic installations of the enemy in coastal areas and cause guaranteed devastating damage to the country’s territory by creating wide areas of radioactive contamination, rendering them unusable for military, economic or other activity for a long time.”

While experts dispute where this torpedo is real or not, one can assume that this phenomenon signals an escalation of the arms race which might revoke the most deadly and ruinous means of destructions.
Potential for Irreversible Sliding into WWIII

In the late 19th century, the European GHQs were inspired by **new technological innovations**:

1. Railroads
2. Mobilization Plans
3. Telegraph
4. General conscription
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