Insight Titanium Research

The Case of Lethal Autonomous Weapons Systems (LAWS) Announcement of New Research Project

by Marisa Tschopp and Marc Ruef
September 2018

scip ag
Badenerstrasse 623
8048 Zürich
Switzerland
www.scip.ch

)SCIP(

The 2018 Group of Governmental Experts on *Lethal Autonomous Weapons Systems* (LAWS) gathered in Geneva to discuss the case of guidance and directions of certain conventional weapons. Under the direction of Anja Kasperson (UN Office for Disarmament Affairs), the convention will proceed until August 31, focusing on the topics:

- Conceptual understanding and characterization
- Aspects of human-machine interaction
- Review of military application
- Humanitarian and security challenges

NO KILLER ROBOTS OUT NOW

Slaughter-bots or *killer-robots* with elaborated *Artificial Intelligence systems*, acting fully *autonomously*, are currently not deployed. No lethal autonomous weapon system, which can choose to shoot a person on its own without any human intervention, is presently used in warfare.

At the present, unmanned armed vehicles are used, that require *human intervention and decisions making*, controlled remotely. However, the rise and pace of technological development, forced people and politics to discuss these topics, because there is a great threat that governmental regulations will be outpaced by technological development and eventually, it may be to late to act.

PREVENTING ROBOTIC ARMS RACE

The idea is to be pro-active instead of re-active, especially when international peace and human lives are at high risk. Society is not there yet, but without discussion and regulations, a robotic arms race is inevitable. The consequences of using fully autonomous weapons in warfare without regulations are:

- War would start faster
- Civilians would become the main victims
- No clear attribution of accountability and responsibility
- No penalty for the offender, no compensation of victims

However, there is an irony, because opponents of a ban of LAWS insist, that there will be less civilian victims; the current data situation is unclear.

THE CRITICAL CASE OF DUAL-USE TECHNOLOGY

The problem of dual-use technology and science is not new to the world. Rocket science, chemical science and nuclear power technology, declared to serve peaceful purposes, have found their ways into warfare and power demonstration anyways. Most likely, all technology can be used for good and for bad, however, for now, humanity has a chance to learn from past experiences. With all the advances in humanitarian law and the possibilities to communicate globally so easily, there is a chance to act pro-actively, without hindering technological development, which is the greatest burden. How can regulations be defined that don't hamper innovation, to avoid depriving humanity from the benefits technology has to offer: A classic example of positive usage are ai-powered mine detectors or exoskeletons to save human lives. There a myriad of benefits with regards to autonomous weapons.

STILL, ROBOTS ARE UNPLEASANT

But a bad aftertaste remains in the mouth, because most robots are simply bizarre or creepy. A majority of the human society are *not used to them* and do *not trust the intentions* of military and weapon industries, as well as some politicians, who push the efforts. The military representatives insist, that an AI-Killer-Robot war will never happen, this is why a ban of LAWS would be absurd.

On another note, according to P.W. Singer, it is even impossible to enforce a ban of LAWS, due to three unbeatable forces: Science, capitalism and warfare per se. It would be equally pointless to discuss humanitarian laws on the moon, in case humans will ever live there. However, warnings from renown researchers and experts remain strong for good reasons .

THE GIANT SCOPE OF LAWS

The case of Lethal Autonomous Weapons Systems is a mammoth project, because it comprises technical, political, legal, societal, ethical, strategical, economic, and historical considerations, and to further complicate it, it operates on a global level, where different languages, understanding, culture and regulations aggravate the circumstances (not even taking into account current discussions regarding space force).

OUR RESEARCH GOALS

Following our research about drones and information warfare, our Titanium Research Team will approach the *topic of LAWS*, in order to contribute to a general understanding in the larger, general society.

We want to critically discuss and examine the current state-of-the-art in research and practice, demonstrate and explain practical examples to make it comprehensible for everyone; and further, demystify hypes and sci-fi depictions.

We aim to add significance to current research and practice, specifically by combining this topic with our research strengths in cybersecurity, the darknet and AI from a humanities perspective. The end goal in mind, is to raise awareness and create understanding in the public for the greater good.

***

References

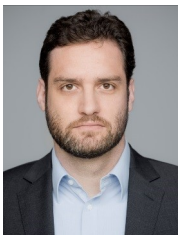
[1] scip AG I www.scip.ch I Drones—The next Generation of Information Warfare I M. Ruef

[2] The United Nations Office in Geneva I www.unog.ch I A. Kaspersen

[3] Ban Lethal Autonomous Weapons Campaign I www.autonomousweapons.org I

[4] New America I www.newamerica.org I P.W. Singer

About the Authors



Marc Ruef is Head of Research and Member of the Board at scip ag. His focus is on conducting research in the broad field of cybersecurity, including computer and network security, vulnerability assessment and penetration testing. As an entrepreneur and expert in information technology he has extensive expertise in the development, application and capabilities of artificial intelligence (AI) solutions with specific interest on language and reasoning capabilities, taking security related, business and societal implications into account. Marc has published various best-selling books, more than 400 white papers and media articles, is teaching at several higher education institutions and is a frequent speaker at conferences and workshops in the public and private sector worldwide.

Marisa Tschopp is a researcher at scip ag. Her focus is on conducting research about AI-based systems from a humanities perspective, with a wide range of questions related to psychological phenomena, governance and ethical implications. As an organizational psychologist she has experience in social and educational institutions with specific passion for digital teaching-learning trends. She published various papers and conference contributions on the topics of leadership, creativity and innovation and has been teaching in several higher education institutions in Germany and Switzerland. Marisa holds a Master's degree in Psychology of Excellence in Business and Education from the Ludwig-Maximilians-University of Munich, Germany as well as a BA business degree, focusing on market and consumer psychology.

Mission: Know the Future

The Titanium Research Team is the highly independent for-profit research department which explores essential issues and innovations in the field of emerging technologies. We pursue an interdisciplinary approach comprising technical and non-technical considerations to guarantee the preparation of our customers in the best possible way.

Our research endeavors include a range of projects tapping into various activities such as knowledge building, education, training, consulting and technical & non-technical development. Topics include a broad range of fields like blockchain technologies, drones, smart weapons, robotics and artificial intelligence, autonomous vehicles, and many more, all examined through an interdisciplinary lens to measure social-psychological impact, ethical implications, and additionally, to forecast future development for the public good. We want to build knowledge, strengthen collaboration between research, industry, policy makers and users in order to explore and comprehend the nature of digitalization and emerging technologies.

scip ag is a Swiss company providing consulting services in the field of cybersecurity. Security is our business. https://www.scip.ch/en/