



Arria-Formula meeting

**“The Impact of Emerging Technologies on
International Peace and Security”**

**Remarks by Ms. Izumi Nakamitsu
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Excellencies,

Distinguished delegates,

Ladies and gentlemen,

I wish to express my appreciation to the Permanent Mission of China for organizing this meeting and for inviting me to provide this briefing.

Building a better understanding of the impact of emerging technologies on international peace and security has become a key requisite for ensuring this Organization is fit to meet the challenges of the future.

Since 2018, the Secretary-General has issued a comprehensive annual report on the “current developments in science and technology and their potential impact on international security and disarmament efforts”, at the request of member states. My remarks today will draw from elements we have developed in preparation for the 2021 edition.

We are in a time of unprecedented technological change. As noted by Secretary-General Guterres, scientific developments can accelerate the achievement of the 2030 Agenda for Sustainable Development and promote the values enshrined in the Charter of the United Nations and the Universal Declaration of Human Rights.

Emerging technologies have considerable potential to improve how we work and ultimately to assist the Council in matters on which it is seized, including peacekeeping and non-proliferation. However, some technologies, when used with malicious intent, can frustrate the implementation of decisions by the Council.

In addition, many developments are also enabling the design and acquisition of new weapon technologies with unclear or potentially dangerous applications. Some come with potentially grave implications for the maintenance of international peace and security, ensuring respect for international humanitarian and human rights law and the protection of civilians and civilian infrastructure.

In my brief remarks today, I will survey both the opportunities and challenges posed by various fields of emerging technologies. I will also address specific applications of those technologies to illustrate how the combined effect of various risks could also pose unforeseen or unintended challenges.

In the areas of artificial intelligence, recent advances in machine learning have been fuelled by faster processors and the availability of ever larger data sets. AI-enabled technologies can help us produce faster, more accurate and comprehensive analyses, improve logistics and assist human decision-making in other ways that save lives.

However, one problematic application of artificial intelligence involves the incorporation of autonomy into the critical functions of weapon systems. While some argue such systems may be more accurate and reduce collateral harm, it has not yet been demonstrated that any algorithm can reliably make the human-like decisions and judgments required to comply with international law. It therefore remains imperative that States develop concrete measures to ensure humans remain in control over the use of lethal force, as called for by the Secretary-General.

In the area of digital technologies, by 2025, it is expected that there will be more than 30 billion Internet of Things connections, almost four devices per person on average. We rely upon these technologies in nearly every aspect of our daily lives, even if the benefits they bring remain too unevenly distributed.

At the same time, this dependence and interconnectivity brings many vulnerabilities, especially for the protection of critical infrastructure like hospitals, power grids, water systems and pipelines. This is why it is important for all States to work together to elaborate and implement norms, rules and principles on the use of information and communications technologies, through sustained institutional dialogue.

Advances in the biological sciences are making essential contributions to the SDGs, including by promoting food security and combating infectious diseases. Successful disarmament instruments, like the Biological Weapons Convention should be further strengthened and operationalized to foster cooperation on the peaceful application of life sciences.

Developments in biotechnologies are accompanied by risks that biological agents might be more easily weaponizable in the future or more readily obtained by non-state actors. Mechanisms like the Committee established pursuant to Security Council resolution 1540 (2004) are a key means by which the Council can keep itself ahead of these potential developments.

As one application of developments in material sciences, additive manufacturing has made the production of complex goods cheaper and more accessible.

These same technologies can be applied to the production of weapons and related equipment, including in the areas of chemical and biological warfare, creating challenges for non-proliferation and export controls. They can also frustrate efforts to combat the illicit trade in small arms, by circumventing the marking and tracing of firearms.

While developments in each of these areas bring their own unique benefits and challenges, we must also consider cross-cutting applications. I will describe two.

First, advances in automation and digital communications have made uncrewed aerial vehicles a ubiquitous tool with civil, commercial, military and recreational uses. Surveillance drones are making an important contribution to peacekeeping operations.

Yet, the use of armed drones outside of traditional battlefields has decreased stability in certain situations and challenged efforts to ensure respect for humanitarian and human rights principles. The development of new measures to ensure adequate transparency, accountability and oversight over the transfer and use of such systems is long overdue.

Second, advances in these same areas -- automation and digital communications -- as well as in material sciences is leading us to a new era for the exploration and use of outer space. While our dependence on this domain may not always be fully appreciated, more than 40 percent of targets under the SDGs benefit from space-based data and infrastructure.

The regime governing this domain is not sufficiently developed to prevent an arms race and to prevent conflict from beginning in or extending into outer space. Possible solutions to these challenges can involve a combination of binding and voluntary norms, rules and

principles, and work in this area should proceed in a mutually reinforcing and complementary manner.

In conclusion, I wish to emphasize that the United Nations has a central role in each of these areas, both in ensuring that the benefits of emerging technologies can be fully realized and in addressing the challenges and risks that they pose. International instruments and bodies are indeed already engaging on most of these matters. But given the implications for the maintenance of international peace and security posed by developments in science and technology, engagement by the Security Council is paramount.

I therefore welcome this opportunity to brief you, and I am looking forward to the discussion that will follow.

Thank you very much for your attention.