VISEGRAD 4 CONFERENCE ON ARTIFICIAL INTELLIGENCE

11 OCTOBER 2018

PERMANENT REPRESENTATION OF THE SLOVAK REPUBLIC TO THE EU
AVENUE DE CORTENBERGH 79, BRUSSELS, BELGIUM

MAIN OUTCOMES AND MESSAGES
OF THE V4 CONFERENCE ON ARTIFICIAL INTELLIGENCE

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Introduction

On 11 October 2018, the V4 Conference on Artificial Intelligence was held in the premises of the Permanent Representation of the Slovak Republic to the EU in Brussels. The event was organized within the Slovak Presidency of the Visegrad Group by the Permanent Representation of the Slovak Republic to the EU in cooperation with the Slovak Liaison Office for Research and Development and partners from V4 group, a political and cultural alliance of four Central European countries.

The overall objective of the event was to provide a platform for a discussion of distinguished experts, professionals, researchers and practitioners from various areas of economy and society, which have been directly confronted with the uptake and real application of artificial intelligence solutions. The event followed the European Commission´s Communication on Artificial Intelligence for Europe which was presented on 25 April 2018 (EU strategy on AI) and a common position of the Visegrad Group on artificial intelligence, officially presented during the Digital Day 2018 in Brussels.

The conference saw the participation of 120 guests from the Member States, European institutions, industrial and civic associations. **Petra Vargová**, Deputy Permanent Representative of the Slovak Republic to the EU opened the discussion, stressing that the Visegrad Group is closely following the digital transformation of the society and is actively involved in the process of shaping the future by introducing pioneering technologies and innovations.

The welcome address was followed by the three keynote speeches by **Miroslav Mikolášik**, Member of the European Parliament, **Vladimír Šucha**, Director General of the European Commission's Joint Research Center, and **Miloš Koterec**, Diplomatic Advisor to the Deputy Prime Minister of the Slovak Republic for Investments and Informatization.

Keynote speakers pointed to cooperation as a key unifying theme of the conference, in all areas concerned and across different levels: global, EU, regional, national and local.

No EU Member State can succeed alone and there is a clear added value in acting together and cooperating in this field as a Union. It is necessary not only to create attractive conditions for researchers and innovators to further develop AI in Europe, but also a supportive environment in terms of regulation and investment.

Thematic sessions – main outcomes and messages

During the thematic sessions of the event, speakers and audience of the V4 conference exchanged views on the key findings and current state of play of AI research, its impact on society, the economy, politics and industry and the existing or potential security and cyber threats:

Who runs the world of AI?

Artificial Intelligence is not a new topic. The first use of AI in its current understanding dates back to 1943,

when the concept of AI was used in research on artificial neural networks. Although AI and its application has evolved over the past decades and since years we have been surrounded by AI in our daily lives and day-to-day activities, we still tend to look at the AI as something that awaits us in the future. The conference made clear that AI is a present reality, and the issue of how AI is developed and by whom is therefore very important for future benefits.

The TES analysis shows that the EU ranked second in terms of number of players active in AI (25%), closely behind the United States (26%) which is still at the forefront of AI related activity in most areas. China (24%), which follows narrowly behind the EU, is however the leader in AI R&D activities and it is expected that China´s influence in AI, given the current support and extensive investments of the Chinese government, will grow.

The EU is accommodating more than 28% of the world AI start-ups, complemented by a dynamic frontier research scene, with one third of the papers submitted to the top AI international conferences coming from the EU companies and research institutions. The UK represents a significant share of the EU AI research and industry: the UK accounts for 23% of the EU AI players and almost 6% worldwide.

"EU's most competitive edge is its world-leading industries – automotive, mechanical engineering, robotics, aeronautics, pharmacy, chemicals, and biotech. All these sectors are increasingly depending on AI." (Ulla Engelmann)

European industry can become a global leader in high-quality, ethical, fair, safe and trustful AI - what is also one of the main goals of the new EU strategy on AI. However, this requires bold investments and cooperation within the EU and among different fields of expertise.

The EU should not wait and should invest in research in AI and focus mainly on the fields and sectors where we are strong and united. If we believe that our values are important to us, we have to create conditions for the best scientists and researchers in AI to keep working in Europe and create AI that will serve all the European citizens and businesses.

Data is the new gold

Data is the fundamental unit of AI and thanks to data, AI is able to learn new skills and gain new information and insights. The richer, larger and broader datasets are, the faster the algorithms can learn and increase the relevance and accuracy of their predictive analyses. We now live in the age of "big data," an age in which we have the capacity to collect huge sums of information and process them.

High-quality data is an absolute essential for successful machine learning and a well-developed strategy for computing. The EU has a unique position in data and is ahead of other parts of the world not only in terms of richness and quality of data but also in amount and variety of industrial data in particular.

In 2018 we have produced more than 20.000 Exabytes (billions of GB) of data and this number will increase exponentially in 2020 when there is a prediction to have more than 50.000 Exabytes of data. The growth

and demand to process unprecedented volumes of information is forcing organizations, from all industries, to have dedicated facilities and staff such as data analysts. In Europe the number of data centers has dramatically increased in the last 10 years, particularly with the development of cloud computing.

"Datacenters today consume 2% total electricity which represent 40% more power than UK. It is estimated that by 2030 Cloud will consume 10% of planet energy." (Radoslav Danilák)

It was made very clear that we need a new, more efficient technology to reduce energy consumption and enable inclusive and sustainable growth.

The importance of building trust in AI

AI and machines can significantly influence us in our autonomy and this might be an obstacle in trust of new technology. As was already mentioned, the EU has very valuable data, but can we trust them?

"AI programmes exhibit often racist and gender prejudices since they use data accumulated by humans and from humans." (Tamás Mészáros)

Not surprisingly, this data can be very biased. On the top of that, another question is whether we can trust the methods we use to teach the intelligent systems. There is still not much evidence how and what those systems learn. So how can we trust AI?

The right methods and treatment of data could encourage greater confidence in AI and related technologies. We are living in a Union with the highest standard of fundamental law, but we want to make data available for development of AI.

"This makes it necessary to create a model solution for getting data, a legal model that creates one assembly of data whose right are clear for each Member State and can be used as a compact entity." (Radim Polčák)

Moreover, we have to try to develop methods which will be safe and reliable. Companies should have data to improve the services, but not use them in a way to limit or threaten the freedoms and fundamental rights of the people.

"It should be our goal to promote the highest level of autonomy and empowering the people while protecting their privacy."
(Alžběta Krausová)

Will robots take my job?

Thanks to AI and advanced robotics in industry, many new professions have been created, but many of them will disappear or will be fully automated. It is estimated that in the next 20 years machines and intelligent systems can replace about 47% of our workplace. **According to the OECD, V4 countries are one of the most vulnerable Member States across the EU, with the automation of up to 33% of jobs in the coming years**. It is already clear that mostly the routine and repeatable jobs and the activities which can be algorithmized will disappear. The most risky are thus the low profile and the least paid professions. However, more and more tasks related to middle class as well as to high profile jobs are being semi or fully automated, which proves that any part of workforce needs to understand and adapt to this incoming comprehensive change.

Furthermore, the risk of automation falls with educational attainment, skills and hourly wages. Moreover, it is also important to focus on the potential of AI for economic growth which could generate benefits for all.

In order for Europe to be able to secure the demands of the labour market, a big revolution in thinking, education and flexibility will be absolutely crucial. Education systems should start reflecting the need of the market and contribute to a better balance between demand and supply of skills.

We do not know yet what artificial intelligence will bring, but we should be prepared for all possible scenarios. It will be necessary to acquire digital knowledge, skills and competencies. Balance between demand and supply of skills will be crucial, but the key requirements in the future will be so called **"4C" - cooperation, communication, creativity and critical thinking**. These skills can give us humans a comparative advantage when competing with robots or other forms of artificial intelligence.

AI and security threats

Another critical element to consider in the debate over AI is undoubtedly security and the future of warfare, as it is an area where we have a lot of serious question marks. AI will contribute to reduce many cybersecurity risks, but will also introduce new cybersecurity challenges.

As time goes by, improvements in AI and related technology have posed particular security or safety risks. AI is expected to transform the existing landscape in terms of more effective and efficient cyber defenses but also more sophisticated cyber-attacks.

As regards the future of warfare, we are witnessing a shift towards autonomous weapon systems that are very complex and complicated to control or even to understand. They are therefore operated and handled with a help of AI and in the close future they may be completely dependent on AI, which may sound frightening.

AI is also changing a concept of the military cooperation and in the year to come it can also shake up the balance of international powers by making it easier for smaller nations or even formal and informal organizations to threat the big powers. The key question stands: "Who will guard the guards themselves"?

The big challenge, among many others, is confronting international lawyers who will have to deal with the issues of responsibility of individual autonomous systems and the application of international law in cyberspace.

AI as an opportunity

Artificial intelligence can and should be a force for good. We can use this power of the twenty-first century technology revolution to bring prosperity and expand human capacities. AI, big data and digitization can be the solution to the number of grand challenges and problems that our society is facing. However, we have to shape the AI together and act as soon as possible.

Visegrad Group has shown the willingness to discuss and focus on the topic and leverage the potential of AI and innovative technology. To succeed, it is necessary to attract the best researchers and talents to retain or come back to Europe to help develop the AI based on the EU values and to share the best practices within the EU in AI design, development and deployment. We have to create conditions for the world class researchers, laboratories and companies including the start-ups in the AI to stay in Europe while continuing to drive scientific excellence on the AI in Europe.