

Views of Switzerland on the report of the Secretary-General on “Current developments in science and technology and their potential impact on international security and disarmament efforts”

Summary

In the light of the breath-taking pace of innovation and development, Switzerland has repeatedly emphasized the need to consider new developments in science and technology (S&T) and their implications for international security and disarmament efforts on a multilateral level. S&T offers a great number of opportunities, for instance in view of facilitating the achievement of certain Sustainable Development Goals (SDG). S&T may also have negative impacts, particularly in the field of international security, where advances may result in the development of new weapons, means and methods of warfare. In this context, S&T may lead to new arms control challenges, since certain discoveries in S&T can be used for malevolent purposes. Switzerland presents a number of recommendations related to the responsiveness of international organisations, compliance with international law, possible new regulatory approaches, multi-disciplinarily, export controls and “science and security” as a priority for the UN. Switzerland is looking forward to the Secretary-General’s (SG) report on S&T pursuant to resolution A/RES/72/28. We hope this report will raise awareness of the topic and create a useful foundation for addressing current S&T developments relevant to international security and disarmament efforts.

Opportunities

Advances across diverse areas of S&T have profoundly positive impacts on and beneficial applications for our daily lives: Information technology connects people and facilitates communication. New medicines, therapies and vaccinations save lives, contribute to a higher life expectation and improve quality of life. It must be our shared goal to put technological progress in the service of advancing mankind and preserving our environment. S&T can notably facilitate achieving certain SDGs, like ensuring healthy lives and promoting well-being (SDG 3) or building resilient infrastructure, promoting sustainable industrialization and fostering innovation (SDG 9). Such developments can also have positive effects on the implementation of SDG 16, which aims at promoting peace, security and strong institutions.

Impact on international security and arms control

A number of technological developments may reinforce the protection against specific security threats. At the same time, technological advances, for instance in the field of unmanned technologies, artificial intelligence, electromagnetic or materials technology, may result in the development of new weapons, means and methods of warfare, as efforts to develop more precise and efficient weapons are pursued. It is anticipated for instance that certain technical innovations may support human decision making in the targeting cycle, or will allow to deploy force more precisely and efficiently with a view to avoiding or minimizing incidental harm to civilians and civilian objects. Another concrete example of a potential positive impact on international security and arms control would be the use of geospatial analysis, satellite imagery, 3D-visualisation or virtual reality to support specific disarmament or non-proliferation tasks, such as monitoring and verification activities.

Specific challenges

However, a number of legal, ethical, military and political questions arise from past, present and anticipated future S&T developments. How will these developments be used in a changing international security context with global power shifts, geopolitical tensions, regional instabilities and the emergence of new actors? What will be the impact of novel weapons on warfare? Will current

developments in S&T result in profound changes in patterns of conflict? Will they lower the political threshold for the use of force, since they could reinforce the perception that one can wage war with minimal losses and complicate attribution, and hence grant plausible deniability? Will there be new interest in weapons that were previously considered to be of little military utility, such as biological weapons, because advances in S&T allow to overcome current technical and/or operational deficiencies? What are the implications for international stability and security in light of the pursuit and possible acquisition of new types of long-range conventional weapons? What are implications for security if not only states but also non-state actors acquire such weapons? How can advanced weapons be tested, as part of the research & development process as well as in accordance with legal reviews, as specified in article 36 of Additional Protocol I to the Geneva Conventions? The current debate on autonomous weapons systems (hereafter: AWS) illustrates these multifaceted questions. Notably, discoveries in S&T can also be used for malevolent purposes. Some new technologies are easily accessible, which means that proliferation risks and the threat from non-state actors need to be thoroughly assessed. In order to mitigate possible negative impacts, such challenges should be discussed and addressed in the relevant multilateral conventions and fora in light of their potential impact on international security and disarmament. Switzerland believes that the international community would benefit from a common understanding of the opportunities and challenges of these technologies and how these can be addressed in multilateral fora.

Recommendations by Switzerland:

1. International organisations and treaty frameworks should be better equipped for S&T discussions in view of keeping pace with technological developments: We need responsive organisations and treaty frameworks which allow for the anticipation of trends and, if necessary, for normative considerations.

Due to the complex and evolving nature of S&T developments, it is difficult to comprehensively understand the risks associated with such advances and fully capture the challenges ahead. Appropriate intergovernmental structures, where the relevant actors come together (see also point 4), where their complex interests can be taken into account and where new challenges can be addressed politically and normatively, might currently be insufficient or lacking. Switzerland has been actively promoting the discussion and review of developments in S&T and suggested setting sufficient time aside to consider emerging challenges, in particular with regard to AWS and advances in the life sciences within the framework of the Convention on Certain Conventional Weapons (hereafter: CCW) and the Biological Weapons Convention (hereafter: BWC) respectively. Discussions in multilateral processes have illustrated the difficulties of finding common understandings on such topics. Moreover, some developments in S&T, such as the convergence of the sciences, affect multiple treaties and hence call for greater interaction between previously separated disarmament communities, which complicates the challenge of finding common ground further. Being able to mitigate negative effects of certain S&T developments will be of great importance to humanity, and a factor in keeping conventions such as the CCW and the BWC, and the multilateral system as a whole, relevant.

2. Ensuring compliance with existing international law must be a priority as future weapons systems are developed and employed.

The existing rules of international law, and in particular international humanitarian law (hereafter: IHL), apply to all weapons, means and methods of warfare, including new weapons systems. Under IHL, any weapon possessing one or more of the following characteristics is inherently unlawful: (1) the weapon is of a nature to cause superfluous injury or unnecessary suffering; (2) the weapon is indiscriminate by nature (3) the weapon is intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment; and (4) the weapon has been specifically prohibited in treaty or

customary law. With regard to the lawful use of a weapons system, the principles governing the conduct of hostilities (distinction, proportionality, precaution) need to be considered. These criteria apply to all weapons, means and methods of warfare, including those based on new technologies. Furthermore, Switzerland reiterates that States have the obligation to conduct legal reviews, as specified in article 36 of Additional Protocol I to the Geneva Conventions, and to ensure accountability and responsibility. A rules-based international order contributes to international peace, security and the protection of human beings. Defending compliance and promoting international law is a priority for Switzerland. In the case of AWS, Switzerland has suggested to collate and clarify, for ease of reference, the relevant existing provisions of international law. Such an endeavour could also be considered for other future weapons systems.

At the same time, vigilance is needed to prevent that the emergence of attractive new types of weapons, means and methods of warfare endanger or put in question existing prohibitions or restrictions. For instance, central nervous system-acting chemicals could be seen as an attractive tool to manage certain law enforcement scenarios because of their supposedly non-lethal incapacitating effect. However, the distinction between law enforcement, counter-terrorism, counter-insurgency and armed conflict may get blurred, which could lead to the unintentional or deliberate use of such chemicals outside of the confines of the CWC's law enforcement exemption. This could undermine the global norm against the use of toxic chemicals as weapons and may lead to the creeping re-emergence of chemical weapons.

3. *When and where existing norms are insufficient, new regulatory approaches must be considered before it is too late.*

Ground-breaking developments might potentially lead to new weapons, means and methods of warfare for which existing norms prove to be insufficient. If and when such developments are anticipated or materialise, new politically or legally binding instruments, or a combination thereof, should be considered in due time and in the appropriate fora.

4. *The traditional arms control community should be expanded, or would benefit from more comprehensive, multi-disciplinary settings.*

Switzerland is convinced that the scientific community and the private sector need to be included when addressing S&T challenges. These actors possess valuable knowledge and expertise which must be brought to the table. They play an important role in multilateral policy-making areas and need to be aware of their interests and responsibilities. Within this broad approach it is important to consider the power of peer pressure, transparency and confidence-building measures, like industry best practice, mentoring, education or peer reviews.

5. *Export controls might need to be adapted in light of dual-use challenges.*

Since many new technologies are of dual-use nature and often involve intangible goods, export controls might need to be adapted to these challenges. Currently, a number of such technologies are difficult to control based on existing mechanisms and tools for transfer control. Consequently, Switzerland believes in the importance of elaborating adapted export controls and achieving regulation without hampering valuable civilian and legitimate military development and use.

6. *“Science and Security” should be anchored as a priority of the UN. The UNSG as well as UN membership should receive sound and robust advisory opinion.*

As outlined, S&T holds great potential for humanity but at the same time has significant potential impact on peace and security. This places S&T at the top of the UN agenda, with the UNSG in a global leadership role. The SG has recognised the importance of S&T in several UN domains and rightly placed S&T in his prevention agenda, directly relevant to the UN's mandate with regard to peace and security.

In the disarmament agenda released 24th of May 2018, the UNSG has put forward a number of actions aimed at protecting future generations from emerging means and methods of warfare. Switzerland hopes that the UNSG's disarmament agenda will contribute to better understanding risks and opportunities associated with S&T and provide a platform on which to advance the S&T issues relevant to international security and disarmament efforts. In addition, Switzerland hopes the forthcoming UNSG report on this matter will not only raise further awareness of the issue but will also provide a stepping stone for a sustained follow-up process. Just as specific arms control and disarmament conventions should be examined to see whether they are adequately set-up to address the S&T challenge, the same should be done with regard to relevant UN organs and fora. It would seem worthwhile for instance to consider whether the SG Advisory Board on Disarmament Matters is a suitable body to provide an advisory function to the UNSG on such technically complex matters, or whether the UNSG and Member States need additional and sustained advisory functions. The creation of a panel of eminent experts, as briefly discussed during the First Committee of the 72nd General Assembly, could also have some merit.