

International Telecommunication Union

Hamburg Model United Nations
“Shaping a New Era of Diplomacy”
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HAMMUN

Welcome Letter by the Secretary Generals

Dear Delegates,

we, the secretariat of HamMUN 2019, would like to give a warm welcome to all of you that have come from near and far to participate in the 21st Edition of Hamburg Model United Nations. We hope to give you an enriching and enlightening experience that you can look back on with joy.

Over the course of 4 days in total, you are going to try to find solutions for some of the most challenging problems our world faces today. Together with students from all over the world, you will hear opinions that might strongly differ from your own, or present your own divergent opinion. We hope that you take this opportunity to widen your horizon, to, in a respectful manner, challenge and be challenged and form new friendships.

With this year's slogan "Shaping a New Era of Democracy" we would like to invite you to engage in and develop peaceful ways to solve and prevent conflicts. To remain respectful and considerate in diplomatic negotiations in a time where we experience our political climate as rough, and to focus on what unites us rather than divides us. As we are moving towards an even more globalized and highly military armed world, facing unprecedented threats such as climate change and Nuclear Warfare, international cooperation has become more important than ever to ensure peace and stability.

During the last year our team has worked tirelessly to turn HamMUN into a platform for you, where you can grow as a person, step out of your comfort zone and be the best delegate you can possibly be. We can't wait to share it with you and are looking forward to an unforgettable time.

Yours Sincerely,

Leah Mathiesen & Tobias Hinderks

Secretary Generals



Introduction Letter by the Chairs

Dear Delegates,

we are delighted to introduce you to the ITU committee of the Hamburg Model United Nations 2019. In the following pages, we will introduce you to this committee and to the topics and describe how we would like to see the simulation evolve. But first, we would like to introduce ourselves:

Moin, Moin! My name is Michael Bornholdt and it is my supreme honour to welcome you to this committee. Coming from a technical background myself I was delighted to learn that I would have the opportunity to chair the ITU committee and come up with two suitable topics with my co-chair Rigel. I have always enjoyed a wide range of topics around natural sciences and thus started my B.Sc. of Physics at the University of Hamburg, with stations in London, South Africa, and Australia, and soon will have begun my Master's in Computational Science and Engineering at the Technical University of Munich this October. In my free time I enjoy organizing all kinds of events, playing different games (long strategic board games/playing cards in an English pub) or getting a good workout during the weekly ultimate frisbee game - and MUNs of course. On this note, I hope that you all will take the weekend as serious as you would take any important competition but also remember that respect and having fun are the most valuable parts of a game! I will feel like I have done my job if you guys have a blast during the discussion in the morning and have a blast enjoying good German beer in the evening!

Hello everyone! I'm Rigel Gomez, and I am excited to welcome you to HamMUN 2019. We would have a grand time in the International Telecommunications Union where we would tackle the aspects of one of the most important things in the world today, communication, data and the means to transmit and receive them in today's interconnected world.

A large part of my background revolves around media and mass communication, and I am excited to discuss the topics we've prepared for ITU. I direct and host several radio programs and also manage social media teams; communication is a very important aspect of my life. With the amount of business and commerce flowing around the internet today, an effective and safe means of doing so is necessary for continued stable growth. I studied Business Administration with a focus on marketing, operations, and Human Resources, and I tend



to have a focus on creating realistic and logistically plausible plans; brainstorming is something I enjoy over the outright debate. My name (Rigel) is a bright star in the constellation Orion, I think that is one of the things that led me to an avid love for astronomy and astrophysics.

I have a lot of interests, but the MUN community hooked me. I stumbled into recruitment, and ever since, I have loved the MUN experience. Take the time to study these topics; we have spent sleepless nights creating them. Embrace your country policy, it may be different from your own beliefs, embrace the way of thinking and cultural values of the nation you represent, and your perspective of the world would grow together with it.

This ITU will give you a great chance to reach for the stars with our discussions on Satellites, Communication and Data Privacy. I know we will have a great time in Hamburg. Enjoy your research!

I hope you thoroughly enjoy the research the same way we did and we look forward to welcoming you to Hamburg!

Best Regards,

Rigel Gomez and Michael Bornholdt



Introduction to the Committee

The ITU, or International Telecommunications Union is the UN Specialized Agency for information and communication technology. Founded in 1865, its purpose is to further deepen international connectivity in communications networks. ITU allocates global radio spectrum and satellite orbits, as well as develops the technical standards which ensure that networks and technology interconnect seamlessly¹.

“ITU is **committed to connecting all the world's people** – wherever they live and whatever their means. Through our work, we protect and support everyone's right to communicate.”²Per its constitution the ITU shall:

“Effect allocation of bands of the radio-frequency spectrum, the allotment of radio frequencies and the registration of radiofrequency assignments and, for space services, of any associated orbital position in the geostationary-satellite orbit or of any associated characteristics of satellites in other orbits, in order to avoid harmful interference between radio stations of different countries”³.

The ITU comprises **three sectors**, each managing a different aspect of the matters handled by the Union, as well as ITU Telecom. The sectors were created during the restructuring of ITU in 1992⁴. Radio communication (ITU-R) manages the international radio-frequency spectrum and satellite orbit resources. Standardization (ITU-T) standardizes global telecommunications (except for radio). Development (ITU-D) helps spread equitable, sustainable and affordable access to information and communication technologies. Finally, the ITU Telecom organizes major events for the world's ICT community.

The Plenipotentiary Conference is the supreme organ of the ITU and meets every four years. The Conference determines the policies, direction and activities of the Union, as well as elects

¹ ITU; About International Telecommunication Union (ITU); <https://www.itu.int/en/about/Pages/default.aspx>; Retrieved 01.08.19

² ITU; About International Telecommunication Union (ITU); <https://www.itu.int/en/about/Pages/default.aspx>; Retrieved 01.08.19

³ Yvon Henri; Chief of Space Services Department; ORBIT/SPECTRUM INTERNATIONAL REGULATORY FRAMEWORK; https://www.itu.int/en/ITU-R/space/Presentations/Orbit_Spectrum%20International%20Regulatory%20Framework_Henri.pdf; Retrieved 01.08.19

⁴ ITU; Sector Members, Associates and Academia; <https://www.itu.int/en/membership/Pages/sector-members.aspx>



the members of other ITU organs ⁵. While the Plenipotentiary Conference is the Union's main decision-making body, the ITU Council acts as the Union's governing body in the interval between Plenipotentiary Conferences. It meets every year and is composed of 48 members ⁶.

Private sector and government cooperation is a key feature of the ITU from its earliest years. ⁷ In some countries, private companies were the original driver to many key developments, such as the telegraph industry in the US and UK. Throughout history, they have been instrumental in implementing decisions from the member states of the ITU. ⁸

ITU allows the participation of the private sector in the form of "Sector Membership" in ITU, over 60 companies have been active for over 25 years. ITU, and its predecessor ITC (International Telegraph Convention) have actively made provisions and guidelines for the eventual integration of the private sector in its decision making process. In the first two ITC conferences (1865 and 1868), they acknowledged the importance of private entities and stated a provision (article 66) for these entities to accede to the convention and its regulations. ⁹ By the end of the 19th century, these groups were allowed observer status in the conventions in order to encourage the collaboration of the private entities and the sovereign states. They were recognized as CCIs (International Consultative committees) in the 1920s.

By the 1990's, the participation of the private industry at ITU was even more tightly recognized through the Additional Plenipotentiary conference at Geneva in 1992. The CCIs were formally transformed into the three aforementioned sectors of the ITU, the ITU-R, ITU-D and ITU-T. The private sector can choose to participate as Sector members or Associates in any or all these sectors to work on ICT (information and communication technology) regulations. There are

⁵ ITU News; ITU PP; <https://news.itu.int/what-you-need-to-know-about-the-itu-plenipotentiary-conference-2018/>; Published 29.10.18;

⁶ ITU; ITU Council Overview; <https://www.itu.int/en/council/Pages/overview.aspx>

⁷ Private Sector Involvement in ITU; ITU News; <https://itunews.itu.int/En/5897-Private-Sector-Involvement-in-ITU.note.aspx>; Published 12.2018

⁸ Private Sector Involvement in ITU; ITU News; <https://itunews.itu.int/En/5897-Private-Sector-Involvement-in-ITU.note.aspx>; Published 12.2018

⁹ Private Sector Involvement in ITU; ITU News; <https://itunews.itu.int/En/5897-Private-Sector-Involvement-in-ITU.note.aspx>; Published 12.2018



567 Sector Members, 164 Associates and 92 Institutions from academia that work together with the ITU.¹⁰

Finally, we would like to present some opening words towards the topics.

Topic A focuses on the connectivity and other abilities that communication satellites give us. There are many subtopics that can be discussed here which in sum would require a very large amount of research to be done. Thus, we have identified two subtopics which will spark debate and have interesting technologies driving. The first subtopic will consider the mitigation and regulation of space debris. The looming threat of overcrowding orbits and thus destroying our ability to use space, will spark a debate on the who and how of space clean-up duty in the years to come. The second subtopic is the expansion, (de)regulation of and investment in satellite broadband access, i.e. the ability to connect remote parts of the world which terrestrial capabilities do not reach. While these are the subtopics we want the delegates to spend some significant time on, there are a myriad of other topics, some of which we will mention, that could also be included in the debate.

Topic B focuses on communication, data privacy and how the Internet of Things (IoT) challenges it. This splits into three general subtopics which require some effort to research but are ultimately interconnected with each other. The first subtopic covers the scope and scale of communication, as well as its importance to global commerce and society. With the rapidly evolving nature of communication, there are new threats and opportunities that rise with it, the delegates would be challenged to find the most beneficial ways to utilize it. The second subtopic is about data privacy, with the greater interconnection between people and various private and public entities, there is an increasing amount of data that passes through the internet. While there are many benefits to data sharing, there are also risks of data theft, hacking and illegal use of data. The third subtopic, the Internet of Things, uses communication and data sharing to make life and various processes even more convenient and effortless, it also happens to pick up a huge amount of data from people and the environment around them, where does the line between convenience and privacy start? These are interesting points to see debated and resolved.

¹⁰ Private Sector Involvement in ITU; ITU News; <https://itunews.itu.int/En/5897-Private-Sector-Involvement-in-ITU.note.aspx>; Published 12.2018





Table of Content

Welcome Letter by the Secretary Generals	1
Introduction Letter by the Chairs	2
Introduction to the Committee	4
Table of Content.....	8
Topic A: Communication Satellites	10
1. Foreword	10
2. Introduction to the topic	10
3. ITU-R	12
4. Subtopic: Space debris mitigation - the overpopulation of space	13
4.1. Further readings	16
4.2. Questions to Discuss	16
5. Subtopic: Global Satellite Broadband access - connecting the unconnected.....	17
5.1. Block positions.....	19
5.2. Further readings	19
5.3. Questions to Discuss	20
6. Additional topics	20
Topic B: Communication and Data Privacy	22
1. Introduction to Communication and Data Privacy	22
2. Subtopic: Communication.....	23
3. Subtopic: Data Privacy.....	26
4. Subtopic: Internet of Things (IoT)	29
5. Questions a Resolution Must Answer	31
Optional Reading:	33
1. On the introduction of the topic:	33
2. On Communication and Mobile Networks:	33
3. On Data Privacy:	33
4. On Internet of Things:	33
Information about the Conference.....	34
1. Conference Schedule	34
2. Rules of Procedure	35
3. Emergency Phone Numbers	35
4. Important Addresses.....	35
5. Public Transport	35



6. HamMUN App.....	36
7. Water Supply.....	36
8. Please bring cash!.....	36



Topic A: Communication Satellites

1. Foreword

We are very aware of the technical complexity of the topic but we believe this to be a good aspect of this committee. We hope that those delegates who like to be well prepared on the technical side of things will enjoy discussing the scientific components and that those who love negotiation and finding a creative solution will enjoy the political aspects of the two subtopics. The next few pages have hopefully given you a quick introduction to the topic. Personally, we would suggest each of you to gain some general knowledge on the two main (sub)topics and then become an expert in a certain region (e.g. become an expert in space debris retrieving technologies or in access barriers and solutions for broadband access in Africa). This way, a block of well-prepared delegates has a multitude of experts and can produce a well-rounded but also technical resolution. Our hope is that the satellite broadband debate will be forward-focused and collaborative towards finding and creating the best solution for the last unconnected n% of the population. The space debris discussion may be less cooperative, because a looming problem needs to be solved in the coming decade, but no one seems to want to carry the costs or limit their expansion.

We also would like to point out that we value quality over quantity in delegates approach to this topic. A delegate's position paper or a draft resolution including a dozen technologies with good-sounding abbreviations but missing content and missing arguments for the steps proposed, would not be regarded highly. The objective is not to copy a maximum amount of solutions from the internet but rather to highlight which of them could have the biggest impact for the smallest investment, with the largest support of the global community.

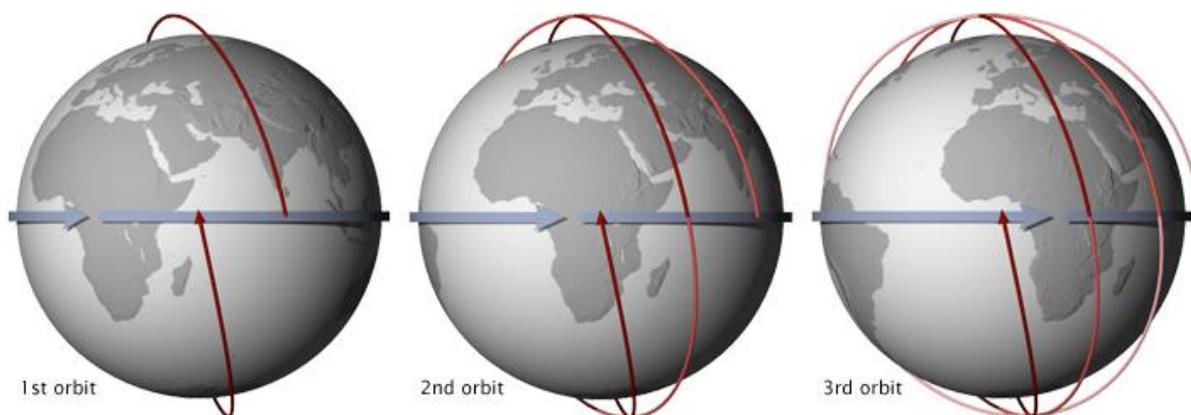
Finally, please enjoy researching and learning about these fascinating topics as much as we did, and we are looking forward to great position papers!

2. Introduction to the topic

History was made on October 4, 1957, when the Soviet Union successfully launched Sputnik I. The world's first artificial satellite was about the size of a beach ball (58 cm in diameter), weighed only 83.6 kg and didn't do much else than orbiting the earth every



98 minutes¹¹. Today, over 70 years later, nearly every industry relies upon satellite technology - from agriculture to banking to transportation - and while invisible to most people's lives, they are crucial to the interconnected world.¹² A few thousand artificial satellites orbit the blue planet at different altitudes. There are effectively three types of Earth orbits: high Earth orbit (including geostationary orbits, GEO), medium Earth orbit (MEO), and low Earth orbit (LEO)¹³.



Animation shows a sun-synchronous orbit crosses over the equator at approximately the same local time each day. This orbit allows consistent scientific observations with the angle between the Sun and the Earth's surface remaining relatively constant. (NASA illustration by Robert Simmon.)¹⁴

Satellites in GEO (35,786 km) cover a large and constant portion of the Earth, which makes them ideal for telecommunications or for monitoring weather patterns and environmental conditions. The MEO is defined at a height between 2,000 km and just below GEO and satellite functions here include navigation and specialty satellites, designed to monitor a particular region. For example, the Global Positioning System (GPS) uses the semi-synchronous orbit (every 12 hours, the satellite crosses over the same two spots on the equator)¹⁵. And finally, low

¹¹Steve Garber, NASA History Web Curator; Sputnik and The Dawn of the Space Age; <https://history.nasa.gov/sputnik/>; Updated October 10, 2007; Retrieved 01.08.2019

¹² ITU News Magazine; Evolving satellite communications; https://www.itu.int/en/itu/news/Documents/2019/2019-02/2019_ITUNews02-en.pdf; Published February 2019; Retrieved 01.08.2019

¹³ Holli Riebeck; Catalog of Earth Satellite Orbits; <https://earthobservatory.nasa.gov/features/OrbitsCatalog>; Published September 4, 2009; Retrieved 01.08.2019

¹⁴ Holli Riebeck; Catalog of Earth Satellite Orbits; <https://earthobservatory.nasa.gov/features/OrbitsCatalog>; Published September 4, 2009; Retrieved 01.08.2019

¹⁵ Holli Riebeck; Catalog of Earth Satellite Orbits; <https://earthobservatory.nasa.gov/features/OrbitsCatalog>; Published September 4, 2009; Retrieved 01.08.2019



earth orbit is defined as the altitude of 160 km - 2000 km where most scientific satellites and many weather satellites are found. In this orbit satellites travel at a speed of around 7.5- 8 km/s, taking approximately 90 minutes to circle the Earth¹⁶.

The total space industry is around 260 billion USD heavy and it will most likely not be stagnating with more and more private players entering the market in the following decade¹⁷.

With more and cheaper satellite services the world can become a more connected place and help boost - thus far - unconnected areas. However, the expansion of the satellite industry cannot be infinite. Even though space is described as this seemingly unending place for us to discover and use freely, the orbits of earth and the electromagnetic spectrum we use to communicate are very much limited. As space gets more and more congested, so does the risk for radio interferences and satellite collisions increase.

In this committee, we will mainly focus on these two sides of the coin: We will discuss the challenge of space debris and overcrowded orbits; and we will work on how communication satellites can contribute to broadband connection for rural regions and boost their growth through affordable internet access.

3. ITU-R

The ITU Radiocommunication (ITU-R) Sector¹⁸ plays a vital role in the global management of the radio-frequency spectrum and satellite orbits. They ensure safe communication for fixed, mobile, broadcasting, amateur, space research, emergency telecommunications, meteorology, global positioning systems, environmental monitoring and communication services. In particular, the fourth ITU-R study group is of concern to us since it deals with “Systems and networks for the fixed-satellite service, mobile-satellite service, broadcasting satellite service and radiodetermination-satellite service.”¹⁹

¹⁶ ESA Space Transportation; Types of orbits; https://www.esa.int/Our_Activities/Space_Transportation/Types_of_orbits; Updated 17 April 2017; Retrieved 01.08.2019;

¹⁷ State of the Satellite industry Report; <https://www.sia.org/wp-content/uploads/2017/07/SIA-SSIR-2017.pdf>; Published June 2017; Retrieved 01.08.2019

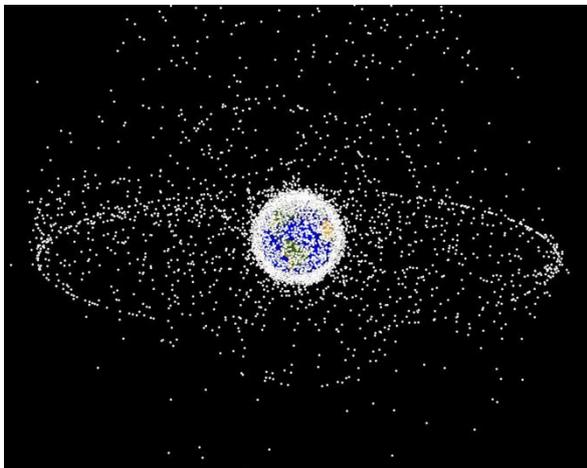
¹⁸ ITU Website; Welcome to the ITU-R <https://www.itu.int/en/ITU-R/information/Pages/default.aspx>; Retrieved 01.08.2019

¹⁹ ITU-R Radiocommunicati on Study Groups 2016; https://www.itu.int/dms_pub/itu-r/opb/gen/R-GEN-SGB-2016-PDF-E.pdf#page=30&pagemode=none; Published 2016; Retrieved 01.08.2019



At the World Radiocommunication Conferences (WRC) which are held every three to four years the expert community reviews, and, if necessary, revise the Radio Regulations.²⁰ These Radio Regulations (RR) regulate global radio communication services and the utilisation of radio frequencies worldwide. The next WRC will be this November in Egypt, so this simulation will take place before the WRC has finished and we can compare our committee's decisions with those of the WRC. When simulating our version of the ITU, we may assume the competence and topics discussed of the WRC and ITU-R combined. A very good introduction to the topics discussed at the WRC this year can be found in the current ITU News magazine.²¹

4. Subtopic: Space debris mitigation - the overpopulation of space



A computer-generated image, by NASA²² When in February 2009 the Russian army satellite Cosmos-2251 and the US commercial satellite Iridium 33 crashed into each other, both spacecraft were demolished, spreading a cloud of dust around the earth. Over 1400 pieces of debris larger than 10 cm are estimated to have been produced, some of which will remain in orbit until the end of the century.^{23 24}

Concerns about space collisions are growing as a number of mega-constellations of satellites, consisting of hundreds of spacecrafts, dramatically increasing the number of objects in orbit around Earth. While there are currently 1,900 operational objects in orbit, scientists at the University of Southampton have estimated that there could be up to 750,000 objects larger than

²⁰ ITU Website; Radio Regulations; <https://www.itu.int/pub/R-REG-RR/en>; Retrieved 01.08.2019

²¹ ITU News Magazine; Evolving satellite communications; https://www.itu.int/en/itu/news/Documents/2019/2019-02/2019_ITUNews02-en.pdf; Published February 2019; Retrieved 01.08.2019

²² Wikimedia Commons; Debris; <https://upload.wikimedia.org/wikipedia/commons/thumb/a/a1/Debris-GEO1280.jpg/1024px-Debris-GEO1280.jpg>; Retrieved 01.08.2019

²³ Bekka Ionnatta; U.S. Satellite Destroyed in Space Collision; <https://spacenews.com/u-s-satellite-destroyed-in-space-collision/>; Feb 2009; Retrieved 01.08.2019

²⁴ Hasan Chowdhury; Financial Times; Mega-constellations of satellites increase space junk risk; <https://www.ft.com/content/40e8dcee-05f8-11e8-9e12-af73e8db3c71>; March 2018; Retrieved 01.08.2019



1cm in orbit around Earth, all of which can cause damage.²⁵ ²⁶ Currently, the United States Space Surveillance Network regularly tracks and maintains about 22,000 debris objects in their catalogue. The distribution of size, by statistical model, in orbit are: 34,000 objects >10 cm, 900,000 objects from 1 cm to 10 cm, 128,000,000 objects from 1 mm to 1 cm.²⁷

One of the possible worst-case scenarios is the Kessler Syndrome²⁸ ²⁹, where an uncontrolled cascade of debris and satellites renders space activities almost impossible for many generations. While seemingly far-fetched, the need for change in the way we deal with satellite safety and disposal becomes very apparent.

This subtopic contains a great deal of potential conflict as well as creative solutions, because - similar with issues of sustainable development on earth - unregulated growth will eventually end in the destruction of the space recourse.

An important player in this topic is the Inter-Agency Space Debris Coordination Committee (IADC).³⁰ IADC is a global forum of national and international space agencies for the worldwide technical/scientific coordination of activities related to space debris issues in Earth orbit and provides technical recommendations. Their recommendations and insights could be used by the committee to move technical recommendations closer to regulatory treaties.

Part of the solution to this challenge will surely be an active “clean-up” of space. Similar to efforts with environmental damage, the damaging faction could be forced to rectify the damage done, at least as far as possible. Therefore, some experts believe that the classic space powers

²⁵ Loren Grush; The Verge; <https://www.theverge.com/2018/9/28/17906158/nasa-spacex-oneweb-satellite-large-constellations-orbital-debris>; Sep 2018; Retrieved 01.08.2019

²⁶ University of Southampton; Biggest ever space debris study highlights risk posed by satellite ‘mega-constellations’; <https://www.southampton.ac.uk/engineering/news/2017/05/space-debris-mega-constellations.page>; April 2017; Retrieved 01.08.2019

²⁷ ESA; Space debris report; https://www.esa.int/Our_Activities/Space_Safety/Space_Debris/Space_debris_by_the_numbers; Jan 2019; Retrieved 01.08.2019

²⁸ Donald Kessler; JGR Space Physics; Collision frequency of artificial satellites: The creation of a debris belt; <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/JA083iA06p02637>; Sep 2012; Retrieved 01.08.2019

²⁹ Michelle La Vone; Space Safety Magazin; The Kessler Syndrome: 10 Interesting and Disturbing Facts; <http://www.spacesafetymagazine.com/space-debris/kessler-syndrome/>; Retrieved 01.08.2019

³⁰ Report of the IADC Activities; https://web.archive.org/web/20090318000849/http://www.iadc-online.org/docs_pub/IADC-UNCOPUOS-final.pdf; Retrieved 01.08.2019



(US, Russia, China disputably) should be held accountable³¹ for the already existing pollution of space. However, while it is in their greatest interest to keep space operational, these countries may not be willing to finance the retrieval of old satellites with technologies which still need to be developed.³² A more cooperative approach could include all active space nations to develop and employ space-debris removal technologies such as harpoons, nets or robotic arms.³³ Thus far there is no international treaty minimizing space debris but United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) has voluntary guidelines³⁴ and some countries such as Germany and France have started their own projects.³⁵

Furthermore, it seems crucial that all future satellites have the capability to remove themselves in a non-harmful way after service. There are many ideas and even existing technologies to realise this, ranging from backup propellant to a "one-up, one-down" policy³⁶, but incentives seem to be non-existent. A further possible solution may be to make insurance mandatory so that orbit pollution done over a lifetime of a satellite are paid for by the operator.

In summary, recommendations and technologies to mitigate space debris exist, but comprehensive regulations and fruitful cooperation of governments is lacking. Thus, creating regulations and financial incentives for private entities and governments to employ growth mitigation and self or external debris removal solutions, would be one of the best outcomes this committee could achieve.

³¹ Al Anzaldúa and Dave Dunlop; Why the US and Russia should work together to clean up orbital debris; <http://www.thespacereview.com/article/3156/1>; January 2017; Retrieved 01.08.2019

³² Chris Blackerby, Astroscale; Constellations Podcast: Space Debris, Mega Constellations and the Orbital Highway; <https://astroscale.com/constellations-podcast-space-debris-mega-constellations-and-the-orbital-highway/>; July 2019; Retrieved 01.08.2019

³³ Teresa Pultarova; Space.com; This Space Junk Removal Experiment Will Harpoon & Net Debris in Orbit; <https://www.space.com/40221-space-junk-debris-sweeper-experiment.html>; April 2018; Retrieved 01.08.2019

³⁴ UN Space affairs; Space debris mitigation guideline; https://orbitaldebris.jsc.nasa.gov/library/space-debris-mitigation-guidelines_copuos.pdf; Jan 2010; Retrieved 01.08.2019

³⁵ Scott Collie; Germany to tackle space junk with GESTRA project; <https://newatlas.com/germany-gestra-space-junk/38316/>; July 2015; Retrieved 01.08.2019

³⁶ Jeff Foust; Companies Have Technologies, but Not Business Plans, for Orbital Debris Cleanup; <https://spacenews.com/42656companies-have-technologies-but-not-business-plans-for-orbital-debris/>; November 201; Retrieved 01.08.2019



We do not expect you to become an expert in all technologies and orbits, but rather to read into the recommended and linked publications of the IADC (Inter-Agency Space Debris Coordination Committee), ESA and ITU. From these, the delegates can pick and focus on solutions. We truly hope that this topic will spark an intense technical **and** political debate about the future of space orbits.

4.1. Further readings

Again, the footnotes have been chosen to give a large diversity of sources, from large scale government report, to science blog opinions. On top of that we can recommend:

- the ESA Space Environmental Report³⁷ gives great detail into the evolution of space launches and object mass up in orbit.
- A rather technical ITU Workshop slides by Dr. Wittig on deorbiting methods³⁸
- A basic introduction to the work of the ITU and ITU-R can be found in several PowerPoint presentations³⁹ as well as a presentation on small satellite development.⁴⁰

4.2. Questions to Discuss

For this subtopic, committee members should develop a strategy to fight the over-pollution of space, especially LEO and GEO orbits. Resolutions should answer the following questions:

- (1) Should traditional space nations be more heavily involved, due to their contribution to the problem over the last decades?
- (2) How will the international community dispose space waste and should there be a unilateral or national approach to this?

³⁷ ESA's Annual Space Environment Report; https://www.sdo.esoc.esa.int/environment_report/Space_Environment_Report_latest.pdf; July 2019; Retrieved 01.08.2019

³⁸ Dr. Manfred Wittig; Space Debris and De-Orbiting; <https://www.itu.int/en/ITU-R/space/workshops/2015-prague-small-sat/Presentations/MEW-Prague.pdf>; 2015; Retrieved 01.08.2019

³⁹ Yvon Henri; ORBIT/SPECTRUM INTERNATIONAL REGULATORY FRAMEWORK; https://www.itu.int/en/ITU-R/space/Presentations/Orbit_Spectrum%20International%20Regulatory%20Framework_Henri.pdf; Retrieved 01.08.2019

⁴⁰ Prof. Lesley Jane Smith; ITU Symposium and Workshop on small satellite regulation and communication systems; https://www.itu.int/en/ITU-R/space/workshops/2016-small-sat/Documents/CHL16_Smith.pdf; Nov. 2016; Retrieved 01.08.2019



- (3) How do we enhance research to strengthen our waste mitigation capabilities? What technologies seem best suited and should they be subsidized?

5. Subtopic: Global Satellite Broadband access - connecting the unconnected

SatComs have the potential to boost the progress on the UN Sustainable Development Goals - especially with new innovations that can offer more economical solutions to connect the unconnected and provide better services to rural and developing areas.⁴¹

Today, an estimated 3.8 billion people still do not have basic Internet access.⁴² Investment and deployment in satellite broadband technology is decreasing that number by providing affordable and reliable broadband in ways previously impossible. Satellite broadband can connect anyone to anything anywhere, and thus is an essential tool for closing the digital divide — in urban and rural settings alike. Furthermore, the costs of connecting a satellite to rural areas are constant while a terrestrial connection becomes increasingly costly. Broadband access is also reliable and largely immune to many risks that other networks face, including accidental damage, theft, conflict areas and natural disasters.⁴³ However, there are still serious technical challenges such as cloudy conditions slowing performance, a problem called “rain fade”⁴⁴.

These new broadband capabilities are most likely to come from the rapidly increasing use of non-geostationary satellite orbits (non-GSO), such as medium earth orbits (MEO) and low earth orbits (LEO). It is important to note that the need for rural satellite broadband is common in both the global north as well as the global south and thus improvements must not be limited to

⁴¹ ITU; ICT Facts and Figures; <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2017.pdf>; Published July 2017; Retrieved 01.08.2019

⁴² Jennifer Ferguson-Mitchell Senior Media and Communications Officer, International Telecommunications Union; Press Release; <https://www.itu.int/en/mediacentre/Pages/2018-PR01.aspx>; Published January 2018; Retrieved 01.08.2019

⁴³ ITU Mediacentre; Non-Geostationary satellite systems; <https://www.itu.int/en/mediacentre/backgrounders/Pages/Non-geostationary-satellite-systems.aspx>; Updated 2019; Retrieved 01.08.2019

⁴⁴ Bliley Technologies; How to Prevent Rain Fade in Satellite Communications; <https://blog.bliley.com/rain-fade-satellite-communications>; Published Oct 3, 2017; Retrieved 01.08.2019



developing nations alone. Of course, any LEO constellation is by definition global since it wraps around the earth and can cover about a third of the globe.⁴⁵

The World Radio Conference (WRC-19) will address ways for satellites to continue and expand bridging digital divides, potentially using the 28 GHz range.⁴⁶ Originally, this range was planned to be part of the new global 5G terrestrial network but this has been reconsidered recently.^{47,48} Regulatory certainty would enable billions of dollars investment in 28 GHz satellite infrastructure and the satellite broadband (SB) networks and be considered a major step towards affordable SB. Still, the costs of satellite broadband are hampering advances and even in wealthy countries prices are comparatively high while download speeds are low.^{49,50} For commercial satellite operators, to be able to enter the market, the international community and all governments need a legal and regulatory structure. A large competition encourages investment in infrastructure, improvements in SB availability at lower prices.⁵¹ It is also still under debate which orbits are suited best and whether regulators should try and influence the next generation of SB. A simple introduction to the pros and cons of each orbit can be found in this article.⁵² Furthermore, some experts are sceptical about the price and performance of

⁴⁵ Bernardo Schneiderman; The Next Wave: Low Earth Orbit Constellations; <http://satellitemarkets.com/news-analysis/next-wave-low-earth-orbit-constellations/>; Published March 2019; Retrieved 01.08.2019

⁴⁶ ITU News; Chris Hofer, Director, Regulatory Affairs, Viasat; Satellite broadband access for everyone: Opinion; <https://news.itu.int/satellite-broadband-access-for-everyone-opinion/>; Published May 2019; Retrieved 01.08.2019

⁴⁷ GSMA Spectrum; 26 GHz and 28 GHz are both needed for 5G; <https://www.gsma.com/spectrum/resources/26-ghz-28-ghz/>; Published July 2019; Retrieved 01.08.2019

⁴⁸ ITU; Radio-frequency arrangements for systems of the fixed service operating in the 25, 26 and 28 GHz bands; https://www.itu.int/dms_pubrec/itu-r/rec/f/R-REC-F.748-4-200105-I!!PDF-E.pdf; Published May 2015; Retrieved 01.08.2019

⁴⁹ Mindy Woodall; Best Satellite Internet Providers of 2019; <https://www.reviews.org/internet-service/best-satellite-internet-providers/>; Retrieved 01.08.2019

⁵⁰ Jon Bridkin; Satellite Internet faster than advertised, but latency still awful; <https://arstechnica.com/information-technology/2013/02/satellite-internet-faster-than-advertised-but-latency-still-awful/#p3n>; Published Feb. 2013; Retrieved 01.08.2019

⁵¹ Broadband commission; The state of broadband; https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.19-2018-PDF-E.pdf; Published September 2018; Retrieved 01.08.2019

⁵² Steward Sanders; The new space race is all about satellites; <https://thenextweb.com/contributors/2018/11/03/the-new-space-race-is-all-about-satellites-pros-and-cons-of-each-orbit/>; December 2018; Retrieved 01.08.2019



upcoming LEO based SB⁵³ and believe that the world will eventually be connected by terrestrial technologies.

5.1. Block positions

To sum up, delegates should decide if they want to see a strong investment into SB or if they want keep improving terrestrial capabilities. If SB should be invested into, this would be a very expensive and global project being capable of connecting several regions with one LEO constellations and the whole world with several constellations. Some more wealthy countries might be willing to invest in such constellation since their remote regions will directly profit from these and they will be able to control internet access and price for other regions. Countries lacking the technology to execute such project must figure out how they can still contribute to a system they will later be using.

On the other hand, a more collaborative project would give smaller countries the safety of fair access to SB. Other countries again, might dislike the idea of a government driven projects and will thus push for subsidies or an auction to find the right private partner. The main questions is how far the states are willing to pay to fulfil the SDGs and connect the rural areas of earth. Some countries may not see the need in doing so on an international level. The delegates should also prepare estimates of the costs of SB constellations and consider the cost of alternative technologies and prepare yourself to convince other nations to invest in SB technology.

5.2. Further readings

⁵³ Mark Sullivan; This New Wave Of Satellite Broadband Could Challenge Cable And Fiber; <https://www.fastcompany.com/40542241/this-new-wave-of-satellite-broadband-could-challenge-cable-and-fiber>; March 2018; Retrieved 01.08.2019



The Broadband Commission⁵⁴, set up by the ITU and UNESCO to achieve the SDGs, has published a broad range of papers on this topic. A good introduction to their opinions can be found in last year's "State of Broadband" report.⁵⁵

Another very good introduction to the topic can be found in the "The Provision of Satellite Broadband Services in Latin America and the Caribbean".⁵⁶ As mentioned before, all articles linked to in the footnotes will give valuable insights and content found on itu.int, news.itu.int, spacenews.com, and on national space agencies sites was especially insightful.

5.3. Questions to Discuss

For this subtopic, committee members should consider solutions to boost affordable global broadband coverage as well as mechanisms to incentivize all member states to adapt proposed steps. Resolutions should answer these questions to some extent:

- (1) Is SB the technology best suited to connect the last X% of the international community?
- (2) What are the main drivers of costs for SB, how do you lower them and how do you boost the private sector growth?
- (3) How to get member states to include satellite broadband as an important alternative and integral part of their broadband plans?
- (4) What new technologies are the most promising for the future of satellite broadband markets and how do we support their development?

6. Additional topics

In principle we encourage you to touch other subtopics in the discussion and resolutions, if time allows and especially if you believe your country has an important stand on that topic. Here are two quick options, that everyone should consider:

⁵⁴ Broadband commission; About Page; <https://www.broadbandcommission.org/about/Pages/default.aspx>; Retrieved 01.08.2019

⁵⁵ Broadband commission; The state of broadband; https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.19-2018-PDF-E.pdf; Published September 2018; Retrieved 01.08.2019

⁵⁶ Wolfgang Wagner; The Provision of Satellite Broadband Services in Latin America and the Caribbean; <https://publications.iadb.org/bitstream/handle/11319/7843/The-Provision-of-Satellite-Broadband-Services-in-Latin-America-and-the-Caribbean.pdf?sequence=1&isAllowed=y>; Sep 2016; Retrieved 01.08.2019



Less space-developed countries could demand to be allocated certain orbits or spectrum slots so that their expansion in the following decades is not hindered by nations with an early start in space.

A further topic could be the attempt to regulate the threat of certain defence capabilities in space such as malignant interference, imaging espionage but also satellite destruction or hacking. This would be a first step towards policed space where any kind of aggressive capabilities are forbidden, which some powers will surely object to.



Topic B: Communication and Data Privacy

1. Introduction to Communication and Data Privacy

Information spreads around the world today at an unbelievable pace. As of 2018, 2.5 quintillion bytes of information is transmitted daily⁵⁷. That is the equivalent of the entire Wikipedia 20 million times every day⁵⁸, being sent to and from the billions of people on the planet. Information technology and communication has grown tremendously over the last few years with an overwhelming majority of data was generated in the past three years alone. As of 2018, ITU estimates that over half the world's population, or 3.9 billion, people now have regular access to the internet⁵⁹ it also estimates that there is an average of 1.07 mobile phones per capita⁶⁰.

With the rise of mobile devices and the ever shrinking yet increasingly powerful electronic devices, a large amount of this data transmission rests in the palms of nearly everyone today. Over 75% of these users (3.2 billion people) are active on social media, with 90% of these (2.9 billion) having access through mobile phones⁶¹. With such a massive number of interconnected people, the secure transmission of data is paramount.

Data privacy and the laws governing it is a contentious topic, there is widespread disagreement on such protocols and even relatively close regions such as the European Union (EU) have difficulty setting international standards on Data privacy laws⁶². International companies and service providers face a series of challenges in implementing these measures and further

⁵⁷ Marr, Bernard; How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read; Forbes; <https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#235c9b7460ba>; Published 05.21.2018

⁵⁸Statistics;ITU; <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> Updated 10.22.2019

⁵⁹Statistics;ITU; <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> Updated 10.22.2019

⁶⁰Statistics;ITU; <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> Updated 10.22.2019

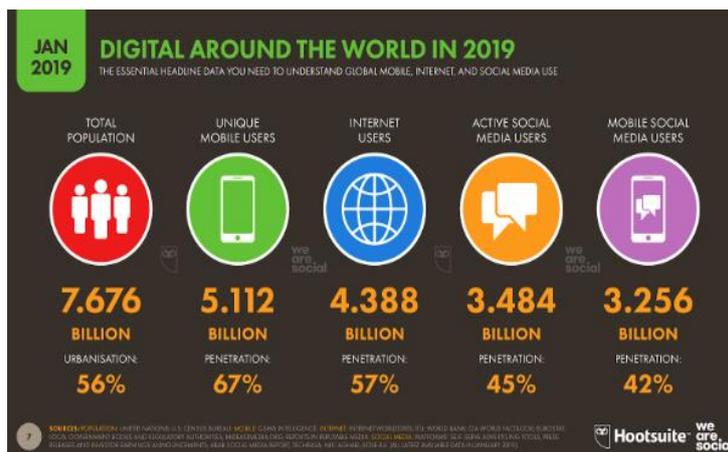
⁶¹ Albert, Jose Ramon, Martinez, Arturo Jr.; The Future of Data Today; Development Asia; <https://development.asia/explainer/future-data-today>; Updated 11.2018

⁶²Jacobs, Danielle; Data protection laws: the 'IT business user' perspective; ITU Telecom World, <https://telecomworld.itu.int/blog/data-protection-laws-the-it-business-user-perspective/> ; 09.06.2018



complicates information transmission. This has led to international confrontations over differing standards⁶³. Different regions recognise the importance of proper data management but frequently have different standards and agendas in order to utilise and/or protect data.

2. Subtopic: Communication



(image taken from Digital 2019 Reports ⁶⁴)

One year after the statistics given, growth can still be seen compared to the attached infographic. With over 5 billion people using cell phones, it is an essential device for many. A sizeable percentage even have a secondary mobile device for communication and miscellaneous activities, which greatly increases the possibilities for communication. Over three billion people use their phones for social media, this is an unprecedented amount of information and people networking at any one point in time⁶⁵. With the global nature of this growth, differences in culture and regulation become more apparent in the more recent years.⁶⁶

⁶³ Jacobs, Danielle; Data protection laws: the 'IT business user' perspective; ITU Telecom World, <https://telecomworld.itu.int/blog/data-protection-laws-the-it-business-user-perspective/> ; 09.06.2018

⁶⁴ Kemp, Simon; DIGITAL 2019: GLOBAL INTERNET USE ACCELERATES; We are social; <https://wearesocial.com/blog/2019/01/digital-2019-global-internet-use-accelerates>; Published 01.30.2019

⁶⁵ Kemp, Simon; DIGITAL 2019: GLOBAL INTERNET USE ACCELERATES; We are social; <https://wearesocial.com/blog/2019/01/digital-2019-global-internet-use-accelerates>; Published 01.30.2019

⁶⁶ Jacobs, Danielle; Data protection laws: the 'IT business user' perspective; ITU Telecom World, <https://telecomworld.itu.int/blog/data-protection-laws-the-it-business-user-perspective/> ; 09.06.2018



Over 2.3 billion users access Facebook on a monthly basis, most of which also access it on mobile devices⁶⁷. The majority of google searches are now conducted on mobile phones⁶⁸. This shows that communication is increasingly done by mobile and handheld devices. The potentials for these are acknowledged in the following section.

In the UN, harnessing the power of data is a key part of sustainable development⁶⁹. Decision makers for SDGs need data and statistics that are “accurate, timely, sufficiently disaggregated, relevant, accessible and easy to use” (RES/71/313)⁷⁰. Since the availability and quality of data has increased through the years, the ability of the decision makers and stakeholders now relies more heavily on how they react to and effectively transmit the data to their constituents.

Data practices and communication standards are important and need to evolve together with the progress of technology and information. Data developers need to work together with their respective governments on a state level in order to foster innovation. Due to the predominance of mobile devices, GSMA (Global System for Mobile Communications) created a handbook⁷¹ on mobile policies and standards. This handbook aims to align itself with the 2030 SDG goals, particularly with SDGs 9,11, and 13. There are three main areas where the mobile industry contribute to continued accomplishment of the SDGs, “deployment of infrastructure and networks; access and connectivity; and enabling services and relevant content.”⁷².

At the UN Data Forum 2018, the Dubai Declaration called to increase financing for data and statistics for sustainable development. The United Nations Deputy Secretary-General Amina J. Mohammed said “While it is clear that the data revolution is having an enormous impact, it has

⁶⁷ Noyes, Dan; The Top 20 Valuable Facebook Statistics – Updated September 2019; Zephoria Digital Marketing;

<https://zephoria.com/top-15-valuable-facebook-statistics/>; Updated 09.2019

⁶⁸G., Deyan; 60+ Smartphone Statistics in 2019; Techjury;

<https://techjury.net/stats-about/smartphone-usage/>; Published 03.28.2019

⁶⁹ Sustainable Development Goals report 2017; UN Statistics Division;

<https://unstats.un.org/sdgs/report/2017/harnessing>; Retrieved 09.14.2019

⁷⁰Cape Town Global Action Plan for Sustainable Development Data Prepared by the High-level Group for Partnership, Coordination and Capacity-Building for Statistics for the 2030 Agenda for Sustainable Development

<https://unstats.un.org/sdgs/hlg/Cape-Town-Global-Action-Plan>

⁷¹Mobile Policy Handbook; GSMA https://www.gsma.com/latinamerica/wp-content/uploads/2019/03/GSMA_Mobile-Policy-Handbook_2019_ENG.pdf;

Published 2019; Retrieved 9.2019

⁷²Mobile Policy Handbook; GSMA https://www.gsma.com/latinamerica/wp-content/uploads/2019/03/GSMA_Mobile-Policy-Handbook_2019_ENG.pdf;

Published 2019; Retrieved 9.2019



not benefited everyone equally,”⁷³ She also stated: “Our task is to make sure data is available to all people. We must make sure it is harnessed to support implementation of the 2030 Agenda at all levels and in all regions and countries...But we urgently need to bridge important gaps. Funding for data and statistical systems remains limited. And beyond funding, we need political, technical and advocacy support in all areas.”⁷⁴

The Dubai Declaration also called for the establishment of an innovative funding mechanism, which is open to all stakeholders, it aims to mobilise both domestic and international funds. The declaration also aims to activate partnerships and funding opportunities in order to strengthen the capacity of national data and statistical systems. The funding systems under this mechanism will be created with the guidance of different data and donor communities. Representatives of statistical systems will also support the decision-making process on the operational modalities. They would also address resource concerns to fulfil the data needs for the complete implementation of the 2030 Agenda.⁷⁵

There was a heavy focus on Capacity building in said declaration as well as calls to create a culture that fosters increased diversity in shared capacity, to reduce the dependence on one group for the creation and maintenance of these systems.⁷⁶ These are in line with the goals to achieve the relevant SDG goals. More information would be attached to the optional reading. Communication is an extremely important requirement for future development, with the increasing interconnected world, it is essential to work together to find ways to utilise this resource.

⁷³ UN World Data Forum 2018 wraps up with launch of Dubai Declaration; UN Website
<https://www.un.org/sustainabledevelopment/blog/2018/10/un-world-data-forum-2018-wraps-up-with-launch-of-dubai-declaration/>; Published 10.24.2018

⁷⁴ UN World Data Forum 2018 wraps up with launch of Dubai Declaration; UN Website
<https://www.un.org/sustainabledevelopment/blog/2018/10/un-world-data-forum-2018-wraps-up-with-launch-of-dubai-declaration/>; Published 10.24.2018

⁷⁵ UN World Data Forum 2018 wraps up with launch of Dubai Declaration; UN Website
<https://www.un.org/sustainabledevelopment/blog/2018/10/un-world-data-forum-2018-wraps-up-with-launch-of-dubai-declaration/>; Published 10.24.2018

⁷⁶Cornish, Lisa; At UN World Data Forum, a focus on data capacity;
<https://www.devex.com/news/at-un-world-data-forum-a-focus-on-data-capacity-93717>; Published 10.22.2019



3. Subtopic: Data Privacy

Data Privacy is an essential part of maintaining proper communications. There have been UN resolutions throughout the years concerning computerised personal data files. In 1995 ⁷⁷ Resolution E/CN.4/1995/75 lists a few principles for the elaboration of legislation in some states to grasp the scale of data privacy. The resolution mentioned the importance of keeping sensitive inter-agency and state data private. More recently, moves have been made to ensure that data collection is done in a lawful manner and is in accordance with the UN Charter ⁷⁸. There are also checks in place to make sure that the data collector is regularly checked for accuracy and privacy of data. In order to be successful and useful, a census must collect data that is comprehensive, relevant and reliable. Records need to have better quality, the questionnaires to collect data should be designed properly to reduce errors and prevent omission of data. The data terms, concepts and categories must also be clearly explained to both the data collector and the contacts on either side⁷⁹. More information would be attached to the optional reading.

Different regions, and even nations have set standards for data privacy, different laws and views on how much privacy should be given to the various stakeholders, particularly the private citizens.

The EU has set the GDPR (Ground Data Protection Regulation), which is their regional benchmark for data privacy and protection legislation^{80, 81}. The GDPR is the simplification and uniform application of the data protection laws across the EU member states, it allows the individual more control over the individual data they show and share. With the inevitability of

⁷⁷ E/CN.4/1995/75 “HUMAN RIGHTS AND SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS Question of the follow-up to the guidelines for the regulation of computerized personal data files Report of the Secretary-General prepared pursuant to Commission decision 1993/113”

⁷⁸Research on legislation in data privacy, security and the prevention of cybercrime’ ITU; https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-CRIM-2006-PDF-E.pdf; Published 2006

⁷⁹ UNESCO; Module A2: Data Collection and Quality control; <http://www5.unescobkk.org/education/efatraining/module-a2/6-data-quality-control/>; Retrieved 11.2019

⁸⁰ GDPR Articles 1-4; GDPR; <https://gdpr-info.eu/>; Retrieved 09.2019

⁸¹Palmer, Danny A.; What is GDPR? Everything you need to know about the new general data protection regulations <https://www.zdnet.com/article/gdpr-an-executive-guide-to-what-you-need-to-know/>; Published 05.17.2019



data breaches, this regulation ensures that not only is data properly gathered and collected by organisations. The organisations also have an obligation to prevent misuse or theft of said data. Since the GDPR affects businesses and organisations that have branches in the EU or which provide services in the EU,⁸² this affects organisations on a global scale. This regulation came into force in 2018 and claims to have saved billions of Euros across the region.⁸³ Some nations outside the EU are considered adequately compatible with the GDPR, such as New Zealand, Japan, Switzerland and Argentina.⁸⁴ A copy to the regulation would be attached to the optional reading.

USA data privacy laws are a patchwork of state and privacy laws, on some levels. The “Privacy Shield Framework” coordinate with the EU and Switzerland for GDPR compatibility⁸⁵. On other platforms, it is a mix of hundreds of federal and state laws⁸⁶ aimed to protect the security and data privacy of citizens. The EU-U.S. and Swiss-U.S. Privacy Shield Frameworks is a partnership between the European Commission, Swiss Administration and the U.S. Department of Commerce to create a design which allow companies compatibility across continents in transferring and protecting personal data⁸⁷. On a Federal level, the FTC (Federal Trade Commission) enforces actions to prevent unfair collection of data on consumers, it is also empowered to enforce federal data protection and privacy laws⁸⁸.

Some countries have a combination of data protection laws and specialised enforcement authorities, they range from Australia, Mexico, Ukraine, South Korea and the Philippines. These allow for more direct enforcement of data protection laws yet due to one reason or

⁸² GDPR Articles 1-4; GDPR; <https://gdpr-info.eu/> ; Retrieved 09.2019

⁸³Palmer, Danny A.; What is GDPR? Everything you need to know about the new general data protection regulations
<https://www.zdnet.com/article/gdpr-an-executive-guide-to-what-you-need-to-know/>; Published 05.17.2019

⁸⁴Privacy Shield Introduction; Privacy Shield
<https://www.privacyshield.gov/welcome>; Retrieved 09.2019

⁸⁵Privacy Shield Introduction; Privacy Shield
<https://www.privacyshield.gov/welcome>; Retrieved 09.2019

⁸⁶USA Data Protection 2019; International Comparative Legal Guides;
<https://iclg.com/practice-areas/data-protection-laws-and-regulations/usa> ; Retrieved 09.2019

⁸⁷USA Data Protection 2019; International Comparative Legal Guides;
<https://iclg.com/practice-areas/data-protection-laws-and-regulations/usa> ; Retrieved 09.2019

⁸⁸USA Data Protection 2019; International Comparative Legal Guides;
<https://iclg.com/practice-areas/data-protection-laws-and-regulations/usa> ; Retrieved 09.2019



another, are not compatible with the GDPR.⁸⁹ Other countries only have data protection laws and may set regular enforcement or civil agencies to handle breaches in data privacy, Singapore, Brazil, Russia and China figure prominently among these nations.

Consumers pass the burden of data safety and data protection to companies, despite the fact that they also believe that corporate data security is compromised.⁹⁰ While many users believe that they are ultimately the ones in charge of their own data security, a large number of them fail to even include basic data protection.⁹¹ Due to the combination of user inexperience and the distrust of users to share data to companies, effective IoT is curtailed.⁹²

The Russian Federation regulates that data processed by companies, particularly those with links abroad, must pass “localisation” requirements. Information that would leave the country also has to qualify for Russian data safety standards, or else the collector and transferrer of data would be held liable for such actions.⁹³ Communications programs are required by law to pass the decoding keys to the FSS for security reasons, leading to Telegram being fined 800,000 Rubles.⁹⁴

⁸⁹USA Data Protection 2019; International Comparative Legal Guides; <https://iclg.com/practice-areas/data-protection-laws-and-regulations/usa> ; Retrieved 09.2019

⁹⁰ How consumers see cybersecurity and privacy risks and what to do about it; PWC <https://www.pwc.com/us/en/services/consulting/library/consumer-intelligence-series/cybersecurity-protect-me.html>; Retrieved 10.25.2019

⁹¹ Special Eurobarometer: Europeans’ attitudes towards cyber security; European Commission; <https://ec.europa.eu/digital-single-market/en/news/special-eurobarometer-europeans-attitudes-towards-cyber-security>; Updated 09.19.2017

⁹² Von Gravrock, Einaras; Who should be responsible for protecting our personal data? <https://www.weforum.org/agenda/2019/01/who-should-take-charge-of-our-cybersecurity/>; Retrieved 01.08.2019

⁹³Medvedev, Sergey V.; Russian Federation: Data Protection & Privacy Laws 2018 / Russian Federation

<http://www.mondaq.com/russianfederation/x/759522/Data+Protection+Privacy/Data+Protection+Privacy+Laws+2018+Russian+Federation>; Published 11.28.2018

⁹⁴ Krishna, Swapna; Telegram fined after refusing to provide user data to Russia; https://www.engadget.com/2017/10/16/telegram-fined-by-russian-court/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAABQuJQbPWccBwMy2xvTMmHX3YSLQLtyB BVmuC3sdP0Am61NRuYKJmWTBQkyGkYSBQyRINJ4KpIO5jueVVA7RN4c9CsCweuU1A zoVXsoKtYKROUD28PkLlxf5HHoBk43VyrDmM3gdJw7qOF3TfLw5OiAk7i5YU79PNQgUc4steW ; Published 10.16.2017



China demands the possibility of full control over personal information ⁹⁵, while their Personal Information Protection act of 2015 prevents private and non-state actors from collecting sensitive and personal information needlessly, it also empowers the state to have full access of any personal data these other organisations have, when necessary. Article 3 of this act clearly gives the State the right to request, review, duplicate, process and even delete personal information. This level of absolute control contradicts and challenges the privacy laws of other nations and regions, which leads to an interesting debate amongst the different regions and blocs, particularly in preparation for the potential of the IoT and the proper utilisation of Communication.

4. Subtopic: Internet of Things (IoT)

Nearly everything can be found or transmitted through the internet. The Internet of Things is the concept of connecting any device to the internet (and to each other). This includes gadgets such as cellphones and headphones all the way to household appliances like coffee makers, washing machines, and wearable devices. ⁹⁶ IoT is a giant network of connected things and people which may even have 26 billion connected devices by 2020. ⁹⁷

The IoT offers a lot of opportunities and potential to achieve economic, social and public policy objectives.⁹⁸ It allows “anything that can be connected” to be connected⁹⁹, it helps both in the micro and macro scale. IoT works in all major fields, from gaming, communication, health and even government services. It can theoretically optimise an individual’s life through

⁹⁵ Personal Data Protection Act; Laws and regulations database of the PRC
<https://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=I0050021>;
retrieved 09.2019

⁹⁶ Morgan, Jacob; Forbes; A Simple Explanation of the Internet of Things;
<https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#729927881d09>; Retrieved
11.2019

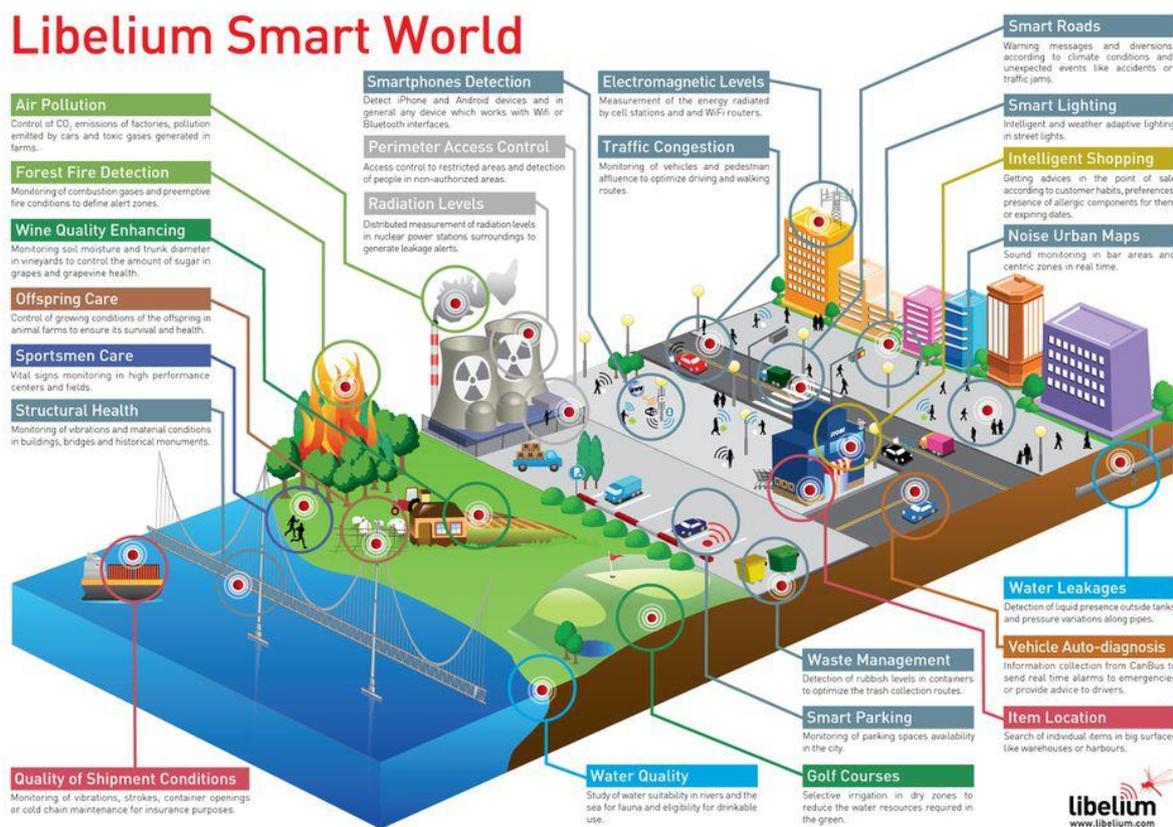
⁹⁷ Morgan, Jacob; Forbes; A Simple Explanation of the Internet of Things;
<https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#729927881d09>; Retrieved
11.2019

⁹⁸ Cape Town Global Action Plan for Sustainable Development Data Prepared
by the High-level Group for Partnership, Coordination and Capacity-Building
for Statistics for the 2030 Agenda for Sustainable Development
<https://unstats.un.org/sdgs/hlg/Cape-Town-Global-Action-Plan>

⁹⁹ Morgan, Jacob; Forbes; A Simple Explanation of the Internet of Things;
<https://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/#729927881d09>; Retrieved
11.2019



accumulated data and the according adjustments to the various devices around the said person. On a larger scale, it can help reduce inefficiencies and wastage of energy in cities and regions, and help in regional planning and management. Water levels and resources can be more intelligently utilised, while air quality can be monitored continuously. Streamlined transport services has enabled automation and reduced congestion in cities too.¹⁰⁰



(Image taken from Libelium Smart World¹⁰¹)

Due to the nature of this service, data would be collected at one point or another. IoT services made for consumers collect data that may seem innocuous and trivial, but when compiled, complete a huge set of private data.¹⁰² The World Economic Forum’s IoT for sustainable

¹⁰⁰ Cox, Laura; 5 Ways the IoT is Supporting Sustainability; <https://disruptionhub.com/5-ways-iot-supports-sustainability/>; Published 07.31.2018

¹⁰¹ Libelium; Libelium Smart World Infographic; <http://www.libelium.com/libelium-smart-world-infographic-smart-cities-internet-of-things/>; Published 04.08.2013

¹⁰² Cape Town Global Action Plan for Sustainable Development Data Prepared by the High-level Group for Partnership, Coordination and Capacity-Building for Statistics for the 2030 Agenda for Sustainable Development <https://unstats.un.org/sdgs/hlg/Cape-Town-Global-Action-Plan>



development aims to encourage the use of the IoT to accelerate progress on the 17 Sustainable Development Goals. The project determined over 640 projects from IoT analytics that are potentially beneficial to 84% of the SDG projects.¹⁰³

The UN acknowledges the line between IoT and SDGs but also recognises that the awareness is limited¹⁰⁴. It believes that the guidelines made in the WEF forum on IoT would encourage the prioritisation of sustainability goals as part of the design of projects. It aims to maximise social impact while still delivering and also increasing value of the said project.¹⁰⁵ While there are many benefits across the different stakeholders for this type of data, there are many contentions and debates over data privacy¹⁰⁶, the extent the state and commercial entities can have control and access over everyday data in order to optimise society and fulfil SDGs.

5. Questions a Resolution Must Answer

The following sub-topics show the importance of Communication, Data privacy and the Internet of Things. It also shows the various challenges and debates at the various levels of implementation and regulation. Points that would preferably be raised would involve the following:

- (1) What standards would be set for data utilisation, particularly for telecommunication companies, data analytics programs and organisations as well as other regional entities?
- (2) How would you let stakeholders and key decision makers harness this data?
- (3) What are your preferred mechanisms of action in order to improve the utilisation and transmission of data, particularly in the context of IoT?
- (4) How would this mechanism help achieve the 2030 SDG goals?
- (5) How can data transfer effectively and equitably work across the world?

¹⁰³ World Economic Forum, IoT for Sustainable Development Project;
<http://widgets.weforum.org/iot4d/>; Retrieved 11.2019

¹⁰⁴ World Economic Forum; Internet of Things Guidelines for Sustainability;
<http://www3.weforum.org/docs/IoTGuidelinesforSustainability.pdf>; Published 01.2018

¹⁰⁵ World Economic Forum; Internet of Things Guidelines for Sustainability;
<http://www3.weforum.org/docs/IoTGuidelinesforSustainability.pdf>; Published 01.2018

¹⁰⁶ Cape Town Global Action Plan for Sustainable Development Data Prepared by the High-level Group for Partnership, Coordination and Capacity-Building for Statistics for the 2030 Agenda for Sustainable Development
<https://unstats.un.org/sdgs/hlg/Cape-Town-Global-Action-Plan>



- (6) How would the state balance their own data security with the security of private and business data in the pursuit of greater efficiency?
- (7) How would the state divide its own personal, security and economic interests from global markets while utilising the IoT?



Optional Reading:

1. On the introduction of the topic:

- This provides a document showing a lot of information about the mobile market in 2019
<https://www.gsmaintelligence.com/research/?file=b9a6e6202ee1d5f787cfebb95d3639c5&download>

2. On Communication and Mobile Networks:

The references given on the footnotes are interesting topics to read.

3. On Data Privacy:

- This link provides a list of the largest data breaches so far, it helps show the significance of data privacy and security <https://www.crn.com/slide-shows/security/the-13-biggest-data-breaches-of-2019-so-far-?itc=refresh>
- This provides a quick link to the GDPR <https://gdpr-info.eu/>
- CNIL provides a very useful interactive map which shows the state of data privacy around many nations in the world. It also provides very convenient links to the specific law/s and agencies in countries that have data protection and privacy laws
¹⁰⁷<https://www.cnil.fr/en/data-protection-around-the-world>
- This provides a short summary on privacy laws in some countries, this is a useful basic summary <https://www.privacypolicies.com/blog/privacy-law-by-country/>¹⁰⁸

4. On Internet of Things:

- This link provides a very useful outline to the IoT and SDGs,
<http://www3.weforum.org/docs/IoTGuidelinesforSustainability.pdf>

¹⁰⁷ Data protection around the world; CNIL; <https://www.cnil.fr/en/data-protection-around-the-world>; Updated 10.11.2019

¹⁰⁸ What's Data Privacy Law In Your Country? ; Privacy Policies.com; <https://www.privacypolicies.com/blog/privacy-law-by-country/>; Updated 09.04.2019



Information about the Conference

1. Conference Schedule

HamMUN 2019 "Shaping a New Era of Diplomacy"					
November 27, 2019	November 28, 2019		November 29, 2019	November 30, 2019	December 1, 2019
Wed	Thurs		Fri	Sat	Sun
			Session II	Session IV	Session VI
	Registration		9:00 - 13:00	9:00 - 13:00	10:00 - 12:00
	10:00 - 14:30				Committee Debriefing 12:00 - 13:00
	Chair Briefing 12:30 - 13:45	RoP - Workshop 12:15 - 13:45	Lunch Break 13:00 - 14:00	Lunch Break 13:00 - 14:00	Chair Debriefing 13:30 - 14:00
	Opening		Session III	Session V	Closing Ceremony 14:00 - 15:30
	Ceremony		14:00 - 18:00	14:00 - 18:00	
Pre-Program 16:00 - 19:00	15:30 - 17:30				
	Session I				
	18:00 - 20:00		Break	Break	
Get Together					
19:00	Committee Evening				
	20:00		Silent Disco	Delegate Ball	
			21:00	21:00	

Please note: This schedule is subject to change. For the most up-to-date schedule, please check: hammun.de/conference-schedule



2. Rules of Procedure

HamMUN 2019 session will follow the Rules of Procedure which can be found here: <http://hammun.de/rops/>.

For first time delegates we recommend participating in the *Rules of Procedure workshop* on Thursday.

3. Emergency Phone Numbers

Police: 110

Fire Brigade: 112

Casualty doctor: 112

4. Important Addresses

Conference venue: Edmund-Siemers-Allee 1, 20146 Hamburg (*and other places at Hamburg University main campus*)

Opening ceremony: Laeiszhalle, Kleiner Konzertsaal, Johannes-Brahms-Platz, 20355 Hamburg

Registration: Audimax Garderobe, Von-Melle-Park 4, 20146 Hamburg

Committee Evening: *Different places, your chairs will inform you*

Silent Disco: Club Hamburg, Reeperbahn 48, 20359 Hamburg

Delegate Ball: Gruenspan, Große Freiheit 58, 22767 Hamburg

5. Public Transport

During the conference, **your badge will be your ticket**. Please have your badge with you **all the time!** Public Transport in Hamburg will provide you with busses, tubes and city railroads.

Service Times:

Wednesday + Thursday: Service stops at **1 am**, afterwards you can only take night busses

Friday – Sunday: Whole night service

Stops near to conference venues:

Conference venue + Registration + Committee Evening:

(different places at Hamburg main campus)



S-Bahn Station **Dammtor**: Lines S11, S21, S31

Bus Station **Dammtor**: Line 109

Bus Station **Universität/Staatsbibliothek**: Lines 4, 5

Opening Ceremony:

Walking distance from Registration: 20 Minutes

Bus Station **Johannes-Brahms-Platz**: Line 3

Tube Station **Messehallen**: Line U2

Silent Disco (*Fridays Social*) + Delegates Ball (*Saturdays Social*):

S-Bahn Station **Reeperbahn**: Lines S1, S2, S3

Bus Station **Davidstraße**: Line 111

Tube Station **St. Pauli**: Line U3

6. HamMUN App

HamMUN is proud to offer a mobile app during the conference. You can get it on your phone by typing this URL <https://hammun.lineupr.com/2019> into your mobile browser.

Please note that the app is not to be installed via your app store but is a desktop shortcut of a mobile website!

7. Water Supply

In case you are thirsty (or sober), don't worry. Water out of the tap is perfectly drinkable!

8. Please bring cash!

Unlike in other European nations, many stores, cafeterias and especially the social venues often do not accept credit cards! Make sure to have cash with you.

