

Meeting of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects

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Emerging Issues in the context of the objectives and purposes of the Convention

Consideration of developments in Science and Technology that may be relevant to the work of the Convention on Certain Conventional Weapons (CCW)

Submitted by India and Switzerland

I. Introduction

1. Science and technology (S&T) developments are taking place at an accelerating pace and are fundamentally changing key aspects of social and economic life. While many of these advances are positive in nature, some of them may also have an impact on international security, notably in the area of arms control, disarmament and non-proliferation. In this context, a nuanced understanding of these developments and how they interface with existing mechanisms and instruments on international security and disarmament is required.

2. Cognizant of this fact, the international community is gradually paying increasing attention to these developments. In 2017, pursuant to resolution A/RES/72/28, the United Nations General Assembly (UNGA) referred inter alia to the importance of a system-wide assessment of the potential impact of developments in S&T on international security and disarmament. It asked the UN Secretary-General (UNSG) to provide a report on *current developments in science and technology and their potential impact on international security and disarmament efforts*. S&T developments are also receiving greater attention in other multilateral processes dealing with international peace and security, including at the International Atomic Energy Agency (IAEA), at the Organisation for the Prohibition of Chemical Weapons (OPCW), within the Biological Weapons Convention (BWC) and in the Conference on Disarmament (CD). S&T developments and their security implications also figure prominently in the UNSG's document entitled "Securing our common future: an agenda for disarmament" (*UNSG's Agenda for Disarmament*), published in May 2018.

3. **This working paper is an attempt to offer delegations a compilation of pertinent elements and ideas to serve as a reference for the consideration of the issue at hand and to inform discussions on how the CCW could approach S&T in its future deliberations. Without claiming to be exhaustive, the paper points to recent discussions in the CCW and references a number of relevant developments and findings discussed in some of the forums mentioned in paragraph 2. The working paper is without prejudice to the respective national positions of Switzerland and India.**



II. Discussions on developments in S&T in the CCW so far

4. The final declaration of the CCW Review Conference in 2016, which saw for the first time a discussion on S&T developments in the context of the CCW, acknowledges “*the key role of the Convention in monitoring ongoing and new developments in weapons, means and methods of war that may be deemed to be excessively injurious or to have indiscriminate effects, and in related science and technology, with a view to ensuring the continued relevance, integrity and adequacy of the Convention*”.

5. The 2017 Meeting of the High Contracting Parties provided for a discussion for the first time on how developments in the field of S&T may affect the Convention and how they could potentially be addressed. While different views were expressed, including on a systematic and structured consideration of S&T developments at this stage in the CCW context, a number of important points were made by various delegations during the exchange, including the following:

(a) A number of technological advances may contribute to improved accuracy or reduced incidental harm of some weapons. At the same time, uncertainties persist whether some scientific or technological developments could lead to future weapons that may pose challenges under international law, including international humanitarian law (IHL).

(b) Reviewing developments in S&T is important to understand possible future opportunities and challenges.

(c) Ensuring compliance with existing international law, including IHL, as future weapon systems are developed and employed, should remain a key consideration and priority.

(d) In this context, it is important to understand the various challenges at hand, to build knowledge and to raise awareness of the potential international security implications and risks of specific technological innovations.

(e) The CCW which seeks to balance humanitarian considerations and military necessity — with its open architecture, bringing together actors with the relevant expertise, including States which are leading developments in S&T and their military application — is a forum that is not only well equipped to address this challenge but is also directly impacted by new developments in S&T relevant to weapons and means and methods of warfare.

III. Additional elements pertinent to the CCW’s deliberations on S&T

6. The 2018 report of the UNSG entitled “Current developments in science and technology and their potential impact on international security and disarmament efforts” (mandated by the resolution referenced under paragraph 2. and contained in document A/73/177) contains a number of relevant elements in view of the consideration of S&T developments in the context of the CCW. The report includes submissions by a number of CCW High Contracting Parties who made contributions in their national capacity to the UNSG’s report.

7. The report underlines the developments in the areas it identifies of particular relevance — artificial intelligence and autonomous systems, biology and chemistry, advanced missile and missile-defence technologies, space-based technologies, electromagnetic technologies and materials technologies — represent manifestations of broader trends, including, inter-alia:

(a) Increased speed and autonomy in the waging of war and use of force;
growing interdependence between the civilian and military realms;
difficulty of controlling the development and spread of certain new technologies;

(b) A return to arms-race dynamics in the strategic sphere; and

(c) Accelerated pace of technological development and the challenge of ensuring that normative efforts keep pace with such developments.

8. Reflecting on these trends, the UNSG report identifies a number of elements that seem to be of relevance to the CCW, including:

(a) The prospects that new technologies effectively reduce the decision-making time for users, as well as for opposing forces to respond;

(b) Possible limitations of the ability of human operators to exercise their duty to undertake the necessary precautions to avoid civilian casualties;

(c) Certain S&T developments may have potential implications with respect to compliance with the existing legal frameworks relevant to the use of force in different situations and contexts.

(d) Concerns that these technologies (and relevant knowledge increasingly available online) could be easily acquired by, or could be used as tools of proliferation by, malicious non-State actors, given the fact that more and more proliferation-sensitive information exists in an intangible form and can be passed electronically, thereby circumventing regulations and controls.

9. When discussing processes for addressing such developments, the report refers to the unique quality of the CCW and its structure — a chapeau Convention and annexed Protocols to ensure future flexibility — as a forum for responding to developments in S&T of relevance to its purpose.

10. It is important to note that the report highlights that these technologies may have beneficial applications, including for disarmament, non-proliferation and arms control. This also corresponds to discussions in the GGE on lethal autonomous weapons systems (LAWS) where the point was made about potential benefits from emerging technologies.

11. The S&T report contains a number of recommendations with relevance to the CCW discussions in this area, inter alia:

(a) The report suggests, based on the submissions by Member States, not to create new bodies, in order to avoid duplicating or undermining existing processes and instruments and notes the need for better coordination among the various efforts under way across the United Nations (UN) and among Member States in order to ensure that the international community's efforts in this regard are both coherent and comprehensive.

(b) The report refers to the roles of the Office for Disarmament Affairs (UNODA), the United Nations Institute for Disarmament Research (UNIDIR) as well as the Advisory Board on Disarmament Matters (ABDM), and indicates the need for close cooperation among these bodies and the Member States.

(c) The report states that many of the S&T developments are occurring within the private sector and in academia, highlighting the need for traditional intergovernmental processes and discussions to better connect with those constituencies. In this context, the report encourages Member States and UN bodies to enhance cooperation with the private sector, non-governmental organizations and academia.

(d) The report also contains references to the role of legal reviews in addressing the challenges posed by the development and deployment of new weapon systems.

(e) Finally, the report announced that the UNSG will engage and work with scientists, engineers and industry to encourage responsible innovation in S&T and to ensure that they are applied for peaceful purposes, as well as the responsible dissemination of knowledge, in conformity with the principles and objectives of the UN.

12. The First Committee of the UNGA on 8 November 2018 adopted without a vote a follow-up resolution to resolution A/RES/72/28 (contained in A/C.1/73/L.65/Rev.1). This resolution welcomed the UNSG's report and called on Member States to remain vigilant in understanding new and emerging developments in S&T that could imperil international security. It also underlined the importance of Member States engaging with experts from industry, the research community and civil society in addressing this challenge. The

resolution also requested the UNSG to submit to the UNGA at its 74th session an updated report including information submitted by Member States. In addition, the resolution requested UNIDIR to convene, from voluntary contributions, a one-day focused informal seminar in Geneva in 2019 on the role of S&T in the context of international security and disarmament, in order to facilitate dialogue among relevant stakeholders on current developments in S&T and their potential impact on international security and disarmament efforts.

13. The UNSG presented in 2018 a Disarmament Agenda contained in a document entitled “Securing our common future: an agenda for disarmament”. The Agenda encourages Member States to work together to make sure that developments in S&T are used for the good of humankind and, generally, encourages responsible innovation of S&T. At the same time, the Agenda also indicates that certain developments are enabling, at an accelerating pace, the design and acquisition of new weapon technologies with unclear consequences. Such developments might have potential implications for the maintenance of international peace and security and for the respect of international legal norms. The agenda concludes *inter alia* that the pace of technological development and dissemination could challenge governmental regulatory frameworks and multilateral processes, and refers to the general perception that contemporary developments might outpace the ability of our normative and regulatory frameworks to keep up.

IV. Conclusions

14. The CCW has an important role to play in addressing the risks and challenges posed by developments of new weapons or means and methods of warfare, in particular to consider S&T developments that could cause superfluous injury or unnecessary suffering or have indiscriminate effects. By taking up the issue of emerging technologies in the area of LAWS, the CCW has begun to address one aspect of S&T developments within its context.

15. A number of questions related to the elements highlighted above merit further consideration in the context of CCW, such as:

(a) What are the most pertinent aspects for the CCW in the UNSG’s report? Which of the “broader trends” manifest themselves in the area of conventional weapons?

(b) Are there S&T issues of particular relevance in view of the mandate of the CCW? What are the areas of potential benefit of S&T developments with regard to conventional weapons CCW High Contracting Parties should be aware of?

(c) More generally, how can the CCW undertake objective and differentiated discussions on S&T developments, without prejudice to the potential positive impact of new technologies or negatively affecting the development of peaceful applications?

(d) How could the CCW effectively engage with experts from industry, the research community and civil society? How can UNODA, UNIDIR as well as the ABDM support the CCW’s deliberations?

16. It is evident that emerging developments in S&T will acquire increasing salience in the context of the CCW and it may be useful to map such developments relevant to the Convention. Such a mapping could be conducted under the responsibility of the Chair of the respective meeting of the High Contracting Parties with the support of UNODA and UNIDIR.