

Dear Chariman

I am LTC Jan Mazal, from the University of Defence from the Czech Republic and let me add several points to the autonomous systems problematics from the military perspective.

At the first let me say that, the effort to increase the capability of a foot soldier on the battlefield is known since ancient times. This intentions already at that time, lead to a development attempts of the war machines helping to achieve a dominance on the battlefield.

The latest trends of the social requirements to the military organizations create a strong pressure on military systems in order to maintain or increase their current capability with reduced investments and staff involvement. This leads to the search of innovative approaches, in advance and in all dimensions of operational environment, which will allow us to quickly respond to the rapidly changing reality of the contemporary world and future threats.

After the one century, automated and robotic platforms have developed in a highly sophisticated systems, which plays irreplaceable role in today's world, and we can assume that progress in the next years will maybe differ from the trend, to which we were accustomed in the past. This factor also creates new threats, conditions, approaches, scenarios and the operational dimensions, to which the troops in the past have not been prepared and it puts a much higher demands on the military personnel, than ever before.

The current highly automated and robotized systems are already quite a long time established in the air operation domain and when we analyze the experience from the current conflicts, this machines were evaluated as the most effective systems in the war against terrorism on the current asymmetric battlefield. From the military point of view it is analogically expected that autonomous robotic systems will gradually take over the initiative in the other operation domains, especially on land and sea.

Last decade of conflicts in various parts of the world put in a tests lot of a new military technologies in scenarios and conditions that was never possible before. Most of this technologies proved itself as a decisive improvement in a contemporary warfare what enable a high selective precision and depression of collateral damage.

When we look at the current state of technology development, it is hard to predict a time when autonomous systems will achieve the intellectual superiority over the human brain, but in some scientific communities prevall the consensus that it will certainly happen in the future.

We could expect, that the character of future conflicts will be enhanced by the new, powerful and highly mobile weapons systems that almost certainly moves the future armed conflicts into a new dimension of threats, approaches, concepts and the perceptions of combat activities. Military experts assume that in a future environment will not be possible to succeed with old fashion approaches, tactics and systems of contemporary technology.

The main purpose of implementation of autonomous or automated systems in military domains today is to reduce the risk of injury or death of own troops and this trend from the military perspective is constantly growing.

Looking at the rapid progress of technological developments in many areas, military experts assume that in a future, these systems will be deployed, mainly due to the higher efficiency and precision in the combat activities with lower failure rate than a human could compete. Many military experts are convinced, that the advances on the field of artificial intelligence will enable to solve a wide range of

a problems linked with a combat activities, including the rules of engagement in the behavior of the robots with the level of success that exceeds the human abilities.

Looking at the fact that the man is a fundamental factor in the domestic and international policy, it is evident that the area of armed conflicts is the domain of man, as a default initiator and the executor of the wide spectra of activities, where the autonomous systems could be used only as tools supporting the achievement of a strategic or operational goals.

As a conclusion:

The ability of rational decision making is one of the typical characteristics of a human that enables him to develop the science, culture and society at such a level, which is so far unique in the known universe, but this fact may change in the future.

Modern society, security environment and new technologies impose an incomparably higher demands on armies, than it has been at any time in the past, where the highly automated or autonomous systems helps to fulfill that requirements and face to the future threats.

The deployment of modern technologies in the real conflict clearly showed that these systems and the concepts ensure a higher efficiency and control of the combat and finally lead to the reduction of losses and collateral damage on the battlefield.

Unreasonable steps and limitation of a research and scientific experimentation on that field could lead to the security disbalance, more soldiers in a risky situations on the battlefield and actually step back to the old fashion military systems.

Also, there is no exact scientific proof or indication yet, that the future technology will not solve all raised concerns.

Next, it is necessary to mention that any system for military purposes must be certified, must fulfill demanding criteria, must be tested under the various conditions must prove itself in hundreds of experiments and implementation of this kind of technology goes really slowly, because the armies are very very conservative on that field. And also, because of that procedures, lot of systems failed to get to the service.

We are at the beginning in the development of these systems and without proper understanding and exact proofs of all negative aspects of autonomous systems, it is probably too soon to rise an ultimate results. Only the ongoing research and experience could tell us the true about that feared issue.

Thank you