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# NEXTGEN NETWORK

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## **BUILDING THE FUTURE:** ADDRESSING THE OPPORTUNITIES AND CHALLENGES OF AN AI-ENABLED WORLD FROM A CENTRAL EUROPEAN PERSPECTIVE

**The NextGen Network aims to provide a new outlook from the NextGen perspective on how AI and technology affect our society today, the opportunities it creates, as well as the challenges humanity might face in the near future. Furthermore, it brings the topic closer to the local context. The first workshop was held in October 2018 in Mexico City, Mexico, followed by the second in December 2018 in Berlin, Germany. The third workshop was organized in Prague, Czech Republic in January 2019, which brought together Central European experts on AI from the public, civic, academic and social sectors, who discussed various AI-related issues in two high-level groups.**

### INTRODUCTION

AI has already begun transforming our society, especially businesses. Many organizations have only just started to think of AI adoption, while others are seeking out answers to the fears on the job market or to the ethical questions linked to AI. There are already companies advanced in the AI area in the V4 region, e.g. suppliers of AI to the automotive industry, high-speed chip designers or health service providers. Smart cities can also be an example where AI is accepted as playing a role. In the defense industry, AI helps provide greater autonomy in advanced systems and brings about cost reduction. AI deployment in V4 countries has its own characteristics, as well as in other regions of Europe, the US or China.

### EXPLAINABLE AI: IS IT REALLY INCLUSIVE?

AI is sometimes viewed as the opening of Pandora's box.[1] Many institutions hesitate to implement AI arguing it has no definition and its terminology has not been consolidated yet. They would like to see a clearer vision on how to regulate and finance AI. The rules have to be established already, however, when the AI-based technologies and tools are being designed and developed. Some Central European companies are afraid of adopting AI due to an extremely low awareness and lack of knowledge, according to several representatives of businesses who were present.

When trying to implement AI in everyday practice, small steps are recommended, as well as optimizing new algorithms, rather than piling up more and more new documents. The state administration could support this process by connecting expertise, e.g. putting together bigger players with smaller companies or compiling a list of start-ups. Large companies are more willing to innovate and invest in AI, while small businesses are concerned that robots would replace them. When introducing new initiatives, it is therefore important to communicate openly and explain the value of AI both to the employees and the broader public. The discourse about AI should be changed in our region. Both the promoters and the states should explain the AI-based technologies as a way to deliver better services and inform about the benefits it could bring to the citizens if implemented wisely. They should concentrate on exploring how AI could improve the efficiency and competitiveness of our countries, our companies, and focus at the same time on how to minimize the negative impacts on our society.

Large companies in particular should continue to ensure that AI is not excluding or "disconnecting" people. AI can bring diversity and inclusion to the workplace and also in general, such as enabling disabled people or people with very different cultural backgrounds to work together even without a common language. Therefore, AI-related jobs can introduce more people to the market. Gender-wise, according to the experts at the workshop, AI startups are more often

[1] *This perception could be explained by the abstract concept of black box systems, where the internal workings between inputs and outputs are unknown.*

female-led and online AI-related training courses feature more females than males. AI can dynamize peoples' careers, leading them to areas where they never worked before. The introduction of AI also means considering completely new business models. Companies should be motivated to think over a ten-year perspective.

## AVOIDING OVERREGULATION

The question arises as to who should set up the rules for using AI - is it the government, or should it be left to businesses to formulate their own ethical codes? The EU could help by introducing AI as an accessible technology useful for European companies. The European Commission's *Digital Europe Programme* planned for the Multiannual Financial Framework 2021-2027 can become one of the useful regulatory tools or frameworks, together with the EU's *Digital Single Market strategy*. It would enable the financing of regional innovation hubs supporting SMEs in AI adoption from EU structural funds or the EU budget directly. A network of digital innovation hubs in the EU could be a prerequisite for a successful EU in the field of AI deployment.

Regulatory issues are crucial in view of business, e.g. some see GDPR as a growing obstacle for AI development as it prevents sharing data with other companies, especially the large ones. They argue that the EU is overprotecting its citizens, which leaves it behind the US or China. Other companies, surprisingly, see better data protection as a competitive advantage, since it forces all the companies to play by the rules. World customers can see it as a way to deliver AI more safely. Whatever the case, AI is present and advancing, no matter if regulated or not.

The participants agreed upon the fact that establishing a framework for AI could be beneficial. To proceed faster, the EU needs a roadmap, and to reach a compromise between protecting the principles of our society and leaving space for AI improvement and technological development. Knowing the boundaries, as IT developers present at the workshop claimed, would help to develop more clever AI solutions. Although innovation programs for businesses could help introduce AI solutions, it is also important to include NGOs and support their cooperation with AI startups.

## EDUCATION: A WAY TO A NEW APPROACH

The question arises as to who should set up the rules for General fear of the unknown is a relevant issue in Europe, as for example in the GMO case. AI-based solutions can already be classified by impact (as is happening e.g. in Germany), but the social impact should also be measured. Innovators should not therefore be paralyzed by asking about the legal aspects of their work all the time, or by general public negative opinion, as the experts present at the workshop agreed. We do not know yet what kind of jobs will be relevant in 10 years, so a fear of losing jobs may not be relevant. Conversely, AI can help with doing specific tasks better, cheaper and faster. Much of the decision-making by courts can be automatized by computers deciding cases, although with very uncertain public acceptance. In many cases we still need a human perspective to judge what is right and what is wrong. 90% of work can be done by AI, but the human factor has to remain present and hold the reins in companies using AI.

We do not need more quantitative surveys on how many jobs are lost, but rather a qualitative approach explaining the pros and cons. We should focus on mapping where exactly AI can support existing professions, create new ones, but most importantly streamline the education system towards current trends and lifelong learning. European institutions are recommended to continue reflecting on how AI could influence social security as well as the income system and redistribution of wealth. It is highly possible that over the next two decades more jobs can be generated than lost through the adoption of AI technology. It is essential to speed up AI application in Europe, as well as connect it with major challenges in society, such as tackling climate change or innovating healthcare, where, for example, AI can be explained by its promoters as a way of delivering better services rather than merely introducing a new technology.

The workshop also indicated the significant demand for open innovation labs that would allow for experiments with AI-based solutions and collaboration in applying AI. Academics expressed their wish to connect businesses with their institutions to discuss AI challenges on a permanent and vivid platform. University experts would like to motivate AI enthusiast students with dedicated programs enabling study and work in high-tech companies. This type of cooperation is already occurring, but both sides would appreciate the introduction of a framework for such a practice. A national strategy for AI might be in place, as well as basic awareness of AI in both primary and secondary education. When looking for an example to follow, Finland could be the model.

## AI AS "LOYAL SERVANT" OR "MINI-ME"?

"The AI assistant must be my loyal servant and obey my commands." This was the immediate reaction from the participants in the workshop session focused on AI and ethics. Not many were comfortable with the idea of a machine, no matter how fine-tuned, having dominion over human agency. In fantasies from Mary Shelley's Frankenstein to Stanley Kubrick's "2001: A Space Odyssey", robots enslaving or hunting its creator have always been the nightmare scenario. Although the participants were cautiously accepting of AI-generated recommendations, they also raised the issue of manipulation and agreed that panic buttons, resets, and other elements of control over these chimeras need to be put in place to maintain the upper hand over our choices and even irrationally unhealthy commands.

Irrationality is an integral part of humanity, one participant said, and therefore this trait cannot be left behind. Machine intelligence, especially if hyper-rational, may not correctly judge the human person's decisions or the human's mental health. The consequences of transferring our own accountability to an intelligent machine are still unexplored. How much should we allow the use of AI to erode human cognitive abilities? This conundrum already exists in cases when

people trust their GPS without any limits, ignoring common sense and then finding themselves in unexpected places. What responsibility for our actions will we have if we find ourselves in a state of dependency, like a child on its parent, unable to exercise our free will?

When confronted with the same question, the second workshop group explored the idea that "the AI assistant is my personal trainer". AI assistants that help lose weight were seen as being closest to personal trainers pushing us, yelling at us, forbidding junk food, etc., all for our own good and ultimately under our final say. The participants noted that our free will is already limited by rule of law, and as such, AI creators will surely also limit the scope of AI's actions so that, for instance, AI is not used to commit a crime. AI can decide on behalf of the users if it is previously trained as to their unique preferences, making the personal assistant as close to a "mini-me" as possible, as some participants have stated.

The two working groups manifested the evolution of our reactions towards AI. Key issues of free will, loyalty and accountability were emphasized in both groups, but over a longer period, the participants warmed up to the idea of AI as an extension of oneself. This exercise was not purely abstract, as it opened our eyes to the idea that our current ethical and moral preferences about our autonomy are pliable. Whatever standard ethical choices we establish today, however, are transforming the world for the next generation, for our children who might lose the memory of the analog world. As an example, today's AI-enhanced personal assistants, Amazon's Alexa and Apple's Siri, obey our orders when they are directed in a commanding language such as "Alexa, do this!" To help our children learn manners, we can imagine the AI assistants might be reprogrammed to recognize politeness, words such as "please" and "thank you", and for them to react in a more positive manner to kinder words. These considerations about what choices we make today with our AI-enhanced personal assistants can be broadened to consider what ethical governing principle should guide future AI programming choices. During this discussion, participants also tackled possible invasion of user's privacy. For instance, facial recognition technology in mobile phones is not fully acceptable, as it provokes a feeling of being spied, especially when certain nations, like China, might abuse it to control its citizens, one of the participants stated.

The human body is, however, perhaps the most sensitive AI experimental field and source of data. Digital space is increasingly penetrating our physical being and is beginning to change our current understanding of what the human body is. Synthetic biology is no longer science fiction and the question arises as to who should control the algorithms. We are more prepared to use AI clearly identifiable as a machine than introducing humanoid robots. Nonetheless, humanoid robots may be more extensively used in elderly care in the future which can affect their adoption curve.

## ETHICS: FROM NATIONAL PRINCIPLES TO UNIVERSAL SYSTEMS

The participants agreed that a transparent system of AI ethics should be established to steer AI towards appropriate decision-making when used in the context of human interaction. Different social groups, nationalities or cultures hold dear, however, different values – such as the cow in Hindi culture – thus a national ethics scheme seems unavoidable. Although these ethics "with [country] characteristics" may be more acceptable to their citizen groups, the drawbacks of national ethic systems are significant since questionable nation-specific ethic solutions have caused animosity between people in the past.

The participants suggested a larger quasi-continental system of ethics such as an Ethical Directive at the EU level that would be transposed into the national legislation of all Member States. Several participants in the AI workshop quickly pointed out that if any such supranational system of ethics were to be introduced, it might in practice morph into a US ethical system, since this is where most AI products would be designed and conceptualized before being distributed worldwide, creating a de facto ethical standard. The forces of globalization could support the creation of global ethics. This single global ethical system, a body of unchanging moral principles that holds true across time and geographies, is the universal system of ethics that has always been the Holy Grail of philosophers. Today's globalized context favors a universal understanding of ethics, yet at the same time, science and technology race forward and erode any clear boundaries as to what humanity would agree upon as ethical.

The participants at the AI workshop were not able to reach an agreement as to whether a multi-level approach or a universal approach would best safeguard the human subject. The participants agreed that vague universal assertions such as "AI should do no harm" as a recent EU memorandum states, do not provide a satisfactory benchmark when applied to precise situations e.g. the use of AI for surveillance or ranking peoples' social standings. The universality of human values is eroding yet simultaneously we need to devise a new ethical matrix for judging the value of our creations and find the natural law of artificial intelligence.

## KEY FINDINGS

- Basic awareness of AI should be part of the national strategy and included both in primary and secondary education.
- Education and lifelong learning must be in line with the development of technologies, so that technological progress does not lead to further competitive inequalities on labor markets across regions.
- The discourse on AI and its societal impacts should be changed – the benefits of AI should be promoted, the impacts on society explained, in order to minimize the concerns of the public which often stem from the fear of the unknown caused by a lack of knowledge.
- Although AI can be better than human beings in specific tasks, sometimes up to 90%, the human factor has to remain present and hold the reins in enterprises using AI.
- Establishing a framework for AI could be beneficial. Knowing the boundaries, as companies present at the workshop argued, could help develop more sophisticated AI solutions.
- Regulation of AI must be well-considered and should establish an environment for safe use, while not being an impediment of further development.
- Closer cooperation in the triangle "business-universities-research institutions" is needed to catch up with the world. The EU could contribute by establishing regional innovation hubs.
- People are generally accepting of AI-generated recommendations (AI as servants) but need panic buttons and other "emergency control" elements over it when it begins to restrict our free will.
- Any ethical changes caused by AI development are transforming the world for future generations.
- The leading country in the field of AI might also establish new ethical standards for other regions by exporting technologies or know-how.

## AUTHORS

**Anya Baum,** The Keryx Group, Poland – rapporteur for the break-out session "How Do We Deliver an Ethical AI in Society?" led by **Alžběta Krausová,** Institute of State and Law, Czech Academy of Sciences, Legal Researcher.

**Martina Mašková,** Czech Public Radio – rapporteur for the break-out session "How Can We Leverage AI to Address Societal Challenges?" led by **Aleksandra Przegalińska,** Assistant Professor, Kozminski University and Research Fellow at MIT, Center for Collective Intelligence.

The report was edited by:
**Lukáš Lukačovič**, Aspen Institute Central Europe

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