

Committee: Disarmament and International Security Committee

Issue: Addressing the role of science and technology in the context of international peace and security

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Position: Deputy President

COMMITTEE INTRODUCTION

The disarmament and international security committee started having a critical role in the UN after its 48th session in 1993. There they reformed it to make it more effective and systematic after that several more resolutions were created to improve the committee further. In the Assembly's 59th session the Secretary-General requested that the member states submitted their views on how to enhance it as well thus creating a report out of their opinions. After the 60th session, this report was adopted, and the necessary changes were made to make the committee better.

Some of the most important documents the first committee has been part of are the very first resolution of the UN in 1946, which was adopted due it being recommended by the first committee. Then the first GA resolution that was supported by all member states.

INTRODUCTION

The role of science and technology in the context of international peace and security has been an issue that concerns the United Nations for many years. Especially in our times when technology and science are advancing at an accelerated rate. Many of these developments pose a significant threat since they revolve around weapons and other technologies that harm international security.

On the other hand, many technologies may also enable governments to maintain peace and security in their regions, helping their police forces and armies and resolving conflict and crimes. Without these technological and scientific developments, they could not protect their people and preserve order.

This ongoing situation has many casualties. When weapons using new technologies and science are implementing in conflict zones, there are a lot of unarmed civilians that pay the price. So, it is of utmost importance to find a solution to this matter. Also, law enforcement

agencies should have the ability and the correct funding to use newer technologies and already existing ones at a larger scale.

Taking into account the complexity and the importance of the issue in hand it is of the utmost importance to understand all aspects of the matter. If any inquiries arise please feel free to contact me for further information and explanations at my e-mail address (c.seimanidis@acg.edu).

Important note from the chairs' team

In order for the chairs to fully understand the dynamics of the committee, discovering any misunderstanding prior to the debate and for the better preparation of the delegates you are asked to proceed as indicated below;

- 1) Conduct your chairs via email and informing them about your mun experience so that they can know what exactly to expect of you.
- 2) Prepare and send your chairs by 11:59 of the 6th of November one position papers for each of the topics you are going to discuss during the conference. You can conduct the expert chair, of each topic for further information concerning your country's policy if needed, and for general guidance when it comes to your position papers (word limit structure etc). You are going to receive general comments during the lobbying for your position papers as well as personal feedback and grades for your papers. The points you will receive will add up to your general score which is one of the factors that determine the best delegate award. If you for any reason fail to send your papers before the final deadline you will not be eligible for any award.

DEFINITION OF KEY TERMS

Biotechnology

"The manipulation (as through genetic engineering) of living organisms or their components to produce useful usually commercial products (such as pest resistant crops, new bacterial strains, or novel pharmaceuticals)."¹

¹ "Biotechnology." *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/biotechnology?src=search-dict-hed.

Information Technology

Information technology refers to the use of computers in order to store, retrieve, and send information.

Governance

“The way that organizations or countries are managed at the highest levels and the systems for doing this.”² This is how governance is generally referred to and defined. More specifically, when talking about governance in technology is about specific regulations and rules surrounding technology and any advances partially limiting the inventor’s abilities but also making it more reliable towards the public.

Nanotechnology

Nanotechnology is based on the science that is conducted at the Nanoscale (1-100nanometers). It can be applied across a large field of sciences such as chemistry, biology, physics, and engineering. Richard Feynman, who came up with the concept and idea of nanotechnology, thought that scientists could manipulate and control individual atoms and molecules.

Nuclear Technology

“Nuclear technology is the technology that involves the reactions of atomic nuclei (protons and neutrons).” Some of the most important applications of nuclear technology are nuclear reactors and weapons.³

Neuroscience

When talking about neuroscience, we refer to a combination of anatomy, physiology, and biochemistry regarding nerves and nervous tissue with a focus on their relation to behavior and learning.

² “GOVERNANCE | Meaning in the Cambridge English Dictionary.” *Cambridge Dictionary*, dictionary.cambridge.org/dictionary/english/governance.

³ “Definitions for Nuclear Technologynu·Cle·Ar Tech·Nol·o·Gy.” *What Does Nuclear Technology Mean?*, [www.definitions.net/definition/nuclear technology](http://www.definitions.net/definition/nuclear%20technology).

BACKGROUND INFORMATION

Main Forms of Technologies that Endanger International Peace and Security

There are many forms of technologies that put at risk peace and security worldwide. First of all, there is nuclear technology. Nuclear technology has been known since it was first used in warfare in 1945 when the United States of America bombed Hiroshima and then Nagasaki. The power of it is merely catastrophic, emitting vast amounts of radiation. With eight countries armed with nuclear weapons and many of them having political disputes with one another such as India and Pakistan, a nuclear war could be catastrophic.

Furthermore, another major threat is biotechnology. Weaponizing biology can have devastating effects on the world. Terrorist groups could create new bioweapons in the form of an infectious disease that would be undetectable and difficult to stop. It could be an even more significant threat than a bomb since it can continue to spread through malignant cells even after being deployed, thus continuing to be dangerous even after deployment. Furthermore, new gene-editing technologies enable bioweapons to target people of a particular ethnicity or even a specific individual like a high-ranking government official. Today, having access to the internet and the nature of the research concerning those bioweapons being open, anyone who has enough resources could create a bioweapon.

Space technology is also terrifying when countries such as the United States, Russia, and China have developed anti-satellite weapons. They have created a range of space weapons, including missiles that have multiple functionalities such as destroying missiles traveling through space, targets on earth, space systems, or satellites.

Assets in space are used for information, tracking, communication, and navigation, giving individuals the ability to see all around the world. All these military space assets other than causing debris could be commandeered by terrorist groups (especially the inactive satellites) setting world security in danger.

Information technology has completely changed the way warfare works. It has been implemented in precision-guided munition that has been introduced since the 2nd World War in its early stages. Today, bombs can be guided to target specific individuals via computers running on satellite information. Information technology is not only present in modern weapons but also intelligence data. Technology has played a crucial role in the identification process using satellite pictures, drone feeds, and even social media accounts. However, the use of information technology can also help terrorist groups by enabling them to transfer money, information, and technology without being tracked.

Nanotechnology poses a significant threat to security. Massive developments have occurred in recent years on this field, enabling the better manipulation of particles resulting in the creation of “metamaterials” that have non-natural properties. In the long term, this technology might prove to be incredibly revolutionary and extremely dangerous, fortunately enough, this technology requires enormous amounts of energy to operate. However, dangers still may occur since it is difficult to monitor any advancements to it. It is believed that it can make weapons better and more useful on the battlefield. Biochemical weapons, although prohibited by the Chemical Weapons Convention, have had their share of technological advances make them easier to recreate and harder to regulate. Automatic vehicles create a new and highly effective opportunity to deliver chemical agents. Advances in neurobiology are said to be able to change behaviors to develop and improve super soldiers. Autonomous weapons are meant to possibly be the 3rd revolution in warfare. Drones technology, with the implementation of artificial intelligence, has created weapons that can engage targets based on an already existing database without human intervention. This technology poses an incredible threat since facial recognition is still extremely unreliable to be used in such ways. Even if override mechanisms were created, they could malfunction or be controlled by terrorist groups and guerilla fighters.

Technologies and Sciences that help Law Enforcement

Robotic cameras have allowed officers to investigate a crime scene under dangerous or difficult circumstances and deploy where they needed. This technology can be used to detect bombs or search suspicious locations while operating wirelessly. They can move and reach areas that required specific equipment from officers that may be difficult to acquire.

Unmanned aircraft systems (UAS) that can also be referred to as drones can be used to obtain information, monitor disaster areas, and find suspects. This technology other than having lower costs than, for example, a piloted helicopter can expand the reach of police officers while they can maintain their safety. Unfortunately, this technology has not spread among law enforcement agencies due to specific laws and regulations.

Another technology that is used by law enforcement is thermal imaging. This technology has been used to help with locating suspects, investigate crime scenes, and perform certain search and rescue operations.

The use of computer technology in law enforcement has been proven to be necessary over the years. One of the main ways computers are used is to create a data basis in order to manage large amounts of information. That may include incident reports, criminal records, evidence and DNA taken from suspects allowing officers to match them with samples taken from crime scenes. Computers are also used to share information and combat cyber-crime. They can be used in order to send encrypted emails, thus sharing invaluable data such as documents and photographs instantly and securely with a minimum risk. Law enforcement also uses the internet in order to prevent and stop cybercrime that may include viruses and hacking attacks, identity theft, and the sharing of illegal materials.

Global Positioning System (GPS) helps law enforcement agencies in various ways. To begin with, officer tracking allows them to have higher efficiency when dispatching two incidents while guarantying the safety of the officers. Another way GPS is used is with vehicle pursuit darts meaning small foam darts that are shot at vehicles in order to track and apprehend them. Gunshot detection is a way of monitoring the use of guns in specific locations allowing fast responses by the officers.

Police departments have used biometrics for a very long time. This may include fingerprints for identification, handheld scanners, and facial recognition technology. Although there are some privacy concerns, the technology is used very cautiously and has been of incredible assistance to the agencies.

Conducted energy devices have been used in order to temporarily incapacitate people and crowds such as Tasers and other stun guns. Many of those combine noise light and chemicals in order to be even more effective and helping police officers arrest a suspect without harming him.

MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

Democratic People's Republic of Korea (D.P.R.K.)

D.P.R.K. has been known to have developed its nuclear weapons program over the years, and it is considered a significant threat by many countries. Although there have been some efforts recently in order to resolve the conflict in the Korea peninsula and to denuclearize the region, North Korea is still recognized as a great military force. Since they claim to achieve security and prosperity, they are deeply affected by the issue.

United States of America (U.S.A.)

The U.S.A. is the country with the 2nd most significant amount of nuclear warheads. It is known to have had significant involvement in foreign states in order to maintain peace and security via warfare. It also has developed one of the most significant weapon programs, and it is extremely interested in any new advancements in science and technology that could be implemented in weapons.

Iran

Iran has many tensions and conflicts throughout its region, always making investments and upgrade its military capabilities. Its increasing tensions with the USA have led to plenty of armed conflicts in which Iran showed its military power and its investment in air defense and ballistic missiles.

Israel

Israel facing many significant conflicts at the moment has had great technological advancements used in warfare during the years. The most important one being the Iron Dome, a mobile air defense system that has been developed in order to counter rockets. It provides defense from short-range missiles that threatened the citizens of its northern and southern border. Israel is an excellent example of a country that has used new technological advancements to improve security in its region.

United Kingdom (U.K.)

The U.K. much believes in international peace and security. U.K. has provided the U.N. with a higher number of peacekeepers than any other country. The government has welcomed dialogue and diplomacy in order to resolve issues in the Korean peninsula. They have been involved in various foreign conflicts and have played a vital role in the Security Council.

Russian Federation

The Russian Federation before U.S.S.R. was dismantled was known to have an arms race with the U.S. It is known to have the most significant number of nuclear weapons and has interfered in the conflict in foreign states. There has been extensive use of new technologies by Russia's military, especially concerning nuclear technology.

TIMELINE OF EVENTS

Date	Description of Event
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1775	First time a submarine was used in battle
1836	Samuel Colt patents the “revolving gun” which soon after is renamed the revolver a firearm that can be reloaded faster than any other before it.
1851-1861	Machine guns start make their first appearances in battles
1862	The first iron-clad warship (USS Monitor) is launched from New York.
1884	The Maxim gun, the first ever fully automatic machine gun is produced by H. S. Maxim.
1893	The first bulletproof vest is made using plates of metal
1909	The patent for a gun silencer is obtained
1914	Tanks are introduced in the first world war by the British
1942	The beginning of the Manhattan Project, U.S.A.’s attempt to create a nuclear bomb
16 th of July 1945	A nuclear bomb had the first successful test in New Mexico
6 th and 9 th of August 1945	Hiroshima and Nagasaki are bombed, starting a new era of nuclear weaponry
1952	The implementation of X-rays to trigger nuclear fusion reactions. The USA tested the first fusion bomb in the Marshall Islands.
1974	NASA built the first Taser
1997	An antisatellite laser is tested by the USA.
2001	A national missile defense system was proposed by G. W. Bush
2002	The pulse energy projectile is created, a laser that has the ability to knock someone over.
2007	Metal storm files a patent for a gun able to fire a million rounds a minute.
2009	Neuroscience is used to enhance soldiers’ abilities in the US.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

43/77 A

This resolution was the first resolution upon the issue and was adopted on the 7th of September 1988. It was requested that the secretary general was to follow any future scientific and technological advancements focusing on the ones that had military applications and evaluate any possible impact they may have on international security.

45/60

On the 17th of October 1990, it was agreed that all member states should follow technological change with the assistance of the UN.

72/28

In 2017 this resolution was adopted without a vote requesting that the Secretary General submitted another report similar to the one requested from the resolution 43/77 A and presented to the assembly at its 73rd session.

This topic has remained on the agenda of GA1 since 1988.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

POSSIBLE SOLUTIONS

A solution to this topic could be more steps towards denuclearization. Since nuclear weapons are a significant threat and have several risks and dangers, denuclearization would be an excellent way to avoid them. However, similar efforts have been made over the years but have only had small results. Another idea would be to create a new specialized agency within the UN that would monitor any new developments in science and technology that may be used in weaponry. This agency would have a crucial role in reporting these developments to the UN and proposing a course of action to avoid any significant disturbance in warfare and security via their active use. Unfortunately, this agency wouldn't properly function without the transparency and cooperation of all members states something that could not happen and may have provoked more conflict. An organization

could be created overseen by the UN to monitor and observe any new advancements in technology and science that could be implemented in law enforcement agencies. This organization could also fund this research to be confident over the use of data. Additionally, it could help law enforcement agencies to use this research and utilize it in their force. Ensuring good governance could play a pivotal role in the control of new findings and make sure that they are not immediately weaponized and used. However, not enough governance may cause distrust and eventually lead to technology to be rendered useless. Too many regulations may limit the research on its own and not achieve specific results.

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