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Legal challenges and legislative regulation of artificial intelligence – Bringing Serbia closer to EU legislation

Abstract: The development, and even the very concept of creating artificial intelligence (AI) for many is terrifying, for some it is fascinating, and there are quite a few who have accepted with great enthusiasm and learned about a completely new aspect, one could even say of everyday life. The incredibly fast progress of artificial intelligence leads to the fact that in certain segments it is no longer possible to recognize with whom one communicates verbally or in writing, especially when it comes to some forms of info support or service provision. The creative possibility of artificial intelligence in e.g. in text, video and photo editing, but also creation based on given parameters. Bearing in mind this extremely accelerated and daily development of artificial intelligence on a global level, one realizes the numerous challenges that have been placed, we will call it, before the legal systems around the world. This issue absolutely requires urgent and very well thought out legislative predictions. Recognizing the previously mentioned, the European Union is a pioneer in the field of normative approach to artificial intelligence, especially with the adoption of the Artificial Intelligence Act (AI Act). This act represents the first comprehensive legal framework regulating this area. In this research, the key aspects that preceded the adoption of the Act on Artificial Intelligence will be considered, the said Act will also be discussed, and special attention will be paid to the efforts and needs of the Republic of Serbia to create a legislative platform that will regulate these aspects, with of course harmonization with the regulatory standards of the European Union.

Keywords: AI Act EU, artificial intelligence, legal regulation, creation of a legislative platform in the Republic of Serbia.

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1. INTRODUCTION

The goal of this research, that is, the hypothesis, refers to Legal challenges and legislative regulation of artificial intelligence. It is easy to get the impression that this is a very modern and quite current problem, which is really not far from the truth, but at the very beginning of this research we will point out the fact that the theoretical beginnings of AI date back to 1940. The British mathematician who is considered to have laid

the foundation for modern AI is Alan Turing. In his research published in 1950 under the title Computing Machinery and Intelligence, he asked a hypothetical question that reads "Can machines think?".[1] This very question is considered in scientific circles in which the theoretical aspect of AI is studied as the beginning of the AI idea.[2]

If we look at shorter time distances, the key year is 2012.[3] In the mentioned year, a team from the University of Toronto won the ImageNet competition using deep neural networks - better known now as deep learning. Separate research has found that "one of the key strengths of AI technology is its ability to learn from vast amounts of data and adapt to different situations." This means that AI tools will get better at recognizing context and tailoring responses to individual user needs."[4]

Bearing in mind the increasing degree of presence of AI, it can be stated that many people see AI as a powerful tool with the help of which everyday life becomes easier, especially for some jobs that are automated (word processing, photography, etc.). At the same time, there was also a discussion in which a certain degree of confusion and perhaps even disbelief was observed as to how AI could replace humans in performing certain tasks. It can also be noticed that many use AI solutions without delving into how these tools work.

Be that as it may... for the younger generations, AI has certainly been a part of everyday life for a long time, whether they are aware of it or not, the course for the older generations could perhaps indicate that some distant future has arrived earlier than expected.

Essentially, it can be said that artificial intelligence is much more present today than understandable. It is a specific relationship of fascination and ambiguity that often occurs simultaneously in the general population.

2. PERSPECTIVES OF ARTIFICIAL INTELLIGENCE

We start this part of the research by asking ChatGpt-4.0 the following question, "What are the perspectives of artificial intelligence". The answer that he got is more than interesting, and some parts are, in the author's opinion, even scary, that is, they can have such an undertone.

The answer given by AI (ChatGpt-4.0) is as follows: "The perspectives of artificial intelligence (AI) represent one of the most dynamic and important directions in the modern development of science, technology and society." Here are the top perspectives broken down by area:

1. Technological development - Artificial General Intelligence (AGI): Aims towards the development of AI systems that will not be limited to narrowly defined tasks, but will have the ability to learn and reason similar to humans.

- Self-improving systems: AI that can optimize its own code, model or behavior without human intervention.

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1 Mathison Turing, A. (1950) Computing Machinery and Intelligence, *Ideas That Created the Future*, pp.150.

2 Cherif, B, Bisztray, T, Dubniczky, R, Aldahmani, A, Alshehhi, S, Tihanyi, N. (2025). *DFIR-Metric: A Benchmark Dataset for Evaluating Large Language Models in Digital Forensics and Incident Response,* Cryptography and Security, p4.

3 PineCone (2025). AlexNet and ImageNet: The Birth of Deep Learning, *Embedding Methods for Image Search* https://www.pinecone.io/learn/series/image-search/imagenet/ 13.05.5025.

4 Rašković, N. (2025). Veštačka inteligencija i budućnost međuljudskih odnosa, *It rešenja*

- Multimodal intelligence: Systems that understand and combine text, sound, image and video (eg ChatGPT + DALL·E + Sora).

2. Application in industry and society - Medicine: Diagnostics with the help of AI, disease prediction, personalized therapy, robots for assistance in surgery.

- Education: Personalized tutor systems, automatic knowledge evaluation, adaptive learning.
- Transport and logistics: Self-driving cars, smart delivery networks, traffic optimization.
- Law and administration: Automated review of contracts, legal analytics, virtual assistants in public services.

3. Economy and labor market - Automation of jobs: AI takes over routine cognitive and physical tasks, which changes the structure of the labor market.

- New professions: Professions such as prompt engineer, AI ethicist, data trainer are emerging.
- Productivity: AI helps speed up processes, reduce costs and increase innovation in all industries.

4. Ethics, law and regulation - Transparency and accountability: The question of who is responsible when AI makes a decision (eg in medicine, traffic).

- Privacy and surveillance: AI systems that monitor citizens' behavior (eg facial recognition cameras).
- Bias and discrimination: AI models trained on unbalanced data can make unfair decisions.
- Global regulation: the UN, the EU and many countries are trying to introduce rules that will balance development and security."[5]

Bearing in mind the above, the following research can be pointed out.

The research was conducted through a survey at the end of 2024. 5,300 American adults of various age groups were surveyed. Of the total number of respondents, 52 percent said they were worried about AI, while 29 percent of them said they were excited about the development, and 36 percent were not yet sure what they thought about artificial intelligence.[6]

The same research showed that professions such as proofreading, telemarketing, data entry and processing, real estate brokerage and translation are in very real "danger" of being replaced by AI. In addition to the above, the research also showed professions and jobs that "work closely with AI". Mentioned, they perceive AI as a tool and not as a threat, and these are occupations that require a high degree of expertise. In the aforementioned research, the following professions are indicated: nurses, choreographers, paramedics, psychologists and mental health counselors, teachers and professors, civil engineers, surgeons, project managers, directors and operations managers, musicians and journalists.[7]

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[5] The answer generated by AI (ChatGpt-4.0) to the question "Which perspectives of artificial intelligence" 04/10/2025.

[6] Index Magazin, 15 poslova koje (zasad) umjetna inteligencija ne može zamijeniti, https://www.index.hr/magazin/clanak/15-poslova-koje-zasad-umjetna-inteligencija-ne-moze-zamijeniti/2679428.aspx 10.05.2025.

[7] Ibid. & see: Bay Atlantic University (2025). Best AI Jobs of the Future: How to Prepare for an Automated World, https://bau.edu/blog/best-ai-jobs-of-the-future/ 10.05.2025.

3. LEGISLATION AND INSTITUTIONAL FRAMEWORKS RELATING TO THE ISSUE OF ARTIFICIAL INTELLIGENCE IN SERBIA

In this part of the research, the current legislation related to the issue of AI in Serbia will be approached and considered, and therefore the Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the period 2025-2030 will be briefly discussed below. year; Ethical guidelines for the development, application and use of reliable and responsible artificial intelligence; Artificial Intelligence Council; Belgrade ministerial declaration in the field of artificial intelligence; and the Draft Law on Artificial Intelligence of the Republic of Serbia.

3.1. Strategy for the development of artificial intelligence in the Republic of Serbia for the period 2025-2030. year.[8]

At the proposal of the Ministry of Science, Technological Development and Innovation, the Government of the Republic of Serbia adopted the Strategy for the Development of Artificial Intelligence for the period from 2025 to 2030. It should be noted that this strategy continues the accelerated development of artificial intelligence in Serbia, i.e. that it is a continuation of the Strategy adopted in 2019. The new strategy includes further development in the areas of legislative framework, investment in education, innovation and infrastructure, as well as increased implementation in the public sector.[9]

The strategy foresees special goals and special measures:[10] - Provide a clear and efficient institutional and legal framework by adopting a special law that will regulate the application of artificial intelligence, which enables its safe, secure and reliable application in line with international standards and creates conditions for encouraging innovation; - Improve primary, secondary and higher education in the field of artificial intelligence and create conditions for educating the entire population about the possibilities, limitations and risks of this technology, in order to become a leader in talents in this field; - Through support to scientific research organizations and innovative subjects, encourage the development of science, innovation and new technological solutions based on artificial intelligence. Continued investment in the development of science will enable the development of globally competitive innovations; - Directs and stimulates the application of artificial intelligence solutions in the public and private sector, with a special focus on medicine, biotechnology, education, agriculture, information security and other areas, thus providing an opportunity for the Republic of Serbia to position itself as a regional leader in the application of artificial intelligence; - Stimulates the understanding of the importance, standardization, arrangement and development of data management as well as opening data with the aim of developing science and creating business solutions based on the application of artificial intelligence. The state, recognizing data as a strategic resource of the

[8] Ministarstvo nauke, tehnološkog razvoja i inovacija (2025). Strategija za razvoj veštačke inteligencije https://nitra.gov.rs/cir/ministarstvo/vesti/usvojena-strategija-za-razvoj-vestacke-inteligencije-u-republici-srbiji-za-period-od-2025-do-2030-godine, 10.05.2025.

[9] Saopštenje kabineta Ministra, Ministarstva nauke, tehnološkog razvoja i inovacija (2025). Strategija za razvoj veštačke inteligencije https://nitra.gov.rs/cir/ministarstvo/vesti/usvojena-strategija-za-razvoj-vestacke-inteligencije-u-republici-srbiji-za-period-od-2025-do-2030-godine, 10.05.2025.

[10] Vlada Republike Srbije (2025). Strategija razvoja veštačke inteligencije u Republici Srbiji za period 2025–2030. godine, https://www.srbija.gov.rs/tekst/437277, 10.05.2025.

modern global economy, uses it to facilitate the faster development of the economy and progress of society as a whole; - Improve the infrastructure in all segments that help the stable and continuous development of artificial intelligence by increasing the capacity of the National Platform for Artificial Intelligence, i.e. by providing new supercomputers, storage capacities and further development of tools for working with data.

Point 2 of the Strategy, under the title Legal framework and relevant planning documents, refers to the Laws that regulate areas related to the strategy, namely: Law on Personal Data Protection[11], Law on the Basics of the Education and Training System[12], Law on Dual Education[13], Law on Higher Education[14], Law on the Dual Model of Studies in Higher Education[15], Law on Science and Research[16], Law on Innovative Activities[17], Law on the Science Fund of the Republic of Serbia[18], Law on Information Security[19], Law on Personal Income Tax [20], Law on Alternative Investment Funds[21], Law on Copyright and Related Rights[22], Law on Patents [23], Law on Protection of Topography of Semiconductor Products [24], The Law on Prohibition of Discrimination[25] the Law on the National Framework of Qualifications of the Republic of Serbia.[26]

The strategy also refers to the legal framework, which states that the legal regulation of artificial intelligence in Serbia covers a wide range of issues - from guaranteeing safe, reliable use and protection of data, through the regulation of communication and copyright, to liability and market regulation. As part of its efforts to establish ethical standards, Serbia adopted the Ethical Guidelines for the Development, Application and Use of Reliable and Responsible Artificial Intelligence, aligned with the recommendations of UNESCO and the European Union. In parallel with that, the Republic of Serbia actively participates in the Global Partnership for Artificial Intelligence at the OECD, and in 2024 it took over the presidency of this organization, thus confirming its engagement on the international

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[11] Zakonon o zaštiti podataka o ličnosti, Službeni glasnik RS, broj 87/18

[12] Zakon o osnovama sistema obrazovanja i vaspitanja, Službeni glasnik RS, br. 88/17, 27/18 - dr. zakoni, 10/19, 6/20, 129/21 i 92/23

[13] Zakon o dualnom obrazovanju, Službeni glasnik RS, br. 101/17, 6/20 i 76/23

[14] Zakon o visokom obrazovanju, Službeni glasnik RS, br. 88/17, 73/18, 27/18 – dr. zakon, 67/19, 6/20 - dr. zakoni, 11/21 – autentično tumačenje, 67/21, 67/21- dr. zakoni i 76/23

[15] Zakonom o dualnom modelu studija u visokom obrazovanju, Službeni glasnik RS, broj 66/19

[16] Zakon o nauci i istraživanjima, Službeni glasnik RS, broj 49/19

[17] Zakon o inovacionoj delatnosti, Službeni glasnik RS, broj 129/21

[18] Zakon o Fondu za nauku Republike Srbije, Službeni glasnik RS, broj 95/18

[19] Zakon o informacionoj bezbednosti, Službeni glasnik RS, br. 6/16, 94/17 i 77/19

[20] Zakon o porezu na dohodak građana, Službeni glasnik RS, br. 24/01, 80/02, 80/02 - dr. zakon, 135/04, 62/06, 65/06 - ispravka, 31/09, 44/09, 18/10, 50/11, 91/11 - US, 93/12, 114/12 - US, 47/13, 48/13 - ispravka, 108/13, 57/14, 68/14 - dr. zakon, 112/15, 113/17, 95/18, 86/19, 153/20, 44/21, 118/21, 138/22 i 92/23

[21] Zakon o alternativnim investicionim fondovima, Službeni glasnik RS, broj 73/19

[22] Zakon o autorskim i srodnim pravima, Službeni glasnik RS, br. 104/09, 99/11, 119/12, 29/16 - US i 66/19

[23] Zakon o patentima, Službeni glasnik RS, br. 99/11, 113/17 - dr. zakon, 95/18, 66/19 i 123/21

[24] Zakon o zaštiti topografije poluprovodničkih proizvoda, Službeni glasnik RS, br. 55/13 i 66/19

[25] Zakon o zabrani diskriminacije, Službeni glasnik RS, br. 22/09 i 52/21

[26] Zakon o Nacionalnom okviru kvalifikacija Republike Srbije, Službeni glasnik RS, br. 27/18, 6/20, 129/21 - dr. zakon i 76/23-19

level. Serbia was one of the proponents of the Resolution on safe, secure and reliable artificial intelligence for sustainable development, which was adopted by the United Nations General Assembly. It is also stated that a special example of a harmonized and ethical approach to the development of AI is the creation of a legal framework for testing autonomous vehicles: in addition to changes in existing laws, two regulations were adopted that ensure the safety and verifiability of the tested technologies. For the purpose of continuity and coordination of activities at the national level, during the earlier period, a team for the application of artificial intelligence in the public sector operated, in charge of knowledge management, analysis of needs and solutions, preparation of legal documents and promotion of AI topics at international meetings. In 2024, the Government established the Council for Artificial Intelligence, whose task is to coordinate and monitor the implementation of the strategic framework for the development of AI, the implementation of planned measures and standards, as well as needs and trends in the country and the world.

3.2. Ethical guidelines for the development, implementation and use of reliable and responsible artificial intelligence [27]

At the beginning of 2023, ethical guidelines for the development, application and use of reliable and responsible artificial intelligence were adopted. As a reason for the adoption of these guidelines, it is indicated that their goal is to enable science, especially in the field of artificial intelligence, to develop and progress, but not to allow man, as the central figure of all processes that affect him and of which he is an indirect or direct factor, to be endangered and neglected. Then, that the artificial intelligence systems that are being developed must be in line with the well-being of humans, animals and the environment.

The development of artificial intelligence is aimed at creating solutions that will meet appropriate standards throughout the entire life cycle, based on which they will be characterized as reliable and responsible. Under the term reliable and responsible, within the framework of ethical guidelines, it is understood that artificial intelligence is technically reliable and safe, in accordance with the law and established ethical principles and values. It is important to indicate that each listed component is considered separately and that it is necessary to have a harmonized relationship.

The processes in which the artificial intelligence system participates must not be allowed to endanger humans or to marginalize humans and human actions. In an ethical sense, the goal of artificial intelligence development should be to improve people's productivity with the use of artificial intelligence, to use resources more optimally in the work and functioning of people and society as a whole, and to improve people's quality of life.

3.3. Artificial Intelligence Council [28]

In the middle of 2024, the Government of the Republic of Serbia will establish the Council for Artificial Intelligence. The primary goal of this council is to harmonize and coordinate activities to implement the strategic framework in the field of artificial intelligence development. More precisely, the obligation of the Council is to monitor the im-

[27] Zaključak o usvajanju etičkih smernica za razvoj, primenu i upotrebu pouzdane i odgovorne veštačke inteligencije, Sl. glasnik RS, br. 23/2023

[28] Savet za veštačku inteligenciju (2025). Srbija ubrzava AI napredak: Osnovan Savet za veštačku inteligenciju, https://www.ai.gov.rs/vest/sr/1287/srbija-ubrzava-ai-napredak-osnovan-savet-za-vestacku-inteligenciju.php, 10.05.2025.

plementation of planned measures and activities, then to monitor the state, needs, and standards of the development and application of artificial intelligence in the Republic of Serbia, with constant reference to the development of AI in the world.

The special competence of the Council is to define and then monitor the implementation of the Action Plan for the implementation of activities in accordance with the Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the period 2020-2025. year. In addition, the Council has the obligation to deal with changes and additions to that strategy as necessary, but also to write a new strategy.

The part that is more significant for this research and that is related to the Council is that it will organize and monitor the drafting of laws and by-laws related to the development and application of artificial intelligence in the Republic of Serbia.[29]

3.4. Belgrade ministerial declaration in the field of artificial intelligence[30]

At the end of 2024, the Belgrade ministerial declaration in the field of artificial intelligence was adopted. Adoption followed by 44 member states of the Global Partnership for Artificial Intelligence and the European Union. The indirect significance of this declaration is that the members of the Global Partnership for Artificial Intelligence are moving forward in implementing an integrated partnership embracing artificial intelligence technologies as catalysts for economic and social development, while reducing risks and ensuring that they bring benefits to both people and the planet.

A particularly significant aspect of this Declaration is the emphasis that "the Declaration is reflected in the fact that it insists on the mechanisms by which artificial intelligence will be legally and ethically regulated in the future." That is why it is a success that a large number of countries of the world are involved in this process, because that way the agreement has weight and value.".[31]

In addition to the mentioned specific outlined and stated goal, it is important to point out that what has been indisputably seen must also be improved, and we mean reducing the gap between technologically less and more developed countries, in order to achieve the same technological development, i.e. the same technological future.[32]

It is also necessary to point out that "the basics of the Belgrade Declaration highlight the key priorities for the future of artificial intelligence, including the reaffirmation of the values and principles of preserving individual freedoms, democratic values, the rule of law and human rights as a basis for the development and application of artificial intelligence, the improvement of global cooperation through the support of an integrated partnership

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[29] Vlada Republike Srbije, Odluka o obrazovanju Saveta za veštačku inteligenciju, Službeni glasnik RS, br. 63 i 75.

[30] Beogradska ministarska deklaracija u oblasti veštačke inteligencije (2025). https://ai.gov.rs/vest/sr/1632/usvojena-beogradska-ministarska-deklaracija-u-oblasti-vestacke-inteligencije.php, 10.05.2025.

[31] Ministarstvo nauke, tehnološkog razvoja i inovacija (2025). Beogradska ministarska deklaracija u oblasti veštačke inteligencije, https://nitra.gov.rs/cir/ministarstvo/vesti/usvojena-beogradska-ministarska-deklaracija-u-oblasti-vestacke-inteligencije, 10.05.2025.

[32] Beogradska ministarska deklaracija u oblasti veštačke inteligencije (2025). https://ai.gov.rs/vest/sr/1632/usvojena-beogradska-ministarska-deklaracija-u-oblasti-vestacke-inteligencije.php, 10.05.2025.

with the OECD in order to create a sustainable and reliable AI ecosystem, the recognition of digital differences between developed and developing countries with a focus on reducing these differences and promoting equal opportunities for all, promoting safe and sustainable artificial intelligence, working to solve global challenges including employment, data management, privacy protection, sustainable agriculture, biotechnology and environmental impacts."[33]

3.5. Draft Law on Artificial Intelligence of the Republic of Serbia [34]

In the middle of 2024, the Working Group for drafting the Draft Law on Artificial Intelligence of the Republic of Serbia held its first meeting.

With the creation and beginning of the work of the Working Group, which consists of representatives of numerous state bodies, the scientific and professional community, law firms, as well as representatives of economic entities involved in the field of artificial intelligence, a significant process of drafting the Draft Law on Artificial Intelligence has begun.[35]

The key objective of the first meeting was to set clear guidelines for the effective management of the Working Group and the preparation of the Draft Law on Artificial Intelligence. Identification of key problems and finding adequate solutions in the process of creating a regulatory framework were also topics of the meeting.[36]

It is particularly important to point out that the draft Law on Artificial Intelligence will be closely related to the EU AI Act,[37] which will be discussed further in the continuation of this research.

When it is taken into account that in the Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the period 2025-2030. year, practically defined goals and measures for the new, the first Law on Artificial Intelligence in Serbia, one might think that the process of creating an artificial intelligence is a simple challenge, but that is not the case.

The future law will certainly rely on the EU AI Act, which has already been mentioned, and based on that it is reasonably assumed that there will be a ban on AI manipulation of human behavior. It can also be assumed that, similar to the mentioned EU Law, artificial intelligence will be divided into four categories for high-risk systems, such as: in health, education, employment and security.[38]

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[33] Gegić, B. (2025). Nova era u regulisanju veštačke inteligencije: Usvojena Beogradska Deklaracija, https://www.geciclaw.com/sr/beogradska-deklaracija-ai/, 10.05.2025.

[34] Ministarstvo nauke, tehnološkog razvoja i inovacija (2025). Nacrt zakona o veštačkoj inteligenciji Republike Srbije https://nitra.gov.rs/cir/ministarstvo/vesti/odrzan-prvi-sastanak-radne-grupe-za-izradu-nacrta-zakona-o-vestackoj-inteligenciji-republike-srbije, 20.05.2025.

[35] Nacionalna platforma za veštačku inteligenciju (2024). Radna grupa - Nacrt zakona o veštačkoj inteligenciji Republike Srbije, https://www.ai.gov.rs/vest/sr/1110/odrzan-prvi-sastanak-radne-grupe-za-izradu-nacrta-zakona-o-vestackoj-inteligenciji-republike-srbije.php, 10.05.2025.

[36] Ministarstvo nauke, tehnološkog razvoja i inovacija (2025). Nacrt zakona o veštačkoj inteligenciji Republike Srbije https://nitra.gov.rs/cir/ministarstvo/vesti/odrzan-prvi-sastanak-radne-grupe-za-izradu-nacrta-zakona-o-vestackoj-inteligenciji-republike-srbije, 20.05.2025.

[37] Đukanović, J. i Spasojević, D. (2024). Kako se pripremiti za novi Zakon o veštačkoj inteligenciji?, https://zuniclaw.com/novi-zakon-o-vestackoj-inteligenciji/, 10.05.2025.

[38] Paragraf Lex (2025). U pripremi zakon o veštačkoj inteligenciji, https://www.paragraf.rs/dnevne-vesti/120325/120325-vest7.html, 10.05.2025.

Certain studies indicate that the general development of legislation in the world will have difficulties. These difficulties are related to the fact that large technology companies, mainly from the US, lobby for constant changes to the adopted legislation, with the explanation that the law slows down progress in the development of AI. An additional specificity is that in the United States of America, there is no single law that deals with artificial intelligence, but they rely on existing regulations.[39]

It is also necessary to point out the positions of the profession in which it is decisively emphasized that although the Ethical guidelines for the development, application and use of reliable and responsible artificial intelligence have been adopted in Serbia (which has already been discussed) and which in some way laid the foundations for future legislative actions, they represent "soft legislative" regulations, so although they are important and useful, they are not sufficient.[40]

In one of her presentations, the Minister of Science, Technological Development and Innovation stated the following: "...some parts of that technology can get out of control and that is why it is important to have a good legal framework".[41] This directly points to the recognized importance of passing a new law, with which Serbia would be among the first countries to have such a law in place.

In support of the aforementioned and clearly defined legislation, it is also necessary to point out the position that it is necessary to sanction all potential abuses of artificial intelligence, with the fact that, as experts in this field state, "the law must be flexible", adding that "currently there is a critical moment for the development of artificial intelligence, and Serbia must use this opportunity to become competitive on the global market. Although Serbia is not part of the European Union, there is an opportunity to develop a law that will enable competition with markets such as the USA. Britain, China and Arab countries, without having to strictly adhere to the EU legal framework." Although no proposals for the aforementioned could be "heard", we are of the opinion that such an option should not be excluded a priori as a possibility.

While waiting for the text of the Draft Law on Artificial Intelligence of the Republic of Serbia, which is still not known when it will be drafted, but it will certainly be given special attention when the time comes, it is necessary to include in the consideration of this issue the opinions of experts related to the fact that technology in this area is developing and changing extremely quickly and therefore the new Law cannot initially be comprehensive. It is also important to be aware that today we do not have a clear perception of all potential risks, and therefore this future Law will have to be changed with special care and urgency, i.e. adapt to current circumstances, all with the aim of protecting security and privacy.[42]

Although judicial practice is not a source of law in domestic legislation, when drafting the Law, it might be effective to review foreign judicial practice not with the aim of imple-

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[39] Euronews Srbija (2025). Srbija uskoro dobija prvi zakon koji reguliše veštačku inteligenciju: Euronews Centar o efektima na društvo i privredu, https://www.euronews.rs/srbija/drustvo/159818/srbija-usvojila-strategiju-za-razvoj-vestacke-inteligencije/vest, 10.05.2025.

[40] Ibid.

[41] Inicijali autora M.P. – Portal Ubrzanje (2025) U Srbiji na pomolu predlog zakona o veštačkoj inteligenciji, https://ubrzanje.telegraf.rs/ubrzanje-ai/3992663-u-srbiji-na-pomolu-predlog-zakona-o-vestackoj-inteligenciji-ubrzano-se-razvija-ministarka-porucila-sledece, 10.05.2025.

[42] Paragraf Lex (2025). U pripremi zakon o veštačkoj inteligenciji, op.cit.

menting ideas, but with the aim of expanding awareness of what can be expected when artificial intelligence is in question.

Looked at globally, case law in cases related to AI does not exist in most countries, but it already exists in some courts in the US. The procedures that were conducted mainly related to the issue of intellectual property, copyright protection and misuse of personal data.[43]

4. EU ACT ON ARTIFICIAL INTELLIGENCE AND A REVIEW OF THE CIRCUMSTANCES THAT PRECEDED

Back in 2018, the European Commission recognized the introduction of artificial intelligence in the development of technologies, certain social spheres and even the impact on the economy. This is exactly why the strategic document called Artificial Intelligence for Europe was adopted.[44] The basic idea of this document was the joint action and exchange of experiences of the EU countries in connection with the development and use of artificial intelligence.

In the same year, the Coordinated Plan for Artificial Intelligence was adopted, signed by the EU member states, Norway and Switzerland. The goal of this plan is to achieve a high degree of efficiency in Europe in terms of artificial intelligence, all in order to be competitive on a global level. Each member state is encouraged to develop its own national strategy.[45]

The mentioned can be considered as some beginnings of regulating the issue of artificial intelligence in the legislation of the European Union. During the following years, several acts related to the issue of artificial intelligence were created, which will not be the focus of this research, not because of their small importance but because of the brevity and focus of the hypothesis.

Of particular note would be the report entitled Artificial Intelligence in Criminal Law and its Use by the Police and Judicial Authorities in Criminal Matters, from 2021.[46]

In the aforementioned report, it was considered whether the introduction of AI tools in the work of the police and courts can contribute to increasing the efficiency of these institutions, but the issue of risks related to basic human rights was also considered. It was established that there is an insistence on the strict application of the principle that final decisions are always made by humans, and that a clear demarcation between automated recommendations and human responsibility is necessary.[47]

It was established that in circumstances where artificial intelligence is to be introduced in the work of the aforementioned bodies, a transparent impact assessment must be

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[43] Pekić, S. (2025). Pravna regulativa veštačke inteligencije, https://attorney.rs/pravna-regulativa-vestacke-inteligencije-ai/, 10.05.2025.

[44] European Commission, Artificial Intelligence for Europe, COM (2018) 237 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A237%3AFIN, 10.05.2025.

[45] European Commission, Coordinated Plan on Artificial Intelligence, COM (2018) 795 final, https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence, 10.05.2025.

[46] European Parliament, Report on artificial intelligence in criminal law and its use by the police and judicial authorities in criminal matters, 2020/2016(INI), https://www.europarl.europa.eu/doceo/document/A-9-2021-0232_EN.html, 10.05.2025.

[47] Bošković, M. (2024). Implications of eu ai regulation for criminal justice, The right to life and body integrity, Institute of Criminological and Sociological Research, pp.111-120.

carried out. This includes the inclusion of actors from public civil society as well as independent risk analysis. All reports and conclusions and assessments must be made public.

The report introduces the term "black box of algorithms". This means that AI systems must be transparent and explainable enough to be audited, especially by citizens who are the subject of automated decisions. Auditing would also be followed by ethical committees in charge of monitoring high-risk applications that would need to be formed.

The use of biometric identification in public spaces was especially considered. This report recommends a moratorium on automatic facial recognition systems – except in strictly limited situations such as victim identification – until technical standards are in place that guarantee respect for the right to privacy and prohibit mass profiling. It should be noted that a permanent ban on the collection and use of private databases of persons is foreseen.

At the end of the report, the need for continuous education of judges and police officers on ethical issues and technical limitations of AI is indicated, in order to avoid excessive dependence on automated processes.

From the above, one can see great benefits, but also the existence of a high degree of security challenges, then one can see the laying of the foundations for the responsible development and application of new AI technologies with transparency and the existence of mandatory human control, all with the aim of achieving efficiency and not jeopardizing human rights.

European Artificial Intelligence Act (EU AI ACT)[48] it was adopted in mid-2024 and as such represents the first comprehensive legal framework for artificial intelligence in the world. The primary goal of the Act is the existence of reliable artificial intelligence in Europe.

When viewed fundamentally, the Law on Artificial Intelligence represents a set of rules based on the implementation of artificial intelligence and its creation.

Broadly speaking, this law represents a package of policy measures to support the development of reliable artificial intelligence, which also includes the Package of Innovations in the field of artificial intelligence, the launch of artificial intelligence factories and the Coordinated Plan on artificial intelligence.

Taken as a whole, this Law guarantees safety, preservation of basic human rights, but also the adoption, investments and innovations in artificial intelligence.[49]

The EU AI Act prescribes harmonized rules for placing on the market, putting into operation and using AI systems in the EU, then prohibiting certain practices of "unacceptable risk". In particular, rules for "high-risk" systems and operator obligations are foreseen, and finally, harmonized transparency is foreseen for certain AI systems, including generative models.

The act defines four levels of risk, namely:

- Unacceptable risk: AI activity that manipulates people's behavior, such as "social scoring" and "submillennial techniques" are prohibited

[48] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA relevance)

[49] Shaping Europe's digital future, AI Act, https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai, 10.05.2025.

- High risk: includes systems in critical infrastructures, healthcare, rights protection, education, employment, judiciary, migration and surveillance of people with biometrics. Strict technical and organizational measures are prescribed for them (risk assessment, data quality, activity records, human supervision, cyber security).
- Transparency risk: systems like chatbots and generative models must clearly inform the user of the automated origin of the response and flag synthetic content and finally
- Minimal risk: most AI applications (spam filters, video games) are not additionally regulated by law.

The aforementioned "Social Scoring" is the concept of monitoring and scoring all the daily habits that individuals undertake for their benefit to society as a whole. Practically, it is about collecting data and analyzing habits in terms of transactions (purchases, paying bills), online behavior (searches, likes, comments), social interactions (reputation, relationships with other users), compliance with legal and administrative obligations (paying taxes, traffic fines). With the help of artificial intelligence, the data is processed and classified. into positives and negatives.The aggregated data can make it easier or harder to access, for example, services.[50]

China's Social Credit System is one of the most famous implementations, in which government and commercial entities share data together and rate citizens and companies according to standardized rules.[51]

With the aim of pointing out, but without deepening, this issue that actually requires a separate investigation, there are also clearly visible positions that are absolutely opposed to Social Scoring analytics, especially pointing out that social scoring systems based on artificial intelligence hinder people's access to social protection, threaten their privacy and profile them in discriminatory ways and based on stereotypes.[52]

Article 5 of the EU AI Act expressly prohibits: AI systems that manipulate consciousness or exploit vulnerable groups (age, disability, socioeconomic status); social scoring of people outside the context in which the data was collected; automatic assessment of the risk of criminal behavior without human verification; unintentional creation of biometric databases; use of "real-time" biometric identification in public spaces, except in strictly defined cases (e.g. searching for victims of kidnapping).

Of course, the law foresees supervision and implementation, in such a way that each member state should establish a national body for AI supervision (AI Office), which would deal with: monitoring the implementation and compliance of the system; maintaining a register of high-risk and generative models; implementation of inspection supervision and imposition of measures; but also to support "regulatory sandboxes" (AI Regulatory Sandboxes) and TEFs (Test and Experimentation Facilities) for controlled testing of innovative solutions under supervision.

The mentioned AI office represents the European office for artificial intelligence

[50] Recital 31 - AI systems for social scoring - AI Act, https://ai-act-law.eu/recital/31/, 10.05.2025.

[51] China's social credit system, https://www.bertelsmann-stiftung.de/fileadmin/files/aam/Asia-Book_A_03_China_Social_Credit_System.pdf

[52] Human Rights Watch, EU: Artificial Intelligence Regulation Should Ban Social Scoring, https://www.hrw.org/news/2023/10/09/eu-artificial-intelligence-regulation-should-ban-social-scoring, 10.05.2025.

which will be the center of expertise for artificial intelligence throughout the EU.[53]

AI Regulatory Sandboxes represent an innovative mechanism that enables the development and testing of new AI solutions in controlled but real conditions, with close cooperation with the competent regulatory body.[54]

The act also foresees penal provisions. Article 99 stipulates that non-compliance with prohibited actions may result in fines of up to €35 million or 7% of the total worldwide annual turnover for the previous financial year, depending on which amount is greater, while for minor offenses the amounts reach €15 million or 3% of the total worldwide annual turnover for the previous financial year, depending on which amount is greater. Providing incorrect information to supervisory authorities is punishable by up to €7.5 million or 1% of the total worldwide annual turnover for the previous financial year, whichever is greater.

It is also important to point out that although the regulation entered into force on August 1, 2024, for all high-risk systems, full implementation is mandatory from August 2, 2026, and for public authorities and large IT systems, the deadline has been extended until August 2, 2030.

5. CONCLUSION

The development of artificial intelligence is fast and comprehensive. In many segments, it has largely become a part of everyday life, and often everyday interaction. This is precisely why there is a need to carefully consider its social, legal and institutional implications.

Artificial intelligence is no longer an abstract concept. In the broadest sense, many users enthusiastically accept the benefits that AI brings, but we must be aware of the many risks that exist. If one were to polarize these issues into fascination and concern, the development and implementation of artificial intelligence must not be allowed to proceed unchecked or chaotically. It must be within the framework of well-thought-out and consistently applied legal frameworks.

This was exactly the goal of this surveillance, i.e. to point out certain key aspects and legal challenges faced by the legislation of the European Union, but also of Serbia. Although it can be seen from the research itself, it will still be emphasized that in creating the Law on Artificial Intelligence, Serbia fully follows the recommendations made by the European Union.

Legal systems (around the world) are faced with new tasks related to the question of how to define responsibility in situations when automated systems make a wrong decision, how to protect the intellectual property of the generated content and how to guarantee the transparency of the model learning process on large databases. At the same time, the challenges are not only related to basic regulation, but also to ethical principles in terms of privacy protection, equal access to information and prevention of discrimination.

In this sense, the European Union, by passing the EU AI Act, has set a new standard in the normative approach: risk classifications, mandatory impact assessments, prohibition of unacceptable activities and establishment of regulatory rules in a way that it is possible to foster innovation and protect basic human rights at the same time.

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[53] European commision - Shaping Europe's digital future, European AI Office, https://digital-strategy.ec.europa.eu/en/policies/ai-office, 10.05.2025.

[54] EU Artificial Intelligence Act, Article 3 – Definitions, https://www.aiact-info.eu/article-3-definitions/, 10.05.2025.

For the Republic of Serbia, alignment with the standards established by the European Union represents a strategic challenge and a security obligation. The formation of a national legislative platform that recognizes the specific needs of digital infrastructure and artificial intelligence, while respecting the principles of the EU AI Act, should provide legal security for business entities, but also protect citizens from potential abuses. In particular, the regulatory framework must include the definition of responsibilities of participants in the AI system, modalities of transparency of algorithmic decisions, procedures for filing and resolving cases, as well as mechanisms for continuous evaluation of regulations through cooperation with the professional public and the civil sector. Bearing in mind that the text of the Draft Law on Artificial Intelligence is still in the drafting phase, this research can be useful to the authorities.

The development of artificial intelligence and legal legislation at the global level currently represent two different tracks. If viewed according to current EU standards, the future of artificial intelligence depends on how legislators respond to the dual nature of this technology. On the one hand, an exceptional potential for social and economic progress, while on the other, the risk of violating the foundations of human rights and freedoms. Only by integrating technological, ethical and legal solutions, with the active participation of all interested parties - state institutions, the academic community, the economy and citizens - can a balance be achieved that will allow AI to truly become a powerful ally and not an unpredictable risk factor, both at the level of the European Union and in the Republic of Serbia.

Many questions will remain open, which leaves room, but also an announcement for some other research, and some of them are the question of consciousness, that is, will AI develop consciousness and feelings? Will AI become an independent entity? Time will tell, or let's ask ChatGpt.

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Pravni izazovi i zakonodavna regulacija veštačke inteligencije – Približavanje Srbije zakonodavstvu EU

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Apstrakt: Razvoj, pa i sam koncept stvaranja veštačke inteligencije (en. AI) za mnoge je zastrašujuće, za neke je fascinantno, a neretki su i oni koji su sa velikim oduševljenjem prihvatili i spoznali jedan sasvim novi aspekt, moglo bi se već reći i svakodnevnog života. Neverovatno brzo napredovanje veštačke inteligencije dovodi do toga da u pojedinim segmentima više se ne može prepoznati sa kim se komunicira verbalno ili pisano posebno kada je reč o nekim oblicima info podrške ili pružanja usluga. Nikako ne treba zanemariti i kreativnu mogućnost veštačke inteligencije u npr. u tekstualnom, video i foto editovanju ali i kreiranju na osnovu zadatih parametara. Imajući na umu ovaj izuzetno ubrzani i svakodnevni razvoj veštačke inteligencije na globalnom nivou, spoznaju se brojni izazovi koji su postavljeni, nazvaćemo to, pred pravne sisteme širom sveta. Ova problematika apsolutno zahteva hitne i veoma dobro promišljena zakonodavna predviđanja. Prepoznavši prethodno pomenuto, Evropska unija predstavlja pionira u sveri normativnog pristupa veštačkoj inteligenciji posebno donošenjem Akta o veštačkoj inteligenciji (AI Act). Ovaj akt predstavlja prvi sveobuhvatni pravni okvir kojim reguliše ova oblast. U ovom istraživanju razmotriće se ključni aspekti koji su prethodili donošenju Akta o veštačkoj inteligenciji, ramotriće se i pomenuti Akt, a posebna pažnja će se ukazati na nastojanjima i potrebama Republike Srbije da kreira zakonodavnu platformu koja će uređivati ove aspekte, uz naravno usklađenost sa regulatornim standardima Evropske unije.

Ključne reči: AI act EU, veštačka inteligencija, pravno normiranje, stvaranje zakonodavne platforme u Republici Srbiji