



Modelo de las Naciones Unidas para el  
Estado de Guanajuato

**EDICIÓN 2019**

## **Study Guide**

**Comission on Science and  
Technology for Development**



# Study Guide

## Commission on Science and Technology for Development (CSTD)

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## **Words from the President**

Greetings delegates. Welcome to the Commission on Science and Technology for Development. One of the defining characteristics of the human race, the mere pillar of our civilization, is the use of knowledge to accomplish remarkable feats. Through science and technological achievements, we are constantly shaping our world, aiming to improve human life. Nowadays, however, it appears that both science and technology are evolving faster than what we can cope with, and that sometimes their impact on mankind is not the desired one. Technological disparity around the world, misuse of scientific knowledge, unsustainable practices that negatively affect our environment; are some of the issues that are becoming more evident in the present. It is therefore, our duty as a society to define the guidelines for the appropriate use of these fundamental instruments, to correctly determine how can they be exploited in a way that benefits everyone equally. It is naturally not a simple task.

As delegates of the Commission on Science and Technology for Development, you will partake in the intense yet dynamic task of discussing three topics of great interest in the fields of technology, science and development. It is a valuable exercise and a much needed one. During this three days, you will experience the work of the United Nations, the weight of a nation's interests resting on your shoulders. But the reward is amazing, unique. You will learn from the experience, and hopefully; it will have and everlasting effect on you. The motto of GMUN states that in order to unite nations, we must unite actions. Let this model be the first step into that direction. In representation of the committee and GMUN 2019, I wish you the best. Delegates, the floor is now open.

-Luis Fernando Silva  
President of CSTD



## History and Functions

The Commission on Science and Technology for Development (CSTD) is a specialized commission focused, as the name implies, in the adequate use of scientific knowledge, resources and technology in order to maximize their potential for the benefit of mankind. As a subsidiary body of the Economic and Social Council (ECOSOC), this commission provides the overseeing organ will high-level advice on the aforementioned topics, thus guaranteeing that ECOSOC, which is one of the six primary organs of the United Nations; will have access to the necessary tools to address relevant issues, make well-grounded recommendations, create and enforce appropriate policies on related matters and guide future works of the United Nations.

CSTD is a relatively new organ. It was created in 1992 as a result of the restructuring of the United Nations Policies in the economic and social fields; through the adoption of General Assembly Resolution A/RES/46/235. The commission had its first reunion the following year in New York, although it later moved to Geneva, Switzerland. It gathers annually as per ECOSOC Resolution 2002/37. The commission therefore, has the following attributes and activities.

- Examination of science and technology interrogatives and their implications for development.
- The advancement of understanding on science and technology policies in developed countries.
- The establishment and examination of related policies in developing countries.
- The formulation of guidelines and effective recommendations on science and technology issues in accordance with the United Nations System.
- Monitor the follow-up of the World Summit on the Information Society (WSIS) by reviewing the progress of the action lines established by the WSIS
- Promote dialogue and partnerships to contribute to the enforcement of WSIS policies to achieve related objectives.
- To assist other UN organs, besides directly aiding ECOSOC and General Assembly; if highly specialized advice is required to perform any duty.

The Commission closely cooperates with the United Nations Conference on Trade and Development (UNCTAD), also a subsidiary of ECOSOC; with its secretariat being involved in the servicing of CSTD.

## Membership

The Commission has forty-three Member States elected by ECOSOC for a term of four years. Experts nominated by their respective governments should possess the necessary qualifications and professional or scientific knowledge. At each session, the Commission elects a new Bureau (a Chairperson and four Vice-Chairpersons) for the next session. The Bureau assumes responsibilities until the next session.



Short Name	End of Term	Short Name	End of Term
Botswana	2022	China	2022
Burkina Faso	2020	Iran	2022
Cameroon	2020	Japan	2020
Democratic Republic of Congo	2020	Kazakhstan	2020
Egypt	2022	Nepal	2022
Ethiopia	2022	Oman	2022
Kenya	2022	Saudi Arabia	2020
Liberia	2022	Thailand	2022
Nigeria	2020	Turkmenistan	2020
South Africa	2020	Hungary	2022
Latvia	2022	Mexico	2020
Romania	2022	Austria	2020
Russia	2020	Belgium	2022
Serbia	2022	Canada	2022
Brazil	2020	Finland	2020
Chile	2020	Germany	2020
Cuba	2022	Portugal	2020
Dominican Republic	2022	Switzerland	2020
El Salvador	2020	Turkey	2022
United Kingdom	2022	United States	2022

### Initiatives handled by CSTD:

World Summit on the Information Society revision: The WSIS was a summit held in two phases, the first one in 2003, and the second one in 2005. The main objective of the summit was, to develop and foster a clear step program that established the foundations of an Information Society for All. Under the request of ECOSOC, CSTD is in charge of the collection information to see how the program has advanced. Every year, CSTD members gather for a week to discuss the matters at hand. Working groups have been developed over the years, to provide aid to member nations in the attaining of the objective established over a decade ago, the most recent being the Working Group on Enhanced Cooperation on Public Policy Issues Pertaining to the Internet (WGEC) 2016-2018.



## **Resolutions from Commission on Science and Technology for Development.**

**Economic and Social Council Official Records, 2003 Supplement No. 11 (E/2003/31-E/CN.16/2003/6) Commission on Science and Technology for Development Sixth Session.** At the Commission's sixth session, the debate will have included technology transfer, diffusion and capacity-building with regard to ICTs that can enhance the competitiveness of developing countries and transition economies. The Commission will also have considered the findings and recommendations of its three panels of experts, which since 2001 have covered the measurement and benchmarking of technology development, the role of foreign direct investment in transferring technology and building national ICT capabilities, and policy options for developing countries.

**Economic and Social Council Official Records, 2009 Supplement No. 11 (E/2009/31-E/CN.16/2009/4) Commission on Science and Technology for Development Twelfth Session.** At its twelfth session, the Commission on Science and Technology for Development reviewed the progress made in the implementation of the outcomes of the World Summit on the Information Society. In addition, it considered two priority themes, "Development-oriented policies for socio-economic inclusive information society, including policies access, infrastructure and an enabling environment" and "Science, technology and engineering for innovation and capacity-building in education and research".

**Economic and Social Council Official Records, 2014 Supplement No. 11 (E/2014/31-E/CN.16/2014/4) Commission on Science and Technology for Development Seventeenth Session.** At its seventeenth session, the Commission on Science and Technology for Development reviewed the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels. In addition, it considered two priority themes, "Science, technology and innovation for the post-2015 development agenda" and "Information and communications technologies for inclusive social and economic development". The session included a segment on science, technology and innovation policy reviews

**Economic and Social Council Official Records, 2018 Supplement No. 11 (E/CN.16/2018/4) Commission on Science and Technology for Development twenty-first Session.** At its twenty-first session, the Commission on Science and Technology for Development discussed the role of science and technology in the context of the implementation of the 2030 Agenda for Sustainable Development and reviewed the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels. In addition, it considered two priority themes: "The role of science, technology



and innovation in increasing substantially the share of renewable energy by 2030” and “Building digital competencies to benefit from existing and emerging

technologies, with a special focus on gender and youth dimensions”. The session also included a segment on the impact of rapid technological change on the achievement of the Sustainable Development Goals, as well as science, technology and innovation policy reviews.

## References

- Economic and Social Council. (2002). ECOSOC Resolution 2002/37. Retrieved from <http://www.un.org/en/ecosoc/docs/2002/resolution%202002-37.pdf> United Nations
- Conference on Trade and Development. (2018). Commission on Science and Technology for Development. Retrieved From United Nations Conference on Trade and Development. (2018). Mandate and Institutional Background. Retrieved from <https://unctad.org/en/Pages/CSTD/CSTD-Mandate.aspx>
- United Nations General Assembly. ((1992)). A/RES/46/235. Retrieved from <http://www.un.org/documents/ga/res/46/a46r235.htm> World Summit on the Information Society (2005) Basic information on WSIS Retrieved from <http://www.itu.int/net/wsis/basic/about.html>
- Commission: Science and Technology for Development (ECOSOC). (2018). Resolutions from 2003, 2009, 2014, 2018. (n.d.). Retrieved from <https://unctad.org/en/Pages/Meetings/Commission-Science-and-Technology.aspx>



## **Topic A**

# **Cyber Security in the Modern Era**



## Introduction

Over the last couple of decades, the internet has evolved greatly. As it has become more relevant in our lives, cybersecurity has been required to parallel this growth. Cybersecurity is the practice of protecting systems from cyber-attacks. It is important because its effectiveness reduces the risks of cyber-attacks.

The establishment of international cybersecurity norms has been an essential step in protecting national security in the modern world and maintaining trust in services provided online.

## Glossary.

**Information and Communication Technologies (ICTs):** It refers to the resources, tools, programs and general technological assets that are used to process, administrate and share information.

**Software:** Refers to computer programs or routines that enable a device to function.

**Malware:** Refers to any type of malicious software intended to perform hostile actions against a device.

**Computer worm:** Is a type of malware program whose primary function is to infect other computers while remaining active on infected systems.

**Virus (computer virus):** Is malicious code that replicates by copying itself to another program, computer boot sector or document and changes how a computer works.

**Denial-of-service (DoS) attacks:** Is a security event that occurs when an attacker prevents legitimate users from accessing specific computer systems, devices, services or other IT resources.

**Computer Emergency Response Team (CERT):** It is a group of experts who respond to cybersecurity incidents. These teams deal with the evolution of malware, viruses and other cyber-attacks.

**Firewall:** Generically speaking, a program or routine design to control unauthorized access to a computer.

**Data Breach:** Is a confirmed incident in which sensitive, confidential or otherwise protected data has been accessed and/or disclosed in an unauthorized fashion.



## Historical Background

### *Summary on Malware development.*

The Late 80's and early 1990's.

Prior to 1988, most computer viruses were just annoyances and relatively harmless. However, in 1988, the first truly dangerous computer virus appeared. On November 2, 1988, Robert Morris created the first known computer worm. The Morris worm disrupted a wide number of computers, as a consequence this almost shut the internet down. It is considered to be one of the first widespread instance of denial-of-service (DoS). The CERT Coordination Center was founded in that same year in response. In 1989, a new kind of virus, called the Ghostball, became the first threat to capture certain user information.

The 1990's.

Unlike the events of the early 90s of algorithmic malware, the mid-decade saw an increase in viruses. The main mechanism expansion at the time were email attachments, this meant that a virus could extend more rapidly around the world.

The 2000's

During this period more people had access to Internet as they digital age began. Many organizations in all fields had created large and important databases of information on computers. In 2000, a Filipino computer science student created the ILOVEYOU worm that infected millions of Microsoft operating systems within a few hours of its release. In 2003, the SQL Slammer worm spread so quickly that it caused the internet to crash within 15 minutes of its release.

In 2007, a Trojan virus named Zeus attacked Windows programs and became one of the first viruses to capture banking information by tracking keystrokes. In 2012, a virus named Flame became one of the first pieces of malware to be involved in cyber espionage.

Today it is common for ransomware attacks to have an economic interest on its victims, attacks of these types have affected governmental institutions around the world some examples are American cities such as Atlanta, Georgia or Dallas, Texas. These attacks can happen widespread and are usually followed up by experts to guide victims on negotiating with hackers to or lose data.



### *The importance of Cyber Security.*

As the tools to potentially attack the cyber structure of an institution or even delegation continue to evolve, it is required that appropriate measures are developed to counter these threats. During the final years of the last century, although technology was growing at a high rate, it can be said that it was possible to match, from a security perspective, whatever digital threat that could manifest. However, the rise of the ICTs in the Digital Era has resulted in an unprecedented growth regarding access to knowledge that can be thus used for unethical purposes. As the tools and general information become more available to a greater number of people, the possibilities regarding malware creation and use, grow exponentially. This means that it becomes harder than before to develop adequate counters to potential cyber threats since they can now be very varied in nature.

As stated before, the possible targets range from civilian individuals, enterprises and governmental institutions to even infrastructure. The last one refers to the possibility of key assets such as the electrical grid being targeted. Such attacks could lead to catastrophic damage nationwide and mass hysteria. However, attacks with such intensity and goals have not been performed yet.

### *International Policies.*

Generally, cybersecurity is an issue that can be approached first, as a domain within the reach of cyber security related enterprises; or second, as a matter of national security in which the corresponding governmental organs have the duty to create the correct policies and instruments to fight these threats. This means that it is both the responsibility of security enterprises or businesses and the responsibility of the government to protect its institutions. However, at an international level, it is difficult to have a common strategy to deal with these threats, mainly because of different interests regarding national security policies and also due to the fact that a highly variable threat is difficult to counter.

There are nonetheless, initiatives that can be considered the basis for future security policies and one made by the Secretary General of the United Nations can be seen as a clear example.

First, the Secretary General of the United Nations may appoint a Group of Governmental Experts (GGE) to undertake a study on issues of concern and report findings at the UN General Assembly.

Back in 2004, the UN's Governmental Group of Experts on Developments in the Field of Information and Telecommunications in the Context of International



Security was created in order to determine whether international law applied to the use of

information and communication technologies (ICTs) by states. This was made through resolution A/70/174 of the General Assembly.

Since then Norms, rules and principles for the responsible behavior of States regarding ICT's have also been determined and continue to be developed, some of the norms and regulations include:

- Consistent with the purposes of the United Nations, including to maintain international peace and security, States should cooperate in developing and applying measures to increase stability and security in the use of ICTs and to prevent ICT practices that are acknowledged to be harmful or that may pose threats to international peace and security;
- In case of ICT incidents, States should consider all relevant information, including the larger context of the event, the challenges of attribution in the ICT environment and the nature and extent of the consequences;
- States should not knowingly allow their territory to be used for internationally wrongful acts using ICTs;
- States should consider how best to cooperate to exchange information, assist each other, prosecute terrorist and criminal use of ICTs and implement other cooperative measures to address such threats.
- A State should not conduct or knowingly support ICT activity contrary to its obligations under international law that intentionally damages critical infrastructure or otherwise impairs the use and operation of critical infrastructure to provide services to the public;
- States should take appropriate measures to protect their critical infrastructure from ICT threats, taking into account General Assembly resolution 58/199 on the creation of a global culture of cybersecurity and the protection of critical information infrastructures, and other relevant resolutions;
- States should respond to appropriate requests for assistance by another State whose critical infrastructure is subject to malicious ICT acts. States should also respond to appropriate requests to mitigate malicious ICT activity aimed at the critical infrastructure of another State emanating from their territory, taking into account due regard for sovereignty;
- States should encourage responsible reporting of ICT vulnerabilities and share associated information on available remedies to such vulnerabilities to limit and possibly eliminate potential threats to ICTs and ICT-dependent infrastructure;
- States should not conduct or knowingly support activity to harm the information systems of the authorized emergency response teams of another State.



## Notable Resolutions Adopted by the United Nations on the Topic

- **A/70/174** *Group of Governmental Experts on Developments in the Field of Information and Telecommunications in the Context of International Security*. Resolution adopted detailing the creation of a board of experts in the fields of ICTs.
- **A/RES/71/28** *Developments in the field of information and telecommunications in the context of international security*. Resolution adopted in 2016 reinforcing 17 previous resolutions on the same matter, covering advancements on policies regarding ICTs.

## Recommended Lectures.

**Charter of the United Nations.** <http://www.un.org/en/charter-united-nations/>. The founding document of the United Nations. Recommended lecture to understand the pillars of the United Nations.

Both resolutions previously mentioned above can be further studied through the official links.

**Resolution A/70/174** [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/70/174](http://www.un.org/ga/search/view_doc.asp?symbol=A/70/174)  
**Resolution A/RES/71/28**

[http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/RES/71/28](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/71/28)

Resolutions previous to A/RES/71/28 on the same topic can be found on Delegatepal.com through the keyword “telecommunications”. However, the latest should be considered the one with the most validity.

## Intergovernmental Group of Experts on E-commerce and the Digital Economy, second session

<https://unctad.org/en/pages/MeetingDetails.aspx?meetingid=1666> Information on conferences and statements on E-commerce and digital economy, which are topics that can be related to the topic. This is a site managed by the UNCTAD (United Nations Conference on Trade and Development), a UN commission that closely works with CSTD.

## Key Questions

-How can the present delegations cooperate in terms of cyber security techniques, resources and strategies to develop a common strategy to fight cyber threats?



-How can delegations with substantial development in cyber security areas assist others that lack the necessary technological structure or the resources to defend themselves against cyber threats?

-How can the Commission on Science and Technology for Development partake in the establishment of policies regarding cyber security?

## References:

ACCA. (2018). *The key cybersecurity principles*. Retrieved from <https://www.accaglobal.com/sg/en/member/discover/cpd-articles/audit-assurance/the-key-cybersecurity-principles.html>

Corporation, M. (2018). *International Cybersecurity Norms*. Retrieved from <https://www.microsoft.com/en-us/cybersecurity/content-hub/international-cybersecurity-norms-overview>

Union, I. T. (2018). *About Cybersecurity*. Retrieved from <https://www.itu.int/en/ITU-D/Cybersecurity/Pages/about-cybersecurity.aspx>

United Nations General Assembly. (2015). *Resolution/70/174*. Retrieved from [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/70/174](http://www.un.org/ga/search/view_doc.asp?symbol=A/70/174)

United Nations Groups of Governmental Experts. (2018). *Developments in the Field of Information and Telecommunications in the Context of International Security*. Retrieved from <https://www.nti.org/learn/treaties-and-regimes/united-nations-groups-governmental-experts/#communications>

Julian, T. (2014, December 4). Defining moments in history of cybersecurity and the rise of incident response. Retrieved December 15, 2018, from <https://www.infosecurity-magazine.com/opinions/the-history-of-cybersecurity/>

The Evolution of the Computer Virus. (2016, December 19). Retrieved December 15, 2018, from <https://online.lewisu.edu/mscs/resources/the-evolution-of-the-computer-virus>

Cheddar- How Hackers Hold Towns Hostage. (2018, July 26). Retrieved December 16, 2018, from <https://youtu.be/A8S-uCeE0-Q>

Software Engineering Institute. (n.d.). Retrieved December 16, 2018 from <https://sei.cmu.edu/about/divisions/cert/index.cfm>



# Topic B

## Guidelines for the future of the International Space Station



## Introduction

It is true that space exploration not only provides with greater understanding of our universe but also of our very own planet. The remarkable achievements of mankind in this area are numerous, and among them, one with huge transcendence is the International Space Station. Although currently operational, it faces a slightly uncertain future as new challenges become apparent. It is important to state that the station, its founding agreement, were made without the intervention of the United Nations and it has no authority on its matters. What is the role of CSTD? This committee will discuss the situation in order to draft possible recommendations, make suggestions and help establish a guideline that can be presented to the nations that are involved in the project for their consideration. CSTD then, is acting as an expert panel giving advice on a peculiar issue.

## Glossary:

**Artificial Satellite:** A human-built object in orbit around a celestial body for a variety of purposes.

**Space Station:** A large artificial satellite with the purpose of being occupied for long periods of time, with the goal of performing research or other activities.

**Module:** An independent operable unit that is part of a vehicle or structure. A module can have a specific purpose or role and depending on the sophistication, it can be used for several goals or installed and removed according to the current needs

**Orbital Decay:** It is defined as a decrease in distance between two orbiting bodies. When applied to a planet and any object in orbit, and if left unchecked; it could end with the object burning in the atmosphere, striking another object or simply breaking up.

**Commission:** In this context, to put an asset into service or charge. To decommission is to retire something from service.



## Historical Background

A space station offers the opportunity of having a platform where a large variety of research can be conducted in a controlled environment, under conditions not found on Earth. It allows to study not only our surrounding space but also our very own planet. For example, substantial research on plant growth and adaptability can be developed and the knowledge can be used to benefit agriculture. Another example would be the study of Earth itself, its dynamics and natural history, and how that knowledge allows for a better understanding of our environment and our interactions with it. Given the complexity of the endeavor, it serves as an example of what mankind can achieve by using the latest technological achievements and science as a tool. It is important that this complexity also makes such projects extremely difficult to perform.

Putting aside the general history of space exploration and focusing exclusively on the history of space station, the journey begins with the first space station program, the soviet Salyut Program. From 1971 to 1986, Salyut saw the completion of nine small space stations over the course of 15 years, establishing a number of records and pioneering techniques that would be used later in future projects. It evolved from a simple design consisting on basic modules, to a complex technological marvel, consisting of several modules with impressive scientific capabilities, aimed at becoming long-term outpost. Salyut was a hybrid project. It consisted of 4 stations manned by civilians and two military space stations of the Almaz Program, that were launched under the Salyut name to hide their true nature. The Almaz stations were meant to be used as reconnaissance stations but eventually conventional satellites were more effective in this role.

The contemporary of the Salyut program was the Skylab, created by the United States and operated between May 1973 and February 1974. The Skylab consisted on a single station with three manned missions, producing more than 80 scientific experiments and pioneering many technologies eventually used in the Space Shuttle Program.

The next stage in space station development came with the soviet Mir station, operated from 1986 to 2001. It represented a huge step forward. Considerably larger than its predecessors, it was truly modular and was equipped with the latest technology. Unlike the Salyut stations or the Skylab, Mir was continuously inhabited, in fact setting the record of the longest manned mission of 3446 days, later surpassed by the ISS:

One of the greatest aspects of the Mir station, was the political effect it had after the Cold War. The collapse of the Soviet Union and the financial strain that the next planned American space station put on NASA led to historical agreements between the president of the United States, George W. Bush and the president of



the Russian Federation, Boris Yeltsin. Several mission were made in cooperation between the

two countries, in which the Mir station was supported by the American space shuttle program, mixed crews and cooperative experiments. This so called “first phase” of this international project was also augmented with the participation of European agencies and Japan. The second phase was a combination of the cancelled “next generation stations” which were the American Freedom project and Russian Mir-2; into a new, broader project. It was the birth of the International Space Station.

With construction starting on November 20<sup>th</sup> 1998 with the launch of the Russian rocket Zarya, the International Space Station became one of the most ambitious projects in human history. It has been inhabited since the arrival of the first manned missions in 2000 and it is also the largest man made object in space. The project was executed with the collaboration of NASA (USA), Roscosmos (Russia), JAXA (Japan), ESA (European Union) and CSA (Canada). The ISS consists of two sections, the Russian Orbital Segment and the United States Orbital Segments. As a highly modular installation, it is currently made of 16 main modules, plus several additional segments, launched by mainly Russia and the United States. The largest single module Kibo, however, is Japanese. Through its life, the station has been serviced by the American space shuttle, Cygnus and Dragon spacecrafts, Russian Progress and Soyuz rockets, Japanese H-II and European ATV.

From a more legal point of view, the operation of the ISS was stated in the International Space Station Intergovernmental Agreement (IGA). The station is treated as a single entity and therefore jointly operated. However, every signatory country can exercise the jurisdiction of their laws on their respective module.

It is important to mention that the ISS is not the only current space station program. China successfully launched the space laboratory Tiangong-1 in 2012, followed by the manned space laboratory Taingong-2 in 2016, which being a short-term project, lasted until 2018. The goal of the Chinese space program is to create a space station between 2020 and 2020, independent from the ISS.

Recently, however, debate has sparkled regarding the future of the station. In one instance, in 2018, the United States government released a statement with one proposal to finance the station until 2025 and an alternative proposal to yield the ISS to tertiary, private parties. Russia has contemplated independent ventures after 2025, unrelated to the ISS and China, which so far has been excluded from the ISS project by the United States government, will continue with their own venture. The remaining members of the project (Japan, Canada and European Associates) therefore are facing the possibility of dealing with the economic burden of the ISS without a clear objective for the station in the long term. It is important to note that with a project cost of nearly 100 billion USD, it is the most expensive vehicle ever constructed.



It might be considered unsustainable to continue operating the station past 2028, considering mainly maintenance costs, components nearing end of life, collateral effects on diplomatic friction between involved states and shifts in space agencies long term projects. The possibility of decommissioning the station also brings up new interrogatives, such as the risk posed by space debris or reentry.

The emerging of private enterprises with goals related to commercial applications of space and investigation has also been considered as important actor in future ISS dynamics. We are entering a new era of space exploration, in which technological advancements have made projects feasible to be undertaken by private ventures and governmental and non-governmental partnerships.

It is therefore important to establish the most appropriate guidelines or strong recommendations in order to decide the future of one of the greatest achievements of mankind.

## **Resolutions Adopted by the United Nations.**

The latest progress made by the General Assembly of the United Nations regarding the long term sustainability of the International Space Station can be found in the Draft guidelines for the long-term sustainability of outer space activities (Working Paper A/AC.105/C.1/L.367) that is to be reviewed by the Committee on the Peaceful Uses of Outer Space-Scientific and Technical Subcommittee during its fifty-sixth session with the assistance of UNOOSA (United Nations Office for Outer Space Affairs).

Progress can also be seen on the resolution adopted by the General Assembly on December 7th 2018 regarding the International cooperation in the peaceful uses of outer space.

Resolution A/68/423 of the General Assembly adopted on 11 December 2013, in which establishes the Recommendations on national legislation relevant to the peaceful exploration and use of outer space.

Resolution A/61/406 adopted by the General Assembly on 14 December 2006, which boards the subject of a United Nations Platform for Space-based Information.

Resolution A/65/L.67 adopted by the General Assembly on 7 April 2011 which declares 12 April the International Day of Human Space Flight for Disaster Management and Emergency Response.



## Key Questions

- If possible, how can China be integrated into International Space Station Program?
- How can space programs aimed at studying Earth be beneficial for developing countries?
- Should the United Nations, via UNOOSA, have a more active role in the regulation of space?
- How can resources be more effectively shared between partners during similar projects?
- If the ISS were to be decommissioned, what could be the more appropriate way to terminate the project
- What alternative projects can be launched with international cooperation for space exploration?

## Recommended Lectures

**International Space Agency Legal Framework.** An article discussing the legal points of the space station, including intellectual property. [https://www.esa.int/Our\\_Activities/Human\\_and\\_Robotic\\_Exploration/International\\_Space\\_Station/International\\_Space\\_Station\\_legal\\_framework](https://www.esa.int/Our_Activities/Human_and_Robotic_Exploration/International_Space_Station/International_Space_Station_legal_framework)

**History of the International Space Station.** An article detailing the construction of the ISS; as well as giving an overview of the modules and main parts. [https://www.esa.int/Our\\_Activities/Human\\_and\\_Robotic\\_Exploration/International\\_Space\\_Station/Building\\_the\\_International\\_Space\\_Station3](https://www.esa.int/Our_Activities/Human_and_Robotic_Exploration/International_Space_Station/Building_the_International_Space_Station3)

**United Nations Office on Outer Space Affairs (UNOOSA).** The main page of the UN body in charge of overseeing matters related to space. Although the working commission is CSTD, is important to understand the work made by UNOOSA in order to have a better idea of the recommendations this committee can make. <http://www.unoosa.org/>



## References

- Affairs, U. N. (2019). *UNOOSA Official Site*. Retrieved de <http://www.unoosa.org/>
- Geographic, N. (14 de February de 2019). *Future of Spaceflight* . Retrieved from <https://www.nationalgeographic.com/science/space/space-exploration/future-spaceflight/>
- IEEE USA. (28 de April de 2017). *THE FUTURE OF THE INTERNATIONAL SPACE STATION*. Retrieved from <https://insight.ieeeusa.org/articles/the-future-of-the-international-space-station-ieee-usa-insight/>
- Laboratory, U. S. (2019). *History and timeline of ISS*. Retrieved from <https://www.issnationallab.org/about/iss-timeline/>
- NASA. (4 de October de 2009). *International Space Station History* . Retrieved from <https://spaceflight.nasa.gov/history/station/index.html>
- NASA. (2018). *Orbital Debris Program Office*. Retrieved from <https://www.orbitaldebris.jsc.nasa.gov/>
- NASA. (December de 19 de 2018). *Space Station* . Retrieved from [https://www.nasa.gov/mission\\_pages/station/main/index.html](https://www.nasa.gov/mission_pages/station/main/index.html)
- NASA Office of Inspector General. (16 de May de 2018). *EXAMINING THE FUTURE OF INTERNATIONAL SPACE STATION*. Retrieved from <https://oig.nasa.gov/docs/CT-18-001.pdf>
- Popular Science . (23 de November de 2015). *A brief history of space stations before the ISS*. Retrieved from <https://www.popsci.com/brief-history-space-stations-before-iss>
- Space Safety Magazine. (2014). *Kessler Syndrome* . Retrieved from <http://www.spacesafetymagazine.com/space-debris/kessler-syndrome/>
- UN News. (20 de June de 2018). *se space technology to build a better world for all, urges UN chief*. Retrieved from <https://news.un.org/en/story/2018/06/1012672>



# Topic C

**The Role of Science,  
Technology and Innovation  
in the pursuit of Sustainable  
Development Goals**



## Introduction.

2015 saw the establishment of the 2030 Agenda, an initiative backed by 193 countries, that consisted of 17 sustainable development goals in order to fight against poverty, inequality and injustice with the aim of achieving the desired level by said year. This program enables United Nations as a whole as well as small delegations to adequately focus resources on the any specific goal in order to tackle it more efficiently, developing the corresponding guidelines and policies in the process.

In present day, technology advances at an enormous rate, and scientific knowledge is slowly evolving from being something isolated to being actively present in society. As people continuously get more access to these resources, new interrogatives arise with the relation between sustainable development and science being among the most important. Exact Sciences and their derivatives should be used to make goals such as the Agenda 2030 possible, however it is important to determine how are they going to accomplish so.

## Glossary

**Sustainable Development:** The Brundlant Report defines sustainable development as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Developing Country:** Although a formal definition is complicated, it is generally agreed that a developing country, or Less Economically Developed Country (LEDC); is a country with lower industrial capabilities, low Human Development Index, high risk of humanitarian disasters and sub-developed economy.

**Developed Country:** Likewise, it likes a formal definition, but it is generally considered to be a country with a solid base industry, solid economic market and high Human Development Index.

**Human Development Index.** Standard created to evaluate the development of a country, not only based on economical means. It takes into account health, standard of living and knowledge of the population, with the index being the geometric mean of the previous scores.



## Historical Background

The Sustainable Development Goals (SDGs) were born at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world.

The SDGs replace the Millennium Development Goals (MDGs), which started a global effort in 2000 to tackle the indignity of poverty. The MDGs established measurable, universally-agreed objectives for tackling extreme poverty and hunger, preventing deadly diseases, and expanding primary education to all children, among other development priorities.

For 15 years, the MDGs drove progress in several important areas: reducing income poverty, providing much needed access to water and sanitation, driving down child mortality and drastically improving maternal health. They also kick-started a global movement for free primary education, inspiring countries to invest in their future generations. Most significantly, the MDGs made huge strides in combating HIV/AIDS and other treatable diseases such as malaria and tuberculosis.

The legacy and achievements of the MDGs provide us with valuable lessons and experience to begin work on the new goals. But for millions of people around the world the job remains unfinished. We need to go the last mile on ending hunger, achieving full gender equality, improving health services and getting every child into school beyond primary. The SDGs are also an urgent call to shift the world onto a more sustainable path.

The SDGs are a bold commitment to finish what we started, and tackle some of the more pressing challenges facing the world today. All 17 Goals interconnect, meaning success in one affects success for others. Dealing with the threat of climate change impacts how we manage our fragile natural resources, achieving gender equality or better health helps eradicate poverty, and fostering peace and inclusive societies will reduce inequalities and help economies prosper. In short, this is the greatest chance we have to improve life for future generations.

The SDGs coincided with another historic agreement reached in 2015 at the COP21 Paris Climate Conference. Together with the Sendai Framework for Disaster Risk Reduction, signed in Japan in March 2015, these agreements provide a set of common standards and achievable targets to reduce carbon emissions, manage the risks of climate change and natural disasters, and to build back better after a crisis.

The SDGs are unique in that they cover issues that affect us all. They reaffirm our international commitment to end poverty, permanently, everywhere. They are ambitious in making sure no one is left behind. More importantly, they involve us all to build a more sustainable, safer, more prosperous planet for all humanity.



## Resolutions Adopted by the United Nations

Among the several resolutions adopted on the matter, the following were chosen.

**A/RES/48/180.** Entrepreneurship and privatization for the economic growth and sustainable development. Resolution adopted by General Assembly in 1994 stating the importance of private and public sectors in the fight for sustainable development.

**A/RES/47/171.** Privatization in the context of economic growth and sustainable development. Resolution adopted in 1993 by General Assembly, that as per above, discusses the increasing role of the private sector in the shared responsibility of achieving sustainable development.

**A/RES/68/211.** International Strategy for Disaster Reduction. Adopted by General Assembly in 2014, this resolution serves as the culmination of previous related resolutions, detailing guidelines to reduce the impact of disasters, a key step in achieving sustainable development.

Declarations on the topic.

**The Rio Declaration on Environment and Development (1992).** Short document signed by 170 countries and detailing 27 steps to achieve sustainable development.

**Johannesburg Declaration on Sustainable Development (2002).** Commitment signed during the Earth Summit 2002 reinforcing the points of previous summits and for the first time, including the concept of multilateralism as a strategy.

**Declaration of the United Nations Conference on the Human Environment (1972).** Also known as the Stockholm Declaration, it was among the firsts documents that presented the concept of sustainable development as a goal to be achieved by human society.

## Key Questions

- ¿How can science and technology directly influence the pursuit of sustainable development?
- ¿How can the technological gap between developed and in developing countries be narrowed?
- ¿What is the role that private sector can play in the pursuit of sustainable development?
- ¿How can science and development contribute to education?
- ¿Are current strategies for achieving sustainability being effective?
- Is sustainable development a truly achievable goal?



## Recommended Lectures

**Brundlant Report (1987):** Officially referred to as “Our Common Future”, is a report published following the 1983 World Commission on Environment and Development (WCED), first defining sustainable development and establishing its main areas. <http://www.un-documents.net/wced-ocf.htm>

**Agenda 2030 Official Site:** United Nations site regarding the Agenda, deeply explaining its context, guidelines and goals. Related documents can also be found. <https://sustainabledevelopment.un.org/post2015/transformingourworld>

**Agenda 2063 Official Site:** Initiative proposed by the African Union for similar goals aimed at achieving sustainable development goals in the continent by 2063. It consists of strategies and mechanisms tailored for the need of the African people. <https://au.int/agenda2063/about>

**Human Development Reports:** Site managed by the United Nations Development Programme were very complete information regarding Human Development Index a related programs and initiatives can be found. <http://hdr.undp.org/en/content/human-development-index-hdi>

## References

African Union Commission. (April de 2015). *Agenda 2063 The Africa We Want* . Retrieved from <http://www.un.org/en/africa/osaa/pdf/au/agenda2063.pdf>

African Union Commission. (2018). *Agenda 2063*. Retrieved from <https://au.int/agenda2063/about>

Assembly, U. N. (29 de January de 2014). *68/211 International Strategy for Disaster Reduction*. Retrieved from <https://www.unisdr.org/files/resolutions/ARE568211E.pdf>

Balance, T. (2018). *What is a Developing Country?* Retrieved from Country Classifications for Investors : <https://www.thebalance.com/what-is-a-developing-country-1978982>

Nations, U. (4 de September de 2002). *Johannesburg Declaration on Sustainable Development* . Retrieved from <http://www.un-documents.net/jburgdec.htm>

Nations, U. (2019). *UN Documents, Gathering a body of global agreements*. . Retrieved from Report of the World Commission on Environment and Development: Our Common Future: <http://www.un-documents.net/wced-ocf.htm>

United Nations . (s.f.). *Sustainable Development Goals Knowledge Platform*. Retrieved from <https://sustainabledevelopment.un.org/>



United Nations Conference on the Human Environment. (14 de June de 1992). *The Rio Declaration on Environment and Development* . Retrieved from [http://www.unesco.org/education/pdf/RIO\\_E.PDF](http://www.unesco.org/education/pdf/RIO_E.PDF)

United Nations Development Programme . (2019). *Human Development Reports* . Retrieved from <http://hdr.undp.org/en/content/human-development-index-hdi>

United Nations Development Programme . (2019). *Sustainable Development Goals* . Retrieved from <https://www.undp.org/content/undp/en/home/sustainable-development-goals/background.html>

United Nations General Assembly . (12 de March de 1993). *A/RES/47/171*. Retrieved from [http://www.un.org/en/ga/search/view\\_doc.asp?symbol=A/RES/47/171](http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/47/171)