

State of Play of Digitization in Croatia and Development of Artificial Intelligence

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Introduction

It is estimated that 85% of companies will use Artificial Intelligence (AI) in at least one process by 2020, while 95% of customer interactions will be powered by AI bots (via telephone or online) by 2025¹.

At the moment The United States and China are the leaders in investing in AI. It is crucial that the European Union speeds up. For example, in 2016 private investments in AI in Europe amounted to 2,4-3,2 billion euros, compared to 6,5-9,7 billion euros in Asia and 12,1-18,6 billion euros in North America².

Individual EU Member States cannot properly address the challenges of the digitalization and AI on their own and become global leaders. As it is essential to join forces in the EU to stay at the forefront of this technological revolution, Member States signed *Declaration of cooperation on Artificial Intelligence* in April 2018 and agreed to work together on the most important issues raised by AI, such as Europe's competitiveness in the area of research and development as well as dealing with social, economic, ethical and legal questions.

The Commission is increasing its annual investments in AI (2014-2020). Around 2,6 billion euros is to be invested in AI related areas (robotics, big data, health, transportation, future and emerging technologies). Around 700 million euros under Horizon 2020 and 2,1 billion euros for private investments are available for research programs in robotics. Finally, 27 billion euros through European Structural and Investment Funds for skills development out of which European Social Fund invests 2,3 billion euros specifically in digital skills. Substantial resources for Multiannual Financial Framework 2021-2027 will be directed towards digitalization, robotics, R&D in AI and other advanced technologies.

Croatia is lagging behind other European countries in some areas which are a prerequisite for digitization such as fast speed connectivity.

AmCham believes that the Croatian Government needs to catch up in digitization as well as urgently engage in recent developments regarding AI. Croatia needs to get involved in the ongoing process of creating the joint European approach on AI and use it to better position itself to take advantage of the benefits it offers through EU funds. Also it would be very beneficial for the country to use this opportunity and set digitalization and AI as one of its priorities for the Presidency over the EU Council in 2020.

¹ Microsoft AI – Transforming businesses with artificial intelligence, 2018

² European Commission, Communication from the Commission Artificial Intelligence for Europe, 2018

Current deficiencies of digitization in Croatia

Connectivity

According to Digital Economy and Society Index (DESI) 2018, Croatia belongs to the low-performing countries³.

Croatia overall performed better in comparison to DESI 2017 and was ranked 22nd out of 28 in DESI 2018. DESI category in which Croatia ranked the lowest is Connectivity, where it was ranked 27th out of 28 European Union Member States.

Improvement of poor performance in the Connectivity category can be fostered by stable regulatory frame mainly focused to enabling deployment of next generation networks (NGN). It is essential to speed up approved and EU-funded programs of access and backhaul networks deployment, as well as ensuring other prerequisites for 5G network deployment that is all in the competencies of the Croatian Government. Some of those prerequisites are ensuring radio frequencies at sustainable cost based model, enabling faster process of planning and constructing of network (physical planning and civil works) and providing educational information regarding electromagnetic fields (EMF) to the public.

Importance of Artificial Intelligence

Artificial Intelligence is already present in our everyday lives. It helps us with our business tasks through virtual personal assistants or a number of programs that operate with integrated AI, also it makes our personal lives easier whether it is a self-managing vacuum cleaner, a vehicle that helps us park in a narrow street or a phone suggesting us songs or movies we might like.

AI can ease and improve people's lives in business, interaction with the public administration or from the comfort of home. AI can be used for accurate and complex assignments or to carry out dangerous and repetitive tasks all with a significant time savings.

For example, AI helps in saving lives when a person calls emergency service, through a recognition system of diagnostics of cardiac arrest or other conditions just based on the voice of the caller (Denmark). AI aids radiologists in detection tumors faster and more accurately by comparing an x-ray with a large database of

³ Digital Economy and Society Index (DESI) 2018 Country Report Croatia

medical records (Austria). Many European farms use AI in monitoring their farms, specifically the welfare of animals⁴.

Possibilities for application of AI are almost countless. Same as the invention of electricity or the industrial revolution fundamentally changing our lives it is happening now with the AI. AI is transforming all spheres of the life as we know it.

The global race for the frontrunner in the use of AI is ongoing and it is important for Europe to step up its stakes and strive in this very strategic technology, one of the most crucial for the 21st century. European Commission has taken important steps in this direction issuing Communication on AI in the EU.

New technologies change our lives and the way we do business. In the case of AI numerous ways of its application disrupts current framework and raises new questions and dilemmas. It is important that the discussion on legislative and social changes it entails are open to all stakeholders as there is an important role of the industry as well as on the legislator, including the end user.

⁴ European Commission, Communication from the Commission Artificial Intelligence for Europe, 2018

Industry principles for the Artificial Intelligence (AI)

AmCham believes that Artificial Intelligence should be primarily based on these industry principles.

Be safe and accountable to people

The AI should be based on basic principles that include safety in design and privacy. AI systems should provide explanation on how decisions have been made and be transparent on what data has been used.

Be socially beneficial

The purpose of AI is to assist humans in their everyday life, therefore it should be socially beneficial. The industry should proceed in development where the overall likely benefits substantially exceed the foreseeable risks and downsides.

Be ethical

In development and application of AI the industry should avoid unjust impacts on people, especially those related to sensitive characteristics such as race, ethnicity, gender, nationality, income, sexual orientation, ability and political or religious belief.

Be available

Everyone should have access to the benefits of AI, including the tools it takes to create and transform the work. Barriers should be removed in order to help every developer on the planet to create the next generation of AI-powered products.

The role of the Government

Stimulate AI application to increase Croatian competitiveness

The digitalization and advanced technologies including AI are resetting global economic framework and present an opportunity for early adopters as well as threat for those who are left out. AmCham calls for fast measures that would position Croatia as an ambitious country that is friendly to digitalization and other advanced technologies.

Enable wide usage of EU funds

It is important to enable wide usage of EU funds available for digitalization, AI research and reskilling of citizens' digital competences.

Substantial resources from the EU budget for 2021-2027 (Multiannual Financial Framework) will be available for digitalization, robotics, R&D in AI and other advanced technologies. Also, from the budgeting of the current financial framework 2014-2020, Croatia will have approximately 300 million euros at disposal for next few years.

AmCham strongly supports projects that will be oriented towards further digitalization of the citizens and the economy. Projects for gaining both basic digital skills and advanced programs for students and experts would help in the mission to position Croatia among leading countries in this process.

Enable stimulating legal framework

Croatia should get engaged in global developments and especially actively participate in activities related to AI at the EU level. The state should discuss digital trends and AI with industry and relevant stakeholders to assess, which framework is most appropriate that would be able to follow trends and enable the industry to prosper for the benefit of the society. Premature attempt to regulate AI may hamper innovation and development in this area in Croatia.

Manage digitalization of the Croatian society through a single state body

Digitalization is an ongoing process already happening throughout industries and different state institutions and ministries. In order to overcome sectorial and institutional fragmentation AmCham recommends that the digitalization of the Croatian society should be managed through a single state body. The body should be responsible for enabling clear focus on supporting groundbreaking technologies such as AI as well as digitalization of Croatian public institutions and society as such. This body should also be responsible for development of AI strategy for

Croatia as well as for ensuring active participation in EU activities related to development of AI. All related initiatives and projects should be overseen and streamlined through this single institution with clear authorities and a budget. Advisory Board consisting of representatives of business associations, Academia, social partners should be established to assist this state body to find the best solution, use cases, for spreading AI for benefit of the Croatian Society.

Croatian Presidency over the EU Council 2020

In the experience of the previous Member States that have had the chance to preside over the EU Council, it was proven to be an invaluable learning experience that had multiple positive effects for the Member State that underwent the process. Furthermore, presiding Member States have increased their competences in the areas they chose as the priorities during their Presidency. Croatia has not set clearly its priorities for the Presidency over the EU Council 2020 in the area of economy. AmCham calls for digitalization of the society and economy in the European Union to be the single key priority during Croatian Presidency. Despite the fact that this issue was covered during some previous Presidencies, continuation is needed for the topic of such importance for the EU.

On the national level this would benefit Croatia and position it as a digitally relevant country, and enable steep increase in inflow of knowledge and latest technologies, and would help Croatian EU funds absorption capabilities.

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