

FORUM: United Nations Office for Disaster Risk Reduction (UNDRR)

QUESTION OF: Performing Risk Assessments of Emerging Technologies and their Potential Hazards

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INTRODUCTION

Even though the emerging technologies seem to be developed, in order to help humans accomplish everyday tasks easier and faster, they also have significant hazards that need to be taken into account. For instance, some significant examples, regarding the threats of technology, are highly connected with security, cyberattacks and automation. The aforementioned threats need to be assessed precisely, due to their complexities and the difficulty to evaluate them. The use of technology varies from one industry to another, making it hard for scientists to get a better insight on the specific hazards that each one of those comes with¹. There are several existing frameworks, which can actually be used to assess the risks, however the complexities of the emerging technologies make it difficult to consider the possible hazards and their outcome². The key to have a complete idea of the risks of technology, in order to reduce them, is by getting an overview of both the benefits and the drawbacks. Additionally, the radical increase of new technological developments, that are reported on a daily basis, require the need of urgent methods to deal with the issues that might be provoked by the inappropriate use of the technological achievements. Although, in the past few decades, technology seems to have assisted in the evolution of many different career fields, there are plenty of examples that technology was connected

¹ "Performing Risk Assessments of Emerging Technologies." ISACA, 2019, www.isaca.org/resources/isaca-journal/issues/2022/volume-6/performing-risk-assessments-of-emerging-technologies?gad_source=1&gclid=CjwKCAjw0aS3BhA3EiwAKaD2Zc6dUuJlfDUBDF2WyaEAbzv7YrXIPJ43ZhiMi_jToFjjRZA3tVgVChoCiLIQAvD_BwE. Accessed 17 Sept. 2024.

²Nations, United. "UN Department of Safety and Security." *United Nations*, www.un.org/en/safety-and-security.

with events, disastrous for human existence. Recent research surveys have shown that the overwhelming majority of all citizens, tend to face at least once in their lives the disadvantages of technology, in any of its forms. Those incidents pose the need for urgent measures to be taken, in order to assess the potential hazards of the emerging technologies, before it is too late.

DEFINITION OF KEY TERMS

Risk Assessments

A risk assessment is the procedure, which emphasizes on the identification, systematic examination and evaluation of a hazard, during a specific situation. It mainly focuses on reducing the potential harms, through a series of different inspections and tests. The major goal of a risk assessment is to examine the hazards, evaluate the possibility of their occurrence and implement measures to deal with their possible, negative outcome.³

Frameworks

A system of rules and measures that is mostly used to decide or plan something.⁴

Research Survey

A procedure which focuses on collecting information, analyzing the data and examining the results.⁵

Technological Achievement

A technological achievement is basically based on scientific and technological inventions and discoveries.⁶

³ "What Is Risk Assessment? | Online Interactive Risk Assessment." *Oira.osha.europa.eu*, oira.osha.europa.eu/en/what-is-risk-assessment.

⁴Cambridge dictionary. "FRAMEWORK | Meaning in the Cambridge English Dictionary." *Dictionary.cambridge.org*, dictionary.cambridge.org/dictionary/english/framework.

⁵McCombes, Shona. "Doing Survey Research | a Step-By-Step Guide." *Scribbr*, 22 June 2023, www.scribbr.com/methodology/survey-research/.

⁶ Foray, Dominique. "Innovation versus Technological Achievement." *Chapters*, 2017, pp. 405–418, ideas.repec.org/h/elg/eechap/15485_25.html. Accessed 17 Sept. 2024.

Emerging Technologies

Emerging technology is a term used to describe the new technological achievements or the continuing progress of the existing ones.⁷

Hazard

A hazard is a dangerous phenomenon, substance, human activity or condition.⁸

Industry

An industry is a group of manufacturers or businesses that produce a particular kind of goods or services.⁹

Urgent

A situation calling for immediate attention¹⁰.

Cyberbullying

Cyberbullying is bullying that takes place over digital devices like cell phones, computers, and tablets. It includes sending, posting, or sharing negative, harmful, false, or mean content about someone else. It can include sharing personal or private information about someone else causing embarrassment or humiliation.¹¹

BACKGROUND INFORMATION

The Radical Evolution Of Technology

The history of technology begins roughly 3 million years ago with the invention of stone tools. Since then, technology has exponentially evolved.¹² These inventions are widely known, as the first technological achievements. Additionally, it took 2.4 million years, since

⁷Nations, United. "UN Department of Safety and Security." *United Nations*, www.un.org/en/safety-and-security.

⁸IFRC. "Hazard Definitions | IFRC." *Www.ifrc.org*, 16 June 2021, www.ifrc.org/document/hazard-definitions.

⁹"Industry - Dictionary Definition." *Vocabulary.com*, www.vocabulary.com/dictionary/industry.

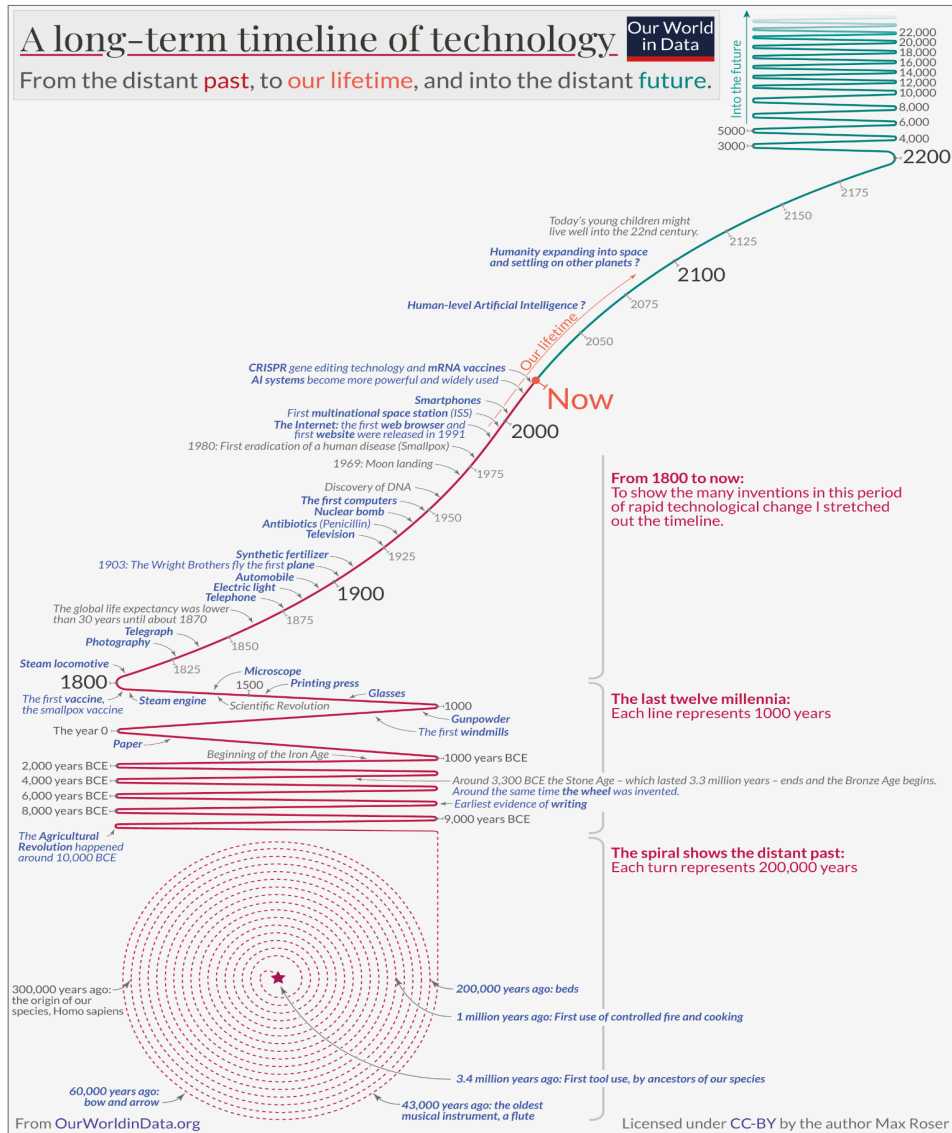
¹⁰"Definition of URGENT." *Www.merriam-Webster.com*, www.merriam-webster.com/dictionary/urgent.

¹¹Stopbullying. "What Is Cyberbullying." *Stopbullying.gov*, U.S. Department of Health and Human Services, 5 Nov. 2021, www.stopbullying.gov/cyberbullying/what-is-it.

¹²*Study.com*, 2022, study.com/learn/lesson/technology-history-timeline.html.

the creation of the stone tools, for humans to discover the fire and start using it for cooking .

As
time
went
by,
the



invention of writing and the paper were considered to be signs of technological developments. In the 19th century, the first telephones, photographs, telegraphs and electric light, made their appearance. Shortly after, the invention of the first airplane, the use of synthetic fertilizers, the nuclear bombs and the first antibiotics, were reported. Additionally, in 1969, the humans managed to land on the moon. That was only the beginning of space exploration. During the past twenty years, the first smartphones, the mRNA vaccines and the evolution of Artificial Intelligence (AI), have indicated the ultimate progress of technology.

Figure 1 - A long-term timeline of the technological evolution.¹³

Emerging Technologies

Artificial Intelligence (AI)

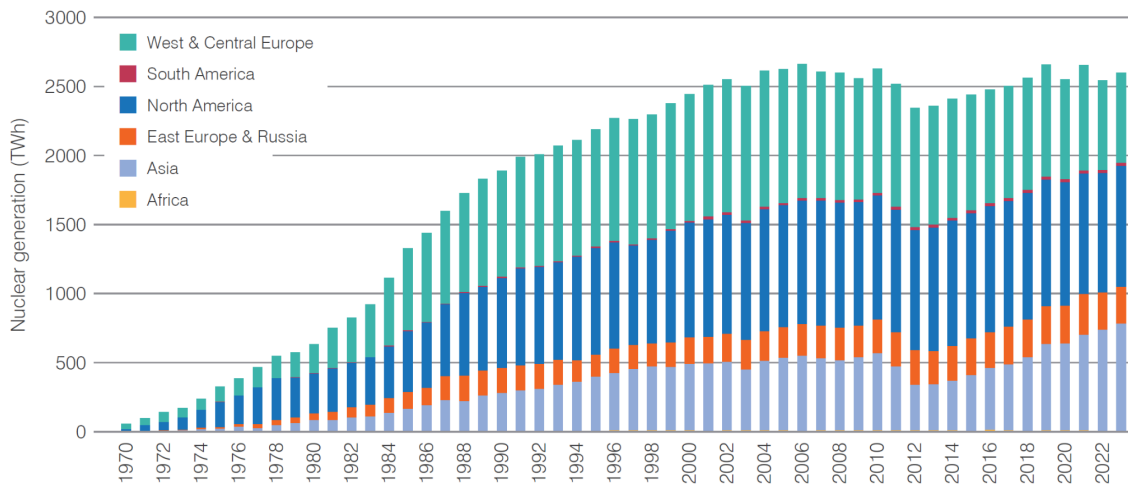
Artificial Intelligence (AI) is a simulation of human intelligence, mostly exhibited by computer systems. The aforementioned systems are capable of performing complex tasks that in the past could only be accomplished by humans, such as making decisions and solving problems. Nowadays, the term Artificial Intelligence is used to describe a wide range of technologies that power many of the services we use on a daily basis. It simply learns to analyze large amounts of data, recognize patterns, and make predictions or decisions based on that data, continuously improving its performance over time. Over time, AI systems improve on their performance of specific tasks, allowing them to adapt to new inputs and make decisions without being explicitly programmed to do so. In essence, AI is about teaching machines to think and learn like humans, with the goal of automating work and solving problems more efficiently.

Nuclear Power

Nuclear power provides almost 15 percent of the world's electricity. The first nuclear power plants, which were small demonstration facilities, were built in the 1960. The nuclear power industry went through a period of remarkable growth until about 1990, when the portion of electricity generated by nuclear power reached a high of 17 percent. The uses of nuclear technology extend well beyond the provision of low-carbon energy. It helps control the spread of disease, assists doctors in their diagnosis and treatment of patients, and powers our most ambitious missions to

¹³ Roser, Max. "Technology over the Long Run: Zoom out to See How Dramatically the World Can Change within a Lifetime." *Our World in Data*, 22 Feb. 2023, ourworldindata.org/technology-long-run.

explore space. These varied uses position nuclear technologies at the heart of the world's efforts to achieve sustainable development.¹⁴



Source: World Nuclear Association and IAEA Power Reactor Information Service (PRIS)

Figure 2 - Nuclear electricity production 1970 - 2022.¹⁵

Biotechnology

Biotechnology is the use of biology to solve problems and make useful products. It is a branch of science that combines biology and technology with the aim of improving people’s quality of life. The most prominent area of biotechnology is the production of therapeutic proteins and other drugs through genetic engineering.¹⁶ People have been harnessing biological processes to improve their quality of life for some 10,000 years, beginning with the first agricultural communities. Biotechnology has been present in our lives for centuries. We can find the first practical uses in something as usual as making bread, wine, or beer. The common denominator of these three things is fermentation, or the use of yeast, and

¹⁴World Nuclear Association. “Nuclear Power in the World Today - World Nuclear Association.” *World-Nuclear.org*, 7 May 2024, [world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today](http://www.world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today).

¹⁵ “Power Reactor Information System (PRIS).” *Www.iaea.org*, 2 Apr. 2019, www.iaea.org/resources/databases/power-reactor-information-system-pris.

¹⁶Kara Rogers. “Biotechnology | Definition, Examples, & Applications.” *Encyclopædia Britannica*, 16 Nov. 2018, www.britannica.com/technology/biotechnology.

the preservation of foods. Biotechnology is a multidisciplinary area that is applied to pharmaceuticals, agriculture, food sciences, and forestry sciences. Its application results in improved medicines, more productive crops, and even more resilient materials, among others. Let's take a closer look at some of its applications:¹⁷

- Environmental biotechnology
- Medical biotechnology
- Industrial biotechnology
- Plant biotechnology
- Molecular biotechnology
- Animal biotechnology
- Pharmaceutical biotechnology
- Marine biotechnology

The Rising Challenges That Come With Technology

Privacy:

Data security and safety

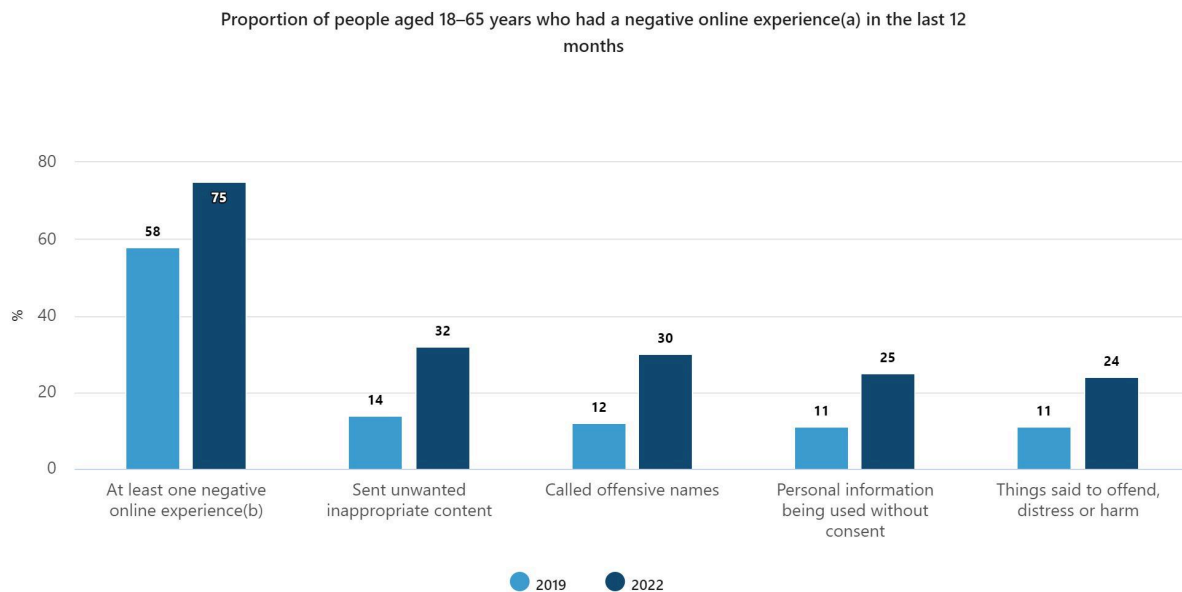
The emphasis on innovation, can lead to a culture where ethics and privacy take a backseat to new features and capabilities¹⁸. Emerging technologies can pose a risk to privacy and security, such as the misuse of personal data. Some significant examples of the possible misuse of data consist of phishing, the Trojan horse, Scams and the Cyber Predators. Furthermore, some very keen threats that might be provoked by the use of the emerging technologies, are the cyber attacks, the leakage

of private information and the possible cyberbullying that an individual might face. The aforementioned risks could be a result of the wrong use of the means of technology, due to

¹⁷ Repsol. "What Is Biotechnology? Types and Their Applications in Society." *REPSOL*, 11 Sept. 2023, www.repsol.com/en/energy-and-the-future/technology-and-innovation/biotechnology/index.cshtml.

¹⁸Carmichael, Mary . "Eight Overlooked Emerging Tech Risks and How to Mitigate Them." *ISACA*, 6 May 2024, www.isaca.org/resources/news-and-trends/newsletters/atisaca/2024/volume-9/eight-overlooked-emerging-tech-risks-and-how-to-mitigate-them.

the fact that the minority of the citizens have the appropriate knowledge on how to perform on the Internet, while remaining safe. More specifically, the following graphic, presents individuals, aging from 18 to 65 years old, who had a negative online experience.



a. This graph does not display the full list of negative online experiences. For the full list, see the report on Adults' negative online experiences.
 b. Does not include experiences with scams, online fraud, or device virus/malware.

Source: Australian Bureau of Statistics, Online safety

Figure 3 - People aged 18-65 years who had an unpleasant negative experience in the past 12 months.¹⁹

Mobile payments

Unfortunately, mobile payments are known to be some of the most usual forms of online risks that the users of the Internet face. Even though this method of paying was created, in order to help the individuals to carry out their transactions,

¹⁹“Online Safety.” *Australian Bureau of Statistics*, Australian Bureau of Statistics, 2022, www.abs.gov.au/statistics/measuring-what-matters/measuring-what-matters-themes-and-indicators/secure/online-safety.

whenever they wanted and from wherever they were, some tragic incidents are reported, on a daily basis. For instance, according to a PEW Charitable Trusts survey, US consumers were more likely to believe that mobile payments were more “poorly protected” (38%) than prepaid (28%), debit (22%) or credit cards (9%). For mobile payments that use a credit card, still only 35% of consumers said that they were well protected, compared to using a credit card on its own (61%)²⁰. Hackers are constantly finding new ways to get access to personal information or devices, resulting in a radical increase of those incidents.

Impact

Modern technologies have revolutionized the way we live and work. Technology is progressively evolving and the role it plays in our everyday lives is extremely important²¹. As more and more companies embark on the journey of Artificial Intelligence, the traditional ways of working are being judged and new ways are constantly emerging. Virtual reality technology has completely changed the world of entertainment, education and even healthcare. This version of the emerging technologies has benefited many career fields, as well as allowed more individuals to gain experience and pursue a career in this domain. From cooking to cleaning and long distance working, these are some of the modern technological achievements that assist the individuals to accomplish their tasks, easier and faster.

However, there are also several examples of recent technologies that put in danger the health and safety of countless humans, as well as world peace. As a result, we should all approach technology precisely, in order to get a better knowledge on its features, without risking our safety.

Environmental Impacts - Eco-conscious technology

Even though Green Technology is still in the early stages of its development, some very exciting innovations have been noted in areas like renewable energy,

²⁰“Are Americans Embracing Mobile Payments?” *Pewtrusts.org*, 3 Oct. 2019, www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/10/are-americans-embracing-mobile-payments.

²¹United Nations. “The Impact of Digital Technologies.” *United Nations*, United Nations, 2020, www.un.org/en/un75/impact-digital-technologies.

water purification and waste management. However, many scientists express their concerns, regarding both the benefits and the drawbacks of technology and its environmental impact. Although a significant number of advantages have been reported since technology became an integral part in our lives, there are also certain disadvantages that should be taken into further consideration. For example, the electronic waste (E- Waste), such as toxic materials and water contamination, pose a great threat to the environment. Additionally, in the past few decades, agriculture has faced the threat of deforestation. As a result, we are losing a great amount of biodiversity and the greenhouse gas emissions are concerning the community. Additionally, the frequent use of nuclear energy, has caused a great deal of concern, due to the fact that it is widely believed that the negative impact it has on the environment, can prove catastrophic. A major environmental concern related to nuclear power is the creation of radioactive wastes such as uranium mill tailings, spent (used) reactor fuel, and other radioactive wastes. These materials can remain radioactive and dangerous to human health for thousands of years.²² Consequently, we are facing the need of establishing unconventional means of technology, for the sake of both benefiting humanity and the environment, but without harming the Earth.

International relations and security

International relations and security were always strongly influenced by emerging technologies and disruptive innovations – both directly (weapons, technology alliances etc.) and indirectly (economic and defense potentials, soft power and other)²³. Nowadays, the current situations and the global affairs are strongly connected to technology and its achievements, resulting in the challenge of international safety and good relations, among all nations. The new generation of emerging technologies are moving fast and slowly transforming our lives and global safety. On the one hand, some significant examples of the positive impact technology has on global relations and security, is highly connected with the development of social media and news reports, since we have better access to

²² EIA. “Nuclear Power and the Environment.” *Eia.gov*, U.S. Energy Information Administration, 7 Nov. 2022, www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php.

²³ Danilin, Ivan V. “Emerging Technologies and Their Impact on International Relations and Global Security.” *Hoover Institution*, 2018, www.hoover.org/research/emerging-technologies-and-their-impact-international-relations-and-global-security.

information, related with the flaming issues, at any moment. On the other hand, there are also some incidents, which were provoked by the negative impact of technology. For instance, the Russian invasion of Ukraine challenged the relations between the countries in the East with the ones in the West. Additionally, the conflict has tested the effectiveness of International institutions and other mechanisms to maintain peace and security.²⁴

The hazards of technology

Humanitarian

Addiction

Technology addiction involves the excessive use of technology, that leads to problems, distress and loss of sleep²⁵. The overuse of technology may have a more

significant impact on developing children and teenagers. Nowadays, it is not uncommon for both the youth and adults, to spend an excessive amount of time scrolling on social media, but this often leads to a fear of missing out and fear of being left out. Coupled with the neurological changes that take place in the brain, while being online, technology addiction can be added to the list of behavioral addictions. This sort of addiction also comes with several negative changes, regarding both the physical and mental health of the individual. More specifically, as for the mental aspect, the individuals tend to feel depressed, isolated and anxious. Lastly, people who are addicted to the use of Internet Face eyestrain, loss of sleep

²⁴“The Russian War’s Impact on Global Order | near East South Asia Center.” *Nesa-Center.org*, nesa-center.org/the-russian-wars-impact-on-global-order/.

²⁵ “Technology Addictions: Social Media, Online Gaming, and More.” *Www.psychiatry.org*, www.psychiatry.org/patients-families/technology-addictions-social-media-and-more.

and most of the times they reduce their physical activities, which may lead to obesity.²⁶

Isolation

Isolation is one of the consequences of addiction to technology. According to experts, individuals who have constant access to the means of technology, specifically smartphones, can prevent us from making personal connections. As a result, the excessive use of technology can cause emotional harm. A 2017 study found that heavy social media users were three times more likely to feel socially isolated, than casual users.²⁷ A 2017 study of young adults ages 19 to 32 found that individuals with higher social media usage are more than three times as likely to feel socially isolated, compared with those who use social media less frequently. Social media especially affects girls because their social life and status often revolve around intimacy and inclusion. Thus, girls are likely to experience the “fear of missing out”

and relational aggression, which is common on social media. Research has also shown that decreasing time spent on social media can help reduce feelings of loneliness among young adults ages 18 to 22. According to psychologist Louise Hawkey, “Those who are substituting online relationships for real relationships, unsurprisingly, don’t see a reduction in loneliness and in fact may actually see a deterioration relative to people who use online interactions to supplement their face-to-face relationships.”²⁸

²⁶Johnson, Jon. “Negative Effects of Technology: What to Know.” *Medical News Today*, 7 Feb. 2024, www.medicalnewstoday.com/articles/negative-effects-of-technology.

²⁷GCF Global. “The Now: Is Technology Making Us Lonely?” *GCFGlobal.org*, 2021, edu.gcfglobal.org/en/thenow/is-technology-making-us-lonely/1/.

²⁸ Regis College. “How Technology and Social Isolation May Affect Mental Health.” *Regis College Online*, 24 Nov. 2020, online.regiscollege.edu/blog/technology-and-social-isolation/.

Cyberbullying

Cyberbullying is bullying with the use of digital technologies. It can take place on social media, messaging platforms, gaming platforms and mobile phones. It is a repeated behavior, aimed at scaring, angering or shaming those who are targeted.²⁹ The events of cyberbullying are traumatizing and psychologically wounding. Victims of cyberbullying may develop depressive symptoms and insomnia. The effects of cyberbullying also include mental health issues, increased stress and anxiety, depression, acting out violently, and low self-esteem. Teenage bullying is when a bully uses physical strength or social influence to intimidate a perceived weaker person. Teenage cyberbullying involves the same patterns of intimidation but takes place where young people interact online: digital devices, such as cellphones and computers, and online interactions on social media and gaming platforms. An online environment intended to create connection can turn into a dangerous and negative space for teens. Cyberbullying typically takes the form of a teen sending or posting harmful or false content about a peer, or sharing another teen's personal or private information, with the goal of causing embarrassment or humiliation.³⁰ Teenagers who are victims of cyberbullying may experience a range of negative emotions, such as sadness, anger, fear, and embarrassment.³¹ These victims are also more likely to have mental health problems, including depression, anxiety, and suicidal thoughts. Face-to-face bullying and cyberbullying can often happen alongside each other. But cyberbullying leaves a digital footprint – a record that can prove useful and provide evidence to help stop the abuse.

²⁹ UNICEF. "Cyberbullying: What Is It and How to Stop It." *UNICEF*, UNICEF, Feb. 2024, www.unicef.org/end-violence/how-to-stop-cyberbullying.

³⁰"How to Recognize Teen Cyberbullying." *Newport Academy*, 9 Feb. 2021, www.newportacademy.com/resources/restoring-families/teen-cyberbullying/.

³¹Bergman, Matthew . "Effects of Cyberbullying: What Parents & Teenagers Need to Know." *Social Media Victim's Law Center*, 7 Apr. 2023, socialmediavictims.org/cyberbullying/effects/.

In the work field:

Automation and job displacement

Automation has been a worry for years, as many traditional workers are seen losing their jobs to machined-based labor daily. It replaces human efforts with technology and results in job displacement. Although many workers have been displaced and more are still on the verge of being replaced, digital transformation is still a concern. As per the estimates, by 2025, 85 million jobs will be lost to automation worldwide.³² The global pandemic caused the automation of several positions, due to the fact that the majority of businesses and shopping were completed online. Furthermore, the widespread use of technology, in most of the career fields, has led to a radical increase of unemployment. Technological unemployment is caused by job displacement due to advancements in technology, such as automation and artificial intelligence. This sort of unemployment has significant impacts on society, from economic to social, and even psychological effects on the workforce. Moreover, automation and job displacement has also affected not only the local but also the global economy. The loss of many working positions, due to automation, leads to the unemployment of a significant number of individuals, resulting in the decrease of economic growth.

Risk assessments

The procedure

A risk assessment is defined as a five step, practical exercise where the assessor identifies the hazards in the workplace. These hazards could either be an item or object, which could potentially cause harm.

Let's take a closer look at the five different steps, of a risk assessment.³³

1. Identifying the hazards
2. Identifying who might be at risk
3. Taking measures to reduce or prevent the risks
4. Keeping written records
5. Reviewing your risk assessment

³² Talmage-Rostron, Mark. "How Will Artificial Intelligence Affect Jobs 2023-2030." *Nexford University*, 10 Jan. 2024, www.nexford.edu/insights/how-will-ai-affect-jobs.

³³ ROSPA. "What Is a Risk Assessment - RoSPA." *Www.rospa.com*, 2023, www.rospa.com/workplace-health-and-safety/what-is-a-risk-assessment.

The evaluation of the results

A major step during a risk assessment is the evaluation of the results. Risk evaluation attempts to define what the estimated risk actually means to people concerned with or affected by the risk. A large part of this evaluation will be the consideration of how people perceive the risks.³⁴ This chapter also includes the examination of the advantages and the disadvantages, while trying to find the best measures to deal with the issue.

The design of the measures that should be taken

After the whole process of the risk assessment, the assessors gather the results and try to reach a consensus, regarding the measures that should be taken, in order to deal with the potential hazards. According to the European Union, not only do the outcome of risk assessments eliminate and prevent the risks but also provide the citizens with all the necessary information regarding the issue. Additionally, the results of each assessment can be handed to the corresponding organizations, in order to implement the safety measures needed.

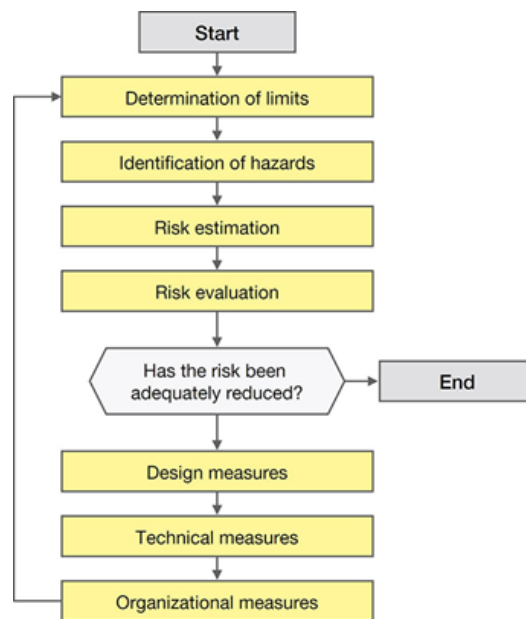


Figure 2 - The procedure of a risk assessment.³⁵

³⁴European Environment Agency. "Chapter 8: Evaluation of Risk and Risk Management." *European Environment Agency*, 2016, www.eea.europa.eu/publications/GH-07-97-595-EN-C2/chapter8h.html.

³⁵ Hall, Heather. "Technology Report: Methods for Risk Assessment." *Design World*, 2 May 2024, www.designworldonline.com/technology-report-methods-for-risk-assessment/.

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

United States of America (USA)

The United States of America(USA), has been involved in the establishment of several organizations, which aim to deal with the risks of the emerging technologies. For example, the National Initiative For Cybersecurity Careers And Studies(NICCS), has conducted several studies on how to remain safe, while using technology and the potential hazards that come with it.

United Nations (UN)

The possible hazards of the excessive use of the upcoming technologies, are taken into further consideration both by the United Nations Office for Disaster Risk Reduction(UNDRR). As reported by the UNDRR, the risks from emerging technologies have often been small compared to their benefits. That is no longer the case. Because of the

with the increasing pace of technological change across the globe, it is becoming more difficult for risk governance to keep up. While new technologies can bring society enormous benefits and significantly contribute to achieving global goals such as the UN Sustainable Development Goals, they usually have unintended effects, often cause harm accidentally, and are sometimes misused.

TIMELINE OF EVENTS

Date	Description of Event
Around 1919	Károly Ereky, a Hungarian agricultural engineer, first uses the word biotechnology. In 1919, a pivotal milestone was reached with the production of citric acid by <i>Aspergillus niger</i> , marking the inception of the first aerobic fermentation process. ³⁶
6th August 1945	The detonation of an atomic bomb over the Japanese city, Hiroshima.

³⁶ Verma, Ashish Swarup, et al. "Biotechnology in the Realm of History." *Journal of Pharmacy and Bioallied Sciences*, vol. 3, no. 3, July 2011, p. 321, www.ncbi.nlm.nih.gov/pmc/articles/PMC3178936/, <https://doi.org/10.4103/0975-7406.84430>.

9th August 1945	The detonation of an atomic bomb over the Japanese city, Nagasaki.
20 December 1951	In Arco, Idaho, Experimental Breeder Reactor I produces the first electric power from nuclear energy, lighting four light bulbs. ³⁷
Around 1956	Alan Turing published his work “Computer Machinery and Intelligence” which eventually became The Turing Test, which experts used to measure computer intelligence. The term “artificial intelligence” was coined and came into popular use. ³⁸
January 1st, 1983	Prior to the invention of the Internet, the various computer networks did not have a standard way to communicate with each other. A new communications protocol was established called Transfer Control Protocol/Internet Protocol (TCP/IP). ³⁹
26th April 1986	The Chernobyl disaster began with the explosion of the Chernobyl Nuclear Power Plant, near the city of Pripyat.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

This flaming issue, of the emerging technologies and their hazards, has been assessed by the United Nations Office for Disaster Risk Reduction(UNDRR). Unfortunately, there is no resolution, which aims at assessing the potential hazards of the emerging technologies, but several research studies have been conducted.

³⁷U.S. Department of Energy. “The History of Nuclear Energy.” *Energy.gov*, 1995, www.energy.gov/ne/articles/history-nuclear-energy.

³⁸ Tableau. “What Is the History of Artificial Intelligence (AI)?” *Tableau*, Salesforce, 2023, www.tableau.com/data-insights/ai/history.

³⁹ University System of Georgia. “A Brief History of the Internet.” *Usg.edu*, www.usg.edu/galileo/skills/unit07/internet07_02.phtml.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Due to the rapid development of the technology and the limited knowledge individuals have in this field, there are no significant attempts to assess the hazards of the emerging technologies, rather than possible ideas, which mainly focus on how to mitigate the risks.

POSSIBLE SOLUTIONS

Conduction of Risk Assessments

By adopting this measure, both the researchers and the citizens will be benefited. Firstly, the scientists will have the opportunity to evaluate the dangers of the emerging technologies and as a result will be able to get a better understanding of how technology actually works. This is of utmost importance, since the rapid advancements of technology did not leave enough space to the specialists, to get better knowledge on the emerging technologies and their impact. Secondly, the individuals who will be handed the outcome of the assessments, will have the chance to get adequately informed about the dangers of technology and the measures they should take, in order to protect themselves.

Educational Programs On the Importance of being safe, while using technology

The spread of awareness, especially among both the youth and the adults, is extremely important, due to the fact that people of all ages tend to use technology more often than ever before. For this reason, we are in need of the establishment of educational programmes, in order for the individuals to get a better understanding of how technology is developing, how to use the means of technology wisely and how to remain safe, while scrolling on the Internet. This measure will prove extremely useful, mostly to the elderly people, because they have limited knowledge on how to properly use technology.

Cooperation of States and Information Sharing

The cooperation of States will be an important step to further strengthen their mutual cyber resilience and foster a secure global cyberspace, against the hazards of the emerging technologies. By implementing this innovative measure, a more safe and stable environment will be created, since the common ideas will be evaluated and applied. For instance, by creating an Intergovernmental Organization(IGO), all nations will be urged to cooperate regarding this issue, which is known to affect the majority of countries, on a global scale.

Implementation of safety mechanisms

Last but definitely not least, another quite important measure will prove fruitful, is the implementation of safety mechanisms. For example, individuals will ensure their online safety, by using stronger passwords, buying safe and updated devices and by taking a back up of their personal data. By strengthening both the prevention and the safety measures, we will be able to not only understand how to use technology in a wise manner, but also learn how to cooperate with the overwhelming amount of information and data the upcoming technologies come with.

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