universität wien

MASTER THESIS

Titel der Master Thesis / Title of the Master's Thesis

"Legal Aspects of Artificial Intelligence: the issue of personhood and legal liability in the context of the European Union."

verfasst von / submitted by

Rauf Abbasov

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Laws (LL.M.)

Wien, 2023 / Vienna 2023

Studienkennzahl lt. Studienblatt / Postgraduate programme code as it appears on the student record sheet:	UA 992 548
Universitätslehrgang lt. Studienblatt / Postgraduate programme as it appears on the student record sheet:	Europäisches und Internationales Wirtschaftsrecht / European and International Business Law
Betreut von / Supervisor:	Dr. Maria Sturm LL.M.

Table of abbreviations:

No	Abbreviation	Meaning
I.	AI	Artificial Intelligence
II.	Art	Article
III.	CNIL	National Commission on Computer Technology and Civil Liberties
IV.	DLT	Distributed Ledger Technology
V.	EC	European Commission
VI.	EU	European Union
VII.	FZ	Federal Law of Russia
VIII.	IP	Intellectual Property
IX.	MS	Member State
X.	NSCAI	National Security Commission on Artificial Intelligence
XI.	OECD	Organization for Economic Cooperation and Development
XII.	Para	Paragraph
XIII.	WIPO	World Intellectual Property Organization

Table of Contents

Introduction

The increasing involvement of technological progress in our lives every day and the effects it has on our social life every day have shown that legal regulations cannot remain insensitive to these developments. As a result, the legal rules regulating social relations will not be able to respond to these developments by crawling, so to speak, running. For example, liability law reflecting the period when the steam train was used at the beginning of the 1900s, has adopted hazard liability instead of defect liability due to motor vehicles, atomic energy, nuclear power plants that developed after the 1950s. In this context, another scientific development that has attracted attention in recent days is the concept of artificial intelligence. The concept was first raised by John McCarthy, Marvin Minsky, Nathaniel Rochester and Claude Shannon in a seminar held in 1956 with a presentation entitled "A two-month and ten-Person Study of artificial intelligence.

Because artificial intelligence will cause the transformation of legal rules in every field that it will transform. The legal rules governing social relations will exist wherever there is a human being, in the same way, not every area where a human being exists will be considered separate from the concept of AI. Consequently, the proximity of law and technology will make it necessary to fill the legal gaps that will arise.

The rapid advancements in AI have propelled technological innovation and transformation across various sectors, leading to both exciting possibilities and complex challenges. As AI becomes increasingly integrated into diverse aspects of daily life and business operations, its legal implications have become a paramount concern, particularly in the context of the European Union. The EU, renowned for its commitment to upholding fundamental rights, data protection, and ethical considerations, faces a unique set of legal complexities and opportunities regarding AI implementation.

This master thesis explores the multifaceted legal aspects surrounding AI in the EU, examining the historical importance of concepts and the evolving regulatory landscape, liability, and accountability frameworks. Understanding these legal dimensions is crucial for fostering innovation while safeguarding individual rights, ensuring responsible AI development, and harnessing the full potential of this transformative technology in a manner aligned with the EU's core values.

I. The Regulatory Landscape for AI in the European Union. As AI technologies continue to advance, there is a pressing need for a coherent regulatory framework that strikes

a delicate balance between promoting innovation and safeguarding societal interests. The EU's approach to AI regulation reflects its commitment to a human-centric and trust-based approach. EU general data protection regulation, which took effect in 2018, significantly impacts AI applications that involve the processing of personal data. The regulation’s stringent data protection measures have wide-ranging implications for AI developers and users, necessitating compliance with privacy standards to uphold individuals' rights and freedoms.

II. Protecting Fundamental Rights in AI Deployment. Ensuring that AI technologies respect and uphold fundamental rights is paramount for the EU. As AI applications permeate various sectors, including healthcare, finance, and law enforcement, there are concerns about potential biases, discrimination, and infringements on individual liberties. Striking the right balance between AI's potential benefits and risks poses complex legal challenges. The EU's Charter of Fundamental Rights, alongside the EU general data protection regulation, forms the cornerstone of safeguarding rights such as privacy, non-discrimination, and freedom of expression, necessitating careful legal scrutiny in AI deployment.

III. Liability and Accountability in AI: The question of liability and accountability in AI systems is a complex legal terrain. As AI technologies evolve, there arises a need to determine responsibility when AI decisions result in errors, accidents, or unintended consequences. The EU grapples with establishing liability frameworks that strike a fair balance between AI system developers, users, and affected parties, aiming to promote innovation while addressing potential harms.

Chapter I

The concepts and evolution of person, personhood, and AI

SUMMARY: I. General analysis of fundamental terms – i. Basic concepts and their diachronic importance – i.i. Definition and historical roots of person and personhood – i.ii.i The AI concept – i.ii.ii Legal personality criteria of AI – i.ii.iii Opinions on the Need for Legal Status for Artificial Intelligence – i.iii Theoretical problems of AI – i.iii.i. Ethical and legal problems of AI application – i.iii.ii. Responsibility for the artificial intelligence actions – II. Al as a legal subject – i Different views on AI as a legal subject – ii The possibility of AI becoming a derivative legal subject.

I. General analysis of fundamental terms

i. Basic concepts and their diachronic importance

Understanding the historical context of terms provides valuable insights into their evolution and changing meanings over time. This allows individuals to perceive the terms accurately and appropriately, avoiding anachronisms or misunderstandings.

Secondly, historical definitions offer a comprehensive perspective on how concepts have been shaped and influenced by societal, cultural, and philosophical factors. By delving into the historical context, people gain a deeper understanding of the term's significance and relevance in various contexts.

In addition, defining historical aspects enables researchers to trace the evolution of ideas and theories by identifying seminal works and influential philosophers who have made significant contributions to this field.

In conclusion, defining historical aspects of terms before starting the thesis is crucial for accuracy, depth of understanding, and scholarly integrity. By integrating historical dimensions, the academic work contributes to a more comprehensive and informed academic discourse.

i.i. Definition and historical roots of person and personhood

Gaius, a Roman jurist, is credited with one of the earliest categorizations of legal concepts, dividing them into three categories pertaining persons (personae), objects (res), and

actions (actiones)[1]. This is commonly cited as the first mention of the person/object distinction. It is unclear whether Romans understood this distinction in a structured or abstract manner. Roman law was in many ways arbitrary, chaotic, and pragmatic. Despite this, the origins of the person/object dichotomy can be traced back to Roman law, which has had a significant influence on contemporary conceptions of legal personhood. Therefore, it becomes essential to study Roman law pertaining to persons.

This division was introduced by Gaius in his work "Institutes," which was originally intended as an introductory text for law students. Written around the year 160 C.E., "Institutes" was subsequently incorporated with some modifications into the main Roman law text, Corpus Iuris Civilis, which serves as the foundation for much of Western legal scholarship. Notably, Gaius' "Institutes" does not define explicitly what a person (persona) or an object (res) is[2]. Notable is the etymology of the word "persona," which presumably derives from the Greek "prosopon" (v, meaning "face" or "appearance"). In Latin, it originally referred to the masks worn by actors and their characters, but later came to represent "roles" or human qualities. Cicero, for example, is well-known for his theory of the four personae in every human being: rationality, personal characteristics, status, and occupation.[3] Over time, "persona" also acquired a second connotation, approximating the modern concept of a role-free human being. Some contend that the influence of Stoic philosophy contributed to this semantic shift.

Nonetheless, the emergence of a modern understanding of "person" is most evident in early Christian church debates concerning the natures of the Trinity and Christ, where the concept of "persona" acquired prominence. Notably, the Council of Alexandria declared in 362 CE that God the Father, God the Son, and God the Holy Spirit were distinct hypostases (substances) with a singular divine constitution. The term "hypostasis" () was translated into Latin as "persona." Similarly, the Council of Ephesus in 431 C.E. affirmed that Christ was one person (hypostasis, persona) with both divine and human characteristics.[4] Such declarations necessitated philosophical clarifications of "persona" in order to clarify the creed. Around 500 C.E., the Roman philosopher Boethius defined "persona" as "the individual substance of rational nature," an influential definition[5]. This period also coincided with the publication of the Corpus Iuris Civilis by Emperor Justinian I of the Eastern Roman

[1] Gaius, Institutiones or Institutes of Roman Law (Edward Poste tr. ed., 4th edition, Clarendon Press 1904).
[2] J. R. Trahan, 'The Distinction between Persons and Things: An Historical Perspective' (2008)
[3] Christopher Gill, 'Personhood and Personality: The Four- Personae Theory in Cicero, De Officiis I', Oxford Studies in Ancient Philosophy: Volume VI (Oxford University Press 1988).
[4] Matthias Lutz-Bachmann, 'Der Mensch als Person. Überlegungen zur Geschichte des Begriffs der "moralischen Person" und der Rechtsperson' in Eckart Klein and Christoph Menke (eds), Der Mensch als Person und Rechtsperson (Berliner Wissenschafts-Verlag 2011) p. 110–11.
[5] Udo Thiel, The Early Modern Subject: Self- Consciousness and Personal Identity from Descartes to Hume (Oxford University Press 2011).

Empire.

In this Corpus, "persona" was used to denote both "role" and "individual," but not in the technical sense in which a contemporary jurist would use the phrase "legal person."[6] For instance, slaves were considered personae, i.e., human beings, despite the ongoing debate on the legal personhood of slaves. Additionally, corporations were usually referred to using the term "universitas," not "persona."[7] Another term, "caput" (meaning "head"), referred to human individuals and was occasionally used in a sense similar to "legal standing."[8] In this latter sense, slaves did not possess "caput." "Caput" is perhaps the closest concept in Roman law resembling the modern, technical understanding of legal personhood. Nevertheless, rather than defining who qualified as legal persons under the law, the "law of persons" in Justinian's "Institutes" addresses the various statuses (or "roles") of human beings in hierarchical Roman society.

Three primary groups of statuses were identified: status libertatis (whether one was free or a slave), status civitatis (whether one was a Roman citizen or belonged to one of the less privileged groups), and status familiae (whether a person was legally independent or under the power of one's paterfamilias, the head of the household).

On the other hand, the law of things pertained to how certain individuals (if they possessed the requisite status under the law of persons) could acquire rights to things with monetary value, such as material objects and slaves.[9] The category of things also included obligations and "rights" (iura), which the Romans considered "incorporeal things." However, the Romans did not have the abstract notion of subjective rights employed by modern jurists, nor did they clearly separate substantive claims from procedural remedies.

As mentioned before, the Romans invented the concept of a corporation (universitas), an organization capable of owning property and contracting in its own name. The earliest corporations were public bodies, such as cities and states, which owned public property. Later, private corporations could be established as well.[10] Some argue that much of Europe adopted the idea of the corporation due to the Romans' use of corporations to organize the administration of their territories. As a result, even English law, which has been less influenced by Roman law than most Continental legal systems, was familiar with corporations relatively early.[11]

---

[6] P. W. Duff, Personality in Roman Private Law (Cambridge University Press 1938) p. 6– 25.
[7] Ibidem. p. 24-5
[8] Ibidem. p. 25–6
[9] Andrea Padovani and others, A Treatise of Legal Philosophy and General Jurisprudence, Volume 7: The Jurists' Philosophy of Law from Rome to the Seventeenth Century (2005) p. 22.
[10] William L. Burdick, The Principles of Roman Law and Their Relation to Modern Law (The Lawbook Exchange, Ltd 2004) p. 281– 6.
[11] Ibidem. p. 287

The intricate details of the Roman law of persons are not the focus here; rather, it is more relevant to examine how the Roman system influenced later authors' works, eventually leading to the modern theory of legal personhood as involving both rights and duties. Most of the significant developments regarding legal personhood occurred on the European continent. After the fall of the Roman Empire, the Corpus was lost for centuries in the West, but some parts of it, like the Digest consisting of the legal opinions of eminent jurists, were rediscovered in Bologna in the twelfth century.[12] This rediscovery marked the birth of the study of law at universities, and most Continental legal scholarship would be based on the Corpus from then on. While Gaius's "Institutes" would only be rediscovered in 1816, the Digest contained numerous references to Gaius's tripartite division. The person/thing distinction became particularly important in the works of certain Continental thinkers and jurists, although English jurists occasionally made references to this distinction as well.[13]

It appears that French law professor Hugues Doneau (also known as Hugo Donellus) was the first to devise a technical legal concept of personhood. Doneau, a member of the Renaissance humanist movement, conducted a critical analysis of the Corpus and attempted to establish the law's systematic foundations.[14] In his major work, Commentarii in iure civili ('Commentaries on Civil Law'), he employs the term persona in a novel, specialized context. Persona is now the starting point of legal analysis, and a person is any individual with a positive status libertatis, civitatis, and familiae.[15] As one's legal personhood would now refer to one's legal functions in civil society, there is an analogy to the original concept of persona as a role. However, Doneau did not yet make a precise distinction between homo and persona. According to the German jurist Hermann Vultejus, homo refers to a human, while persona is a homo habens caput civile — a human with a civil standing. Vultejus employs the term caput, which, as previously mentioned, was occasionally used by Roman jurisconsults to refer to the legal standing that free men possessed but slaves lacked.[16] Nonetheless, Vultejus appears to be the first to have explicitly defined these concepts.

It is relatively clear that the predecessors of the contemporary theories of rights— the so- called will and interest theories— were, in a way, developed in symbiosis with the theory of legal personhood: rights were either legally enforceable choices or legally protected interests, and persons were the holders of these rights. Consequently, theories of legal

12 Charles M. Radding and Antonio Ciaralli, The Corpus Iuris Civilis in the Middle Ages: Manuscripts and Transmission from the Sixth Century to the Juristic Revival (Brill Academic Publishers 2006).
13 Henry de Bracton, On the Laws and Customs of England (Samuel E. Thorne tr. ed., Belknap Press of Harvard University Press 1968) p.29.
14 The Oxford International Encyclopedia of Legal History (Oxford University Press 2009).
15 Christian Hattenhauer, ‘ “Der Mensch als Solcher Rechtsfähig”: Von der Person zur Rechtsperson’ in Eckart Klein and Christoph Menke (eds), Der Mensch als Person und Rechtsperson (Berliner Wissenschafts-Verlag 2011) p. 44–6.
16 Ibidem. p. 47–9.

personhood have not really changed much.[17]

In conclusion, the primary focus might be put upon AI itself, as there has not been a remarkable difference since the very classification of legal person and personhood in comparison with today's concepts.

.

i.ii.i. The AI concept

The concept of artificial intelligence, a sub-branch of computer science, can be defined as machines which are able to imitate what humans can do, in which the problem-solving ability specific to humans can also be performed by machines.[18] It is a branch of science. With artificial intelligence that is really getting smarter, cars can drive themselves, act as digital assistants, and we even can chat with chatbots like Siri and Amazon Alexa.

However, the concept of artificial intelligence cannot be understood by humans, although it is usually treated by humans as a technology that has not gone beyond science fiction movies, the real situation is very different from this. Indeed, artificial intelligence beings are present in all our lives. For example, artificial intelligence systems are used, from computers that determine when the abs braking system of cars will be activated, to a computer that adjusts the fuel injection parameters. Again, map applications on phones, weather applications, and chatting with Siri are all artificial intelligence.[19]

The reason for the confusion in people is that the concept of artificial intelligence in general cannot be associated with a concrete visual shape. It takes place both within a very wide subject and field and brings robots to mind with the influence of science fiction films, which are the starting point. But while the robot is a carrier in human form or not in human form, artificial intelligence is the computer inside the robot. Therefore, there does not always have to be a robot appearance. For example, even if Siri is personalized with a female voice, it does not have a human body.

[17] Kurki, Visa A.J., 'A Short History of the Right-Holding Person', A Theory of Legal Personhood (Oxford, 2019; online edn, Oxford Academic, 19 Sept. 2019).
[18] Bozkurt, Armağan/Bak, Başak 'Artificial Intelligence', Futurist Hukuk, Aristo Yayınevi 2018, İstanbul, 6
[19] Kara Kılıçarslan, S. "Legal Status Of Artificial Intelligence And Debates On Its Legal Personality" . Yıldırım Beyazıt Hukuk Dergisi (2019), p. 365

It is possible to consider the concept of artificial intelligence in 3 different categories in terms of its capabilities.

-Narrow artificial intelligence (weak artificial intelligence): these are artificial intelligences that can specialize only in one subject but are also very far from many human-specific abilities. For example, an AI that can play chess very well is a narrow artificial intelligence. Although he is equal to human intelligence or efficiency in some subjects, he does not have the skills required for personality status legally. In other words, "Weak" artificial intelligence is almost all of the "artificial intelligence" studies you hear about in the mainstream media. That is, it is a type of artificial intelligence that does not really have a self and perception, that can give more successful results than humans on a singular and narrow topic, for example, driving a car or beating people in games of Go or chess.

- Artificial General Intelligence: Artificial intelligence is the closest to human capabilities. Artificial general intelligence is sometimes referred to as artificial intelligence at the human level. Thus, general artificial intelligence that reason, solve problems, plan and have complex thinking abilities are computers that are as smart as humans. If the idea that it can have personality in a legal sense is accepted, general artificial intelligence should be in this status.

- Artificial Super Intelligence: Artificial super intelligences, which have an intelligence far above human intelligence, are the kind that are seen as a threat that can take over humanity in the future. Technological developments that benefit instead of harm by using narrow artificial intelligence in military, financial, production, medical fields in its current form will have capabilities that can lead to an existential danger by developing towards super artificial intelligence with deep learning. Therefore, the rules of law have to find solutions for artificial intelligence entities that have not yet reached this stage but will reach this stage very soon.[20]

i.ii.ii. Legal Personality Criteria of AI

Although it is debatable whether artificial intelligence entities should be legally considered human beings, it should be recognized that there are some basic criteria that must exist in order for them to be equivalent to humans. In other words, if a person is accepted legally, they must carry some personal capacity criteria in addition to the rights that powerful artificial intelligences will have legally. The suitability of whether it is appropriate for the

[20] Ibidem, p. 367

personality versus the capacity for personality will be examined under this heading.[21]

Environmental Interaction, Complex Thinking and Communication Ability. Interaction with the environment is considered important for the existence of personality capacity. In order to be able to talk about a personality of any kind, limited interaction with the environment will not be considered sufficient, and it will be expected to have a meaningful interaction with the environment. Interaction with the environment should be diverse, multifaceted and sophisticated. It should give appropriate counter-reactions of similar complexity and appropriate to the multifaceted responses from the environment. For this, as a result of communication with the environment, he should analyze the information he encounters and offer appropriate answers. In this framework, the entity with personality should have the capacity to learn both rationally and from experience. It should develop counter-reactions by receiving environmental data inputs, decoding them by making sense of them, and sending mental data.[22]

Artificial intelligence should be able to understand what is said in the face of any statement that is said to it, make inferences from it, and combine the words to create a meaningful response in return, so that we can talk about communication.

Second, in social interaction, it is not enough to be as good or even better as a human in terms of some abilities. It should also be developed in terms of minimum social abilities that are unique to human beings, so that we can accept that it acts with understanding.[23]

In such a case, it is possible to gather people's reactions to the situations they encounter under five different characteristics. First, human behavior is not mechanical. For this reason, the responses that can be given are flexible. They do not have to act the same in a situation, they can react differently from each other. Second, humans have the ability to make sense of ambiguous and contradictory messages. The meaning made in the face of uncertain and contradictory situations depends on people's knowledge, skills and experiences. Third, they can identify and distinguish the relative importance of different elements in a situation. This ability is more related to awareness of events that can be attributed to legal significance. The fourth feature is that they can establish similarity across different situations. Finally, people can discover differences in the same situations. Therefore, in this direction, Allen Turing proposed the "Turing Test" in order to measure whether artificial intelligence behaves

[21] Hubbard, F. Patrick, 'Do Androids Dream?': Personhood and Intelligent Artifacts (April 22, 2010). Temple Law Review, Vol. 83, 2010, 407
[22] Ibidem, p. 420
[23] Zimmerman, Evan Joseph. “Machine Minds: Frontiers in Legal Personhood.” (2015), p.36

like a human or not. In this test, the definition of a computer behaving like a human is made. The test works as follows. Behind one wall are two computers, with a person typing on the keyboard of one of the computers, and software on the other. Accordingly, will the person taking the test be able to realize whether the other person is a human or not from the questions he/she receives and writes? As a result of the application of the test in question, it was finally possible to encounter an artificial intelligence that could not be distinguished from a human.[24]

Personal Ability and Consciousness Level to Realize Life Purpose and Plans. As a result of the speciesist approach, humans can be distinguished from animals not only by their ability to be complex in thought and communication but also by the element of consciousness. However, since the nature and origin of the consciousness element cannot be known clearly, it is thought that it is not a sufficient criterion for determining personality. Because, despite the existence of the consciousness element, in addition to the situations where the status of the person is not recognized or is recognized in a limited way; considering persons who do not have consciousness (people in a coma) or legal persons whose consciousness we cannot talk about cause a contradiction.

The importance of the element of consciousness should be examined in terms of making conscious life planning and making efforts for it in terms of determining the personality status. In other words, in order to determine the personality status, it is not necessary for the person to be an entity that determines his identity in self-consciousness, but also to be a subject who designs plans for his life.[25]

Indeed, a person should design his life, and give him direction. However, creativity far beyond the standards is not expected from him either. After all, people have different capacities in shaping their future. None of us live our lives by planning all of our time. Habits and daily routines form a part of life. Similarly, no being is expected to communicate by thinking and designing in a way that is expected from a genius. Within this framework, people's feelings and emotions have a central role in terms of setting goals for the future. Similarly, basic emotions can be mentioned from the point of view of animals. Because both humans and animals are emotional beings. For example, it is suggested that monkeys and chimpanzees have a sense of justice, so they can make moral judgments. Again, in terms of their emotional state, elephants mourn their dead and bury them.[26] However, it is difficult to

[24] Oppy, Graham and David Dowe, "The Turing Test", The Stanford Encyclopedia of Philosophy (Winter 2021 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/win2021/entries/turing-test/>. Accessed on 06.27.2023
[25] Hubbard, p.420
[26] Zimmerman, p.35

think that artificial intelligence beings, robotic machines, have a feeling in this direction. Of course, they also have life goals. However, we cannot talk about sensitivity as achieving this goal. For example, in order for a machine to go beyond being a thermostat or to be an entity that consciously plans its life, the machine must strive to realize this plan. So much so that the goals he has set should contain a purpose and a reason to improve his life, beyond being aimed at maintaining his life. He must have a feeling that will give meaning to his life.[27]

Social Life Ability. An autonomous person who has a personality should have the ability to take care of their interests in society, among individuals whose mutual interests are in conflict, and at the same time protect their own interests. Artificial intelligence entities that can have a personality like humans should also be part of society. Since there will be no communication with other people for a person isolated from society or Decontaminated beings, there is also no need to balance between mutual rights and freedoms. From this point of view, on the contrary, the person who is part of society should act responsibly. The responsibility of a conscious being is directly related to how the scope and nature of personality are defined. If artificial intelligence is to attribute personality to an entity, it should avoid violations that may occur as a result of its relations with other people of society and respect their rights. The most important issue here is that he can reach the level of consciousness that can establish this balance of interests.[28] Because a moral subject is an individual who acts by considering not only his own interests, but also the interests of others.

Application of capacity criteria in legal personality status . The proposed standard for personality capacity is based on the competence, ability in the behavior of an artificial intelligence entity and is shaped by whether it interacts in a complex variety and is a member of the modus vivendi. But it is quite difficult to set standards for capacity, because abstractness and uncertainty prevail. In this case, the capacity criteria draw a framework with a high potential for arbitrariness, just like the competence for complex thinking (even the competencies of children are different). Therefore, these arguments and counter-arguments are important and valuable. It was also with these arguments that the doctrine began to be evaluated. But these do not have precise definitions of what personality status is, and although they consider ethically why we can provide individuality, at least we want to

[27] Hubbard, p. 421-422
[28] Zimmerman, p. 423-424

provide it, they do not consider from a legal point of view why the mechanism exists to achieve this, what being an individual means in an abstract, general sense, or offer any applicable legal definition that may work.[29]

For this reason, it is also a problem of legal policy to determine which entities will be considered persons, and regardless of the suitability of these criteria, it is up to the legislator to determine the status of a person. Therefore, consciousness, which plays an important role in determining personality status, will not be able to give a concrete result, it is more subjective. Normative and judicial perspectives are also far from providing objective results. But although these criteria are far from defining the nature of the human mind and human consciousness, it should also be remembered that they provide certain criteria for acquiring personality status or, in other words, for it to be deserved. In any case, it needs effort for even people to be called autonomous. Because considering the cultural disagreements and reluctantly accepted commitments to women's rights, it becomes clear that civil and political rights are not enough.[30]

Due to this fact, even if it is deemed appropriate to empirically examine behavior with the current criteria and to give an artificial intelligence legal personality, in fact, this problem is basically a problem of law and politics. Indeed, an unrestricted woman with adult appeal does not face any handicap when personality criteria are applied, but many cultures perceive women's rights as limited. On the other hand, even if there is no distinction between humans in the liberal, egalitarian understanding of personality, animals have an exclusionary approach to their legal status. Because the liberal personality status aims to keep human beings superior; has a speciesist approach.[31]

i.ii.iii. Opinions on the Need for Legal Status for Artificial Intelligence

a. Opinions considering reject the person status of an Artificial Intelligence Entity

The first reason for the rejection of personality status in terms of artificial intelligence is the claim that personality status is not needed by these entities. According to those who defend this view, the legal problems arising from the autonomous becoming of an artificial intelligence entity do not have to be solved by giving them a personality or assuming responsibility. Problems that may arise can be eliminated by granting limited rights and

[29] Ibidem, p. 40
[30] Ibidem, p. 428
[31] Ibidem, p. 430

responsibilities that will be granted depending on the areas of use and by integrating certain insurance systems. Within the scope of this view, it has been suggested that artificial intelligence can continue to remain as a commodity.[32] This approach, on the other hand, means accepting artificial intelligence as someone's property, just like any tool, and advocating that artificial intelligence should be included in the ownership of a real and legal person.[33]

Another defense of those who reject the personal status of artificial intelligence is the slavery view. Indeed, the slavery view is another useful way to keep artificial intelligences in the status of goods. According to this view, if the benefit of artificial intelligence exceeds its cost, it can be used as a slave. Because according to many people, if it is not too burdensome economically, a sense of control over any asset in accordance with their own interests may be attractive. According to those who defend the slavery view, artificial intelligence should not be considered as a simple commodity, but it should not be ignored that artificial intelligence cannot have any status other than the status of a commodity according to the understanding of speciesism.[34] Because artificial intelligence, no matter how equipped with human-specific abilities, will never be able to become a human being. As a result of this, the state of slavery is legitimized on the grounds that the artificial intelligence entity is not human. Because by using the human slavery model, artificial intelligence denies legal personality status to beings. Because according to those who defend this view, artificial intelligences are things that people produce. According to Locke, within the framework of the understanding of property, every person has the right to own what he produces. Based on this view, people can argue that they have the artificial intelligence they produce. However, in Locke's opinion, children were held to be the exception to the existing rule. Therefore, children are people even if their power of discrimination is limited. Their parents are obliged to take care of them. All expenses incurred to shape the future of children are the responsibility of parents.[35] Nevertheless, there are, quite rightly, important objections to the view of slavery in the doctrine.

In general, these views draw attention to the disadvantages that may arise from re-incorporating slavery, which has been a disgrace for thousands of years of human history, into the legal system. Considering the struggles and wars for the abolition of slavery, the reintroduction of slavery as a way to give legal status to artificial intelligences, to leave them in the status of goods, will do nothing but frustrate the struggles and, as a result, will not

[32] Thomas, Pérennou, State of the Art On Legal Issues, 2014, 10
[33] Maia Alexandre, Filipe, The Legal Status of Artificially Intelligent Robots: Personhood, Taxation and Control (June 1, 2017). https://ssrn.com/abstract=2985466 or http://dx.doi.org/10.2139/ssrn.2985466 Accessed on 27.06.2023
[34] Ibidem
[35] Zimmerman, p. 430

provide solutions to legal problems.[36]

b. Opinions considering accept the personality of Artificial Intelligence

According to the opinions that accept the legal personality of an artificial intelligence entity, it is justified in accordance with the principle of equality. For human rights, again within the framework of Locke's point of view, people with the same characteristics and types of capacity should be equal. If an artificial intelligence entity has human-specific characteristics, it should not matter that it is an artificial intelligence. We should also accept it as a person legally. As long as they do not pose a threat to humanity's dominant status or to humanity, artificial intelligence entities should also be considered human beings. Thus, by making the concept of personality common sense, the concept of a liberal person is dealt with consistently. Again, giving personality and legal responsibility to artificial intelligence entities provides a serious advantage to economic development in a country where there are conscious autonomous computers. Because it will be the solution of existing legal problems, the development of artificial intelligence assets will not be considered scary. It would be possible to take bolder steps. Perhaps more importantly, in societies, the right to personality will increase trust, peace and stability in society, as it ensures ownership of rights and getting into debt. Legal Entity Suggestion

(i) Legal Entity Suggestion. Artificial intelligence will never be accepted as real people due to their autonomic and cognitive structures. However, many of the legal problems that are being discussed in terms of artificial intelligence entities go through recognizing them legally rather than denying them. So, we cannot autonomously call artificial intelligence as a simple machine either. As is already known, legal status is not only given to people by law. In the current legal system, legal entities are also subjects that the law recognizes as a person. Within the framework of this view, it is argued that artificial intelligence, like companies, can be given a special status decoupled between an independent person and an item that is the subject of ownership.[37]

(ii) Electronic Personality Suggestion. According to the report of the European Parliament dated January 27, 2017, a number of recommendations and recommendations

[36] Kara Kılıçarslan, p. 379
[37] Bozkurt/Bak, p. 18-20

have been published in terms of giving artificial intelligence a personality.[38] Perhaps the most striking suggestion here is the idea of giving a new type of electronic personality, other than a real person and a legal entity. In this context, the report is the first official document that proposes the personality status for an artificial intelligence entity. In fact, the electronic personality proposal is also a proposal suitable for the sui generis situations of artificial intelligence entities. Because at least for now, a person cannot have a legal status, the report states that an electronic personality can be accepted as an alternative. In the same way, it does not seem possible to accept artificial intelligence assets as a commodity. Artificial intelligence, rather than being someone's property, is a person who can have rights and get into debt, perhaps even become a taxpayer.

The report put forward the proposal that each artificial intelligence should be registered in the official register and that if compensation liability occurs, financial funds established specific to artificial intelligence assets should be applied.

Another important recommendation of the report is to accept legal responsibility for the damage they cause to artificial intelligence. This proposal, which is a result of the adoption of the existence of artificial intelligence as a person by law, also provides for the perfect responsibility of artificial intelligence for the damage they cause. For the compensation of the damage caused, only the proof of the causal link between the damage and the act of the artificial intelligence is sufficient for the occurrence of liability.

(iii) The Non-Human Person It has been a well-known fact for a long time that legal systems, which grant rights and impose obligations to themselves, grant persons in a legal context, will not be limited only to people and human beings as a result of today's technological and social developments. In this context, legal entities are also communities of people or goods that are directed towards a specific purpose that are other than people and are recognized as a hypothetical personality. However, legal entities are not human beings and do not have a human-specific autonomous structure such as artificial intelligence. But when it comes to artificial intelligence, has it become necessary to propose new personality models that are so close to human-specific abilities, but in terms of non-human subjects? From this point of view, the concept of "non-human person" has been put forward recently. Artificial intelligences, although they have autonomous and cognitively human abilities, are ultimately not human and must be subjects of law with a concept other than their status of rights specific to real people who define human beings. In addition, according to this opinion, it is proposed to evaluate the legal status of animals within this concept.

[38] European Parliament Report on The Inquiry into Emission Measurements in The Automotive Sector, January 27, 2017

In conclusion, the concept of artificial intelligence, along with the discovery of deep learning, shows a kind of development that goes beyond science fiction movies. Artificial intelligence is becoming increasingly autonomous at a rate that exceeds human capabilities. For this reason, instead of ignoring the developments related to artificial intelligence assets, it is essential to be prepared to solve the legal disputes that may be encountered.

In the opinion of many, artificial intelligence entities should have legal personality. This recognition would grant artificial intelligence rights, make it liable for civil and criminal actions, and allow it to bear debts. This perspective aims to shift AI from the status of goods or slaves to the status of subjects or persons. Disagreeing with the view that artificial intelligence entities cannot be considered people and should be treated as objects, proponents of this idea argue that many possible future problems cannot be solved merely by granting limited rights and responsibilities or integrating insurance systems.

On the other hand, some argue for a perspective akin to keeping artificial intelligence in the status of goods, often rooted in a speciesism approach, which may not provide the necessary solutions. However, there are current views that advocate granting personality status to artificial intelligence under different terms such as legal entity, electronic personality, or non-human person. Each of these views serves a functional purpose in evaluating the legal status of AI, yet they may not be entirely sufficient.

The proposal for electronic personality is seen as a valuable effort to address this issue.[39] The proposal suggests granting artificial intelligence an electronic personality initially, followed by attributing perfect responsibility to those accountable for any damage caused. Considering the vast range of AI applications and the unpredictable advancement of its cognitive abilities, retaining AI as a mere commodity without imposing responsibility may lead to numerous legal disputes during a potential technological revolution.

The proposal recommends registering each artificial intelligence entity in an official register and establishing specific financial funds to cover compensation liability if necessary. This approach lays a solid foundation for holding AI entities accountable. Currently, if AI malfunctions or loses control, the responsibility lies with the manufacturer or user. According to the proposal, as AI becomes more autonomous and capable of learning, responsibility will gradually shift to the AI entity itself. This approach ensures that regulations remain valid and

[39] Proposal for a Directive of The European Parliament and Of The Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive) COM/2022/496 final

relevant in tandem with technological progress. This issue will be broadly explained in the section regarding AI liability.

Despite the strengths of the electronic personality proposal, it may not fully resolve the ongoing discussions. The acceptance of the proposal and the limits of the personality granted to AI remain uncertain and subject to the decisions of Member States.

Considering the idea of giving legal personality to artificial intelligence, it is crucial to acknowledge that this proposal deviates from the concept of "legal personality" as recognized by existing law. Nonetheless, it remains vital to address the uncertainties surrounding the scope of this concept, the rights and obligations entailed by granting personality to AI entities, and the implications of such a status.

In summary, it is necessary to establish a unique legal status for artificial intelligence entities, delineating their responsibilities, rights, and liabilities. This becomes increasingly evident as AI gains more autonomy in decision-making, making it challenging to attribute decisions solely to the manufacturer or user. Accepting artificial intelligence as mere commodities or slaves may not suffice in solving the legal challenges that could arise.

While the electronic personality proposal provides concrete suggestions compared to other views, there is still room to establish a comprehensive legal basis. This can be achieved through the initiation of legal movements related to AI within national regulations, accounting for the dynamic nature of this field. Engaging in these discussions and considering various perspectives is crucial to navigate the path ahead and develop effective solutions to the potential problems we may encounter.

i.iii. Theoretical problems of AI

The phenomenon of the rapid development and distribution of artificial intelligence technologies does not always receive a positive assessment. On the one hand, an optimistic version of AI development involves the organic integration of robotic devices and artificial intelligence services into the life of society. On the other hand, the risks emanating from the mass use of AI are sometimes seen as challenges of such a scale that can pose a threat to the very existence of humanity.[40]

Perhaps developers of artificial intelligence systems are taking a number of measures to minimize the risks of using appropriate technologies. However, more global risks of a

[40] Lee J. Artificial Intelligence and Human Rights: Four Realms of Discussion: Summary of Remarks // Proceedings of the ASIL Annual Meeting. 2020. 114. p. 242-245.

social, economic and humanitarian nature, as a rule, are much more difficult to assess.[41] Nevertheless, it seems possible to identify the main problem areas of the artificial intelligence industry that have a direct connection with law.

i.iii.i. Ethical and legal problems of AI application

The development of the discussion on the legal aspects of artificial intelligence and related technologies is largely due to the growing attention to the ethical problems of machine learning and robotics. The word "robot" itself first appeared in K. Chapek's science fiction play "R.U.R." in 1920, one of the central themes of which was the ethics of using thinking designers as labor. Subsequently, the main literary symbol of the ethical aspects of the operation of robots and artificial intelligence became the famous "Three Laws of robotics" by A. Asimov, first formulated by the author in the story "Round Dance" in 1942.

To this date, the discussion of ethical problems related to the use of intelligent machines has gone far beyond science fiction and provided the necessary ground for the formation of a new research direction, which was called "roboetics" and became part of a larger direction - the ethics of artificial intelligence.[42] In 2004, the First International Symposium on Roboetics was held in Italy,[43] followed by the adoption of the World Declaration on Robots in Japan in the same year. P. Asaro identifies three components of the concept of "roboetics": ethical systems built into robots; ethics of people who develop and use robots; and ethics of people's treatment of robots.[44] Let's consider each of them separately and determine their relationship with the law.

The first component assumes that artificial intelligence, which in the course of its activities may encounter situations that require making an ethically significant decision, must have some kind of built-in algorithm that allows them to make a competent and consistent choice of such decisions. It seems extremely unlikely that in the near foreseeable future artificial intelligence will be able to independently form an ethical system or provide a level of user interaction that will allow it to quickly and effectively learn ethics from its owner. The option looks much more realistic when all the key settings, including those related to the resolution of ethical tasks, are embedded in the AI at the creation stage. The user can also

[41] Yudina M.A. Industry 4.0: Perspectives and Challenges for Society // Public Administration. Electronic Bulletin. 2017. No. 60. P. 197-215.
[42] Vedenskaya E.V. Current Issues in Robotics // Scientific Research. 2019. No. 2019. P. 88-101.
[43] First International Symposium on Roboethics – URL: http://www.roboethics.org/sanremo2004/. Accessed on: 06.29.2023
[44] Butler T.L. Can a Computer be an Author – Copyright Aspects of Artificial Intelligence // A Journal of Communications and Entertainment Law. 1981. № 4 (4), p. 707-748.

make some point adjustments to these settings that do not interfere with the normal (and legitimate) operation of artificial intelligence.

Such a path sharpens the relevance of the second aspect of roboetics: the ethics of AI users and developers. Let's assume that robotics manufacturers and AI technology developers are entrusted to independently determine the moral rules and value assumptions on which the system of ethical regulation of artificial intelligence activities will be built. Such a situation can potentially lead to a serious social conflict if the ethical and value attitudes laid down by manufacturers in robots are at least in some aspects significantly different from the attitudes held by a significant majority of society members. In order to avoid such developments, some countries are already taking steps to regulate the ethical aspects of the development and use of artificial intelligence technologies. In particular, expert groups in European countries have prepared a number of key documents designed to lay the foundation for the ethical and legal aspects of the artificial intelligence industry, the main of which will be covered in this research paper.

No less significant is the problem of people's treatment of robots. At the moment, robotic devices are just things that can be operated by their users in any way that does not contradict the law. Even if we assume that artificial intelligence at a certain stage of its development will gain consciousness and form its own interests, its design features and thinking structure will be so different from human ones that the differences in worldview and ethics between a robot and a human will be just as fundamental.[45] In such conditions, attempts to predict the value orientations of hypothetical intelligent machines are doomed to failure.

A more realistic prerequisite for the introduction of special legal mechanisms for the protection of robots is the phenomenon of humanization of robots. This phenomenon is expressed in the fact that people, gradually getting used to robots, begin to endow them with subjectivity in their consciousness and, eventually, empathize with them as if they were intelligent and sentient beings, and in some cases even compare themselves with them. As a result, the spread of the practice of intentionally harming robots and showing cruelty towards them can not only cause moral suffering to individuals, but also become an example of unpunished deviant behavior. All this can not only negatively affect the level of legal awareness and social adaptation of citizens, but also create the ground for an increase in the number of offenses.

[45] Lawrence D. Artificial Intelligence: The Shylock Syndrome / D. Lawrence, C. Palacios-Gonzalez, J. Harris // Cambridge Quarterly of Healthcare Ethics. 2016. № 2. p. 250-261.

i.iii.ii. Responsibility for the artificial intelligence actions

Despite the fact that the ideas about the ethics of using artificial intelligence have undergone a significant evolution, the main task has remained unchanged since the time of A. Asimov: preventing harm to both people and their property, including robots themselves. Traditional areas of artificial intelligence use, such as conducting complex mathematical calculations and analyzing large amounts of data, usually do not involve the adoption of any socially significant decisions by an intelligent program.

A completely different situation arises, for example, upon performing an operation by a robot surgeon. The popularity of operations performed using medical robots is growing every year: for example, over 4.5 thousand medical operations involving robotic surgical complexes have been performed in Moscow over the past four years,[46] and the first fully robotic operations were performed in Germany in the summer of 2022.[47] At the same time, cases of incorrect functioning of surgical robotic devices are already known to the world practice: for example, in 2020 The US Food and Drug Administration (FDA) announced the recall of the da Vinci SP medical robotic system due to a software defect.[48]

Probably, in the near future, as at present, most artificial intelligence systems will be used in areas that do not have such a high risk of harming human life. Such devices include, for example, home robots that perform a variety of household tasks.

The problem acquires a completely different color, for example, in relation to the operation of vehicles with an artificial intelligent automatic piloting system. The problem of the distribution of responsibility for the actions of AI between its potential subjects – in particular, the developer, the owner and the direct user, is one of the most acute legal problems of artificial intelligence and related technologies. The task of its settlement, among other things, requires a clear balance of interests of citizens, business entities and the state.

In general, an increase in the security of artificial intelligence systems can be achieved by increasing their openness, explicability and accessibility for various forms of control. However, such prioritization will require an appropriate fee. First of all, such a policy will affect the efficiency, flexibility and speed of the introduction of AI technologies. In addition, the disclosure of the technical features of artificial intelligence systems poses a threat of violation of the intellectual rights of their developers and the trade secrets of the companies

[46] Official website of the Mayor of Moscow. – URL: https://www.mos.ru/news/item/112032073/ Accessed on 06.29.2023
[47] First completely robot-supported microsurgical operations performed // The University of Münster. –URL: https://www.uni-muenster.de/news/view.php?&cmdid=12768 Accessed on 06.29.2023
[48] Class 2 Device Recall da Vinci SP surgical system // U.S. Food and Drug Administration. –URL: https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfRes/res.cfm?ID=180439 Accessed on 06.29.2023

that own the relevant technologies. Finally, the high demands placed on developers and manufacturers of artificial intelligent systems may prove to be unaffordable for small companies, which can significantly slow down the pace of innovation growth.[49] The most promising approach to solving this problem is to increase the openness of only those artificial intelligence technologies, from the use of which not only their owner, but also other people can potentially suffer.

Speaking about the legal aspects of artificial intelligence and related technologies, it is impossible not to mention the intellectual and legal problems that arise in such a high-tech and innovative sphere. The discussion about intellectual rights arising during the AI development and operation has two main directions: intellectual rights to artificial intelligence technologies and intellectual rights to works "created" by artificial intelligence itself.

Artificial intelligence technologies have long been the subject of public discussion in the professional environment, as well as in the field of intellectual property rights. In recent years, the World Intellectual Property Organization (WIPO) has organized several large-scale discussion sessions on intellectual property and artificial intelligence,[50] and the Organization for Economic Cooperation and Development (OECD) has opened a platform for discussing AI technology policy.[51]

Nevertheless, the issue of the intellectual and legal regime of AI is far from being resolved. At the moment, in the absence of special norms, the fate of the intellectual and legal status of artificial intelligence is determined more by its form than by its content. So, most likely, an AI system that is inextricably linked to a certain physical shell (for example, the body of a robotic device), and an AI system that is available for distribution on different media and use on different computing devices, similar to a traditional computer program, will have a different legal protection regime.

The scientific literature suggests that artificial intelligence may well comprehend the same future as computer programs. The latter, despite their colossal role in scientific and technological progress and transformation of society, have not received a special regime of legal protection. Instead, the copyright regime is still used in relation to computer programs, which equates them from the point of view of intellectual property rights protection to literary works.[52]

---

[49] Buiten M. Towards Intelligent Regulation of Artificial Intelligence // European Journal of Risk Regulation. 2019. № 10 (1). P. 41-59.
[50] Artificial Intelligence and Intellectual Property Policy // World Intellectual Property Organization. – URL: https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html Accessed on 06.29.2023
[51] The AI Wonk // OECD.AI Policy Observatory. – URL: https://oecd.ai/en/wonk Accessed on 06.29.2023
[52] Talimonchik V. Is artificial intelligence an object of international legal protection? Intellectual Property. Copyright and

However, AI technologies are not limited to computer programs. A significant part of them are inventions that allow optimizing the solution of computational and other technical problems using modern methods and algorithms. Many of these inventions become objects of patent rights: for example, according to WIPO in 2019, about 340 thousand patent applications containing AI-related technologies were filed worldwide. At the same time, more than half of these applications were published after 2013.[53]

Thus, the diversity of the concept of "artificial intelligence" leads to the fact that the regime of legal protection of AI in each particular case depends on what expression the application of this technology has found: a computer program, a robotic device, an innovative algorithm, and etc. However, the question of what the legal status of artificial intelligence will be, which includes several objects of intellectual rights with different protection regimes, remains unresolved.

Intellectual property law is known for the institution of a complex object of intellectual rights, which includes several independent objects of intellectual property. Such objects arise "as a result of the ability of works to integrate, i.e. to unite homogeneous or heterogeneous objects together".[54] From my point of view, video games can serve as a good example of a complex object of intellectual rights. Formally being a computer program, a modern video game from the point of view of law is actually a complex object of intellectual property that combines different types of protected works in addition to the actual computer code – for example, music, author's subject, artistic images, and etc.

In order to perceive the issue more accurately, let us pay attention to the following fact. The application of the institute of a complex object to artificial intelligence is complicated by the fact that Article 1240 of the Civil Code of the Russian Federation contains an exhaustive list of such objects. They can be films and other audiovisual works, theatrical and entertainment performances, multimedia products and databases. Video games have the characteristics of a multimedia product and include objects of copyright and related rights. Artificial intelligence, on the contrary, does not fall under any of these categories and "represents a complex of technological solutions that can be attributed to the areas of copyright (computer programs, databases), related rights (databases), patent law (inventions), as well as production secrets (know-how). In turn, artificial intelligence technologies include artificial intelligence as a set of technological solutions and additional technical solutions

---

Related Rights. 2020. No. 12. p. 17-24.

[53] WIPO Technology Trends 2019: Artificial Intelligence, URL: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf Accessed on 06.29.2023

[54] Rozhkova M.A. Intellectual Property: Key Aspects of Protection and Defense: textbook. - Moscow: Prospekt, 2015. p. 248

related more to the field of patent law".[55] And yet, despite the variety of intellectual and legal regimes that can be applied to artificial intelligence, the development of the intellectual and legal status of complex AI technologies along the path of a complex object of intellectual rights seems to be the most promising.

The situation becomes even more complicated when artificial intelligence is not an object, but a subject of a kind of "intellectual activity". We are talking about cases when artificial intelligence creates works in respect of which it can be said that they are unique and even, in some way, have artistic value. In any case, the commercial value of some such works has long been supported by practice: for example, in March 2021, a digital painting painted by a robot Sofia was sold for more than 688 thousand US dollars[56], which in 2017 she became widely known due to rumors about her obtaining Saudi citizenship.[57]

The development of artificial intelligence abilities has led to the spread of ideas about the possibility of recognizing AI copyrights on a par with humans. In 2019, a group of participants in the Artificial Inventor project filed two international patent applications for inventions that, according to the group members, were created by an artificial intelligence program called DABUS. At the same time, the program was specified in patent applications as the author of the invention. December 20, 2019 The European Patent Office (EPO) decided to reject the applications submitted for its consideration, stating that according to the European Patent Convention, the inventor in the application should be a person, not a machine.[58] However, already in 2021, a judge of the Federal Court of Australia came to the opposite conclusion, recognizing the legal possibility for DABUS to be the specified author of the invention, which created the first precedent in world practice for recognizing AI as an inventor within the meaning of patent law.[59] This decision was later overturned by a higher court, but the founder of the project, Dr. Steven Thaler, plans to seek a review of the case in the Supreme Court.[60]

---

[55] Balashova A.I. Artificial Intelligence in Copyright and Patent Law: Objects, Subject Composition of Legal Relations, Terms of Legal Protection // Intellectual Property Court Journal, No. 2 (36), June 2022. P. 90-98.
[56] Sophia the Robot 'self-portrait' NFT sells for almost $700K, URL: https://cnn.com/style/article/nft-art-sophia-robot-self-portrait-scn/index.html Accessed on: 07.02.2023.
[57] Saudi Arabia grants citizenship to a robot for the first time ever , Available at: https://www.independent.co.uk/tech/saudi-arabia-robot-sophia-citizenship-android-riyadh-citizen-passport-future-a8021601.html
[58] EPO refuses DABUS patent applications designating a machine inventor // European Patent Office, URL: https://www.epo.org/news-events/news/2019/20191220.html Accessed on: 07.02.2023
[59] In the Courts: Australian Court finds AI systems can be "inventors" // World Intellectual Property Organization, URL: https://www.wipo.int/wipo_magazine/en/2021/03/article_0006.html Accessed on: 07.02.2023
[60] Dr. Thaler seeks special leave to appeal to the High Court from the Full Federal Court of Australia decision which held that an Artificial Intelligence machine cannot be named an inventor on a patent application // Dentons. URL: https://www.dentons.com/en/insights/articles/2022/may/17/full-federal-court-of-australia-holds-that-an-artificial-intelligence Accessed on: 07.02.2023

The idea of the inevitability of the superiority of AI over the human mind in some abstract future has long been expressed in scientific literature. However, even with an optimistic attitude about the development of artificial intelligence technologies, the idea of the need to adapt to the "new reality" with minimal damage to traditional intellectual property law remained.[61] More skeptical authors note that the thesis about the ability of artificial intelligence to carry out independent creative activity is not supported by relevant technical data. In such circumstances, the position of the Australian Court of First Instance looks quite radical. Despite the fact that, such a decision makes it possible to eliminate legal uncertainty in the context of the development of innovative technologies, critics call it inappropriate and even misleading.[62]

Despite the ongoing development of artificial intelligent systems capable of at least imitating creative activity, the question of the figure of the author of such works remains unresolved. It is possible that the debatable idea of endowing AI with legal personality could contribute to solving this problem to some extent. However, in the current conditions, works created by artificial intelligence, in a certain sense, remain works without an author. The question of the distribution of exclusive intellectual rights to these works is as complex as the question of the distribution of responsibility for the actions of AI, due to the presence of at least several entities that have some reason to claim these rights, in particular: the user, the owner, the developer of the AI program code, etc.

II. AI as a legal subject

In recent times, the emergence of artificial intelligence has sparked a new trend. Notably, in 2016 and 2017, AlphaGo, developed by DeepMind, achieved consecutive victories over Chinese and South Korean Go masters in man-machine contests, showcasing the formidable capabilities of artificial intelligence to the world. Artificial intelligence has found widespread and profound applications in various aspects of society, gradually reshaping social interactions and serving as a driving force behind industrial and societal transformations. For instance, intelligent investment advisors in the financial field, capable of independently signing contracts and conducting stock trading, have been extensively adopted on Wall Street in New York. These advancements have given rise to novel challenges for the

[61] Butler T.L. p. 707-748.
[62] Drexl J. Artificial Intelligence Systems as Inventors? A Position Statement of 7 September 2021 in View of the Evolving Case-Law Worldwide / J. Drexl, R. Hilty, D. Kim, P.R. Slowinski // Max Planck Institute for Innovation & Competition Research Paper, 2021. № 21.

existing legal system.

One major concern revolves around rights attribution. For instance, in 2018, Microsoft's artificial intelligence product Xiaoice demonstrated the ability to generate draft poems of various lengths simultaneously. The question arises as to whom the copyright of works created by artificial intelligence should be attributed. Although the algorithms and programs may be designed and set by humans, they do not actively participate in the most crucial and direct aspects of the creative process. This poses a dilemma within the existing legal framework, where natural persons are recognized as the subjects of copyright.

Another significant issue pertains to defining legal liability. Take, for instance, driverless vehicles based on artificial intelligence. When such vehicles are in operation, the responsibility for driving behavior shifts from the driver to the artificial intelligence system. If a technical failure occurs, leading to accidents, the current traffic legal system may face challenges in applying appropriate liability. While some problems can be addressed by adjusting existing laws, it is fundamentally essential to clarify whether artificial intelligence can be regarded as a legal subject in theory.

As the influence of artificial intelligence continues to expand across various domains of life, it becomes imperative to address these legal challenges. The evolving landscape of AI technology requires thoughtful consideration and adaptation of legal frameworks to ensure a fair and effective regulatory environment.

i. Different views on AI as a legal subject

The majority of current research on the legal status of artificial intelligence focuses on examining the concept from multiple angles. These studies frequently classify opinions into three fundamental theories: the negative theory, the positive theory, and the compromise theory.

The negative theory contends that artificial intelligence should only be regarded as the object of legal relationships and should not be granted legal subject status. It suggests adhering to traditional legal theories in the short term and refraining from defining artificial intelligence as a legal subject, as AI has not yet profoundly challenged the traditional subject of law theory.

In contrast, the positive theory advocates for the legal recognition of artificial intelligence. This theory incorporates a variety of subtypes, including the agency theory, the fictitious personality theory, and the electronic personality theory. Proponents of the positive theory believe that as AI continues to swiftly advance, its pervasive use in society will allow

it to independently affect the rights and responsibilities of others. Similar to how legal persons have been granted rights and subject status, the trend toward recognizing non-human entities as legal subjects is gaining momentum. Comparing artificial intelligence to legal persons, some contend that AI should also possess legal personality.[63]

The compromise theory, also known as the limited legal personality theory of artificial intelligence, proposes that AI should have legal personality, but with specific limitations on its rights and responsibilities relative to other legal subjects. This theory recognizes that while AI functions as an instrument for the advancement of human society, it also possesses independent and autonomous behavioral capabilities that merit legal recognition. Due to the limited repercussions of AI's actions, it should be granted restricted legal personality and subject to special laws.

The compromise theory challenges the dichotomy of "subject-object" and "human-object" by asserting that artificial intelligence has legal personality. Even though it may have only partial and limited rights and responsibilities compared to natural persons, it is essential to recognize its positive qualification as a legal subject. Quantitatively, the number of rights and obligations may differ, but this has no bearing on the quality of judgment, rendering the compromise theory a subset of the positive theory.[64]

There are substantial disagreements among legal scholars regarding whether artificial intelligence can be considered a legal subject. These divergent viewpoints at the outset of the conversation make it difficult to reach a consensus. The primary issue arises from the limited scope of the available research. Currently, the majority of research on the legal status of artificial intelligence as a legal subject examines it from the perspective of a legal subject, namely the legal researcher. The constructivist epistemology of Luhmann classifies this form of observation as "first-level observation," which relies on the existence of distinctions. The primary distinction between legal and non-legal topics is the basis for our observation. Thus, the legal subject becomes the marked side, while artificial intelligence, as a traditional "non-legal subject," also becomes marked.

This distinction causes legal subjects to perceive themselves as the sole self-referential system and independent, privileged observers. Nonetheless, this distinction-based observation has an inherent limitation: it cannot observe itself. Consequently, research on the legal status of artificial intelligence has been neglected for a considerable amount of time.

To address these shortcomings resulting from first-level observation, a "second-level

[63] Davies, C. R.. An Evolutionary Step in Intellectual Property Rights—Artificial Intelligence &Intellectual Property. Computer Law & Security Review, 27, 601-606. URL: https://doi.org/10.1016/j.clsr.2011.09.006 Accessed on: 07.02.2023
[64] Wen, Z. and Tong, D. (2023) Analysis of the Legal Subject Status of Artificial Intelligence. Beijing Law Review, 14, 74-86.

observation" strategy should be implemented. This entails observing law and artificial intelligence from a vantage point outside the original legal system, expanding upon the observation of the law itself. Wen Z and Tong D. assume that they can reevaluate the relationship between the subject of law and artificial intelligence using this broader perspective.[65]

When analyzing the possibility of artificial intelligence becoming a legal subject, defining what constitutes a legal subject is an essential starting point. This requires a reevaluation, through the lens of second-level observation, of the somewhat neglected concept of the legal subject. Although the term "subject" has a long history, the concept of a legal subject has risen to prominence in modern positivism law, bearing with it distinct characteristics. Different legal scholars interpret the legal subject differently. For example, Duguit considers legal subjects to be those who are capable of possessing subjective rights, which is restricted to individuals with conscious will. Gray defines a legal subject as the individual who assumes legal rights and responsibilities. Kelson, on the other hand, views it as a matter of legal duty or privilege. Nevertheless, it is crucial to acknowledge that the concept of the legal subject is not solely an empirical or technical notion devoid of value.[66]

While positivism jurisprudence primarily molds the description of the legal subject, it is centered on the concept of "person," which was elucidated in detail in the previous section of the thesis and includes both the holder of subjective rights and the subject of rights and obligations. This is because the philosophical concept of the subject (person) forms the basis of the legal subject. Therefore, we can view humans as the first legal subjects.

Humans are the original legal subject, constituting the mechanism for the subject. The term "subject" is derived from the Latin word "subiectum," which originally referred to a base or matrix in ancient Greek. Descartes' reasoning paradigm, which established the dichotomy "subject-object" and directed philosophical inquiry toward the philosophy of the subject, gave the concept of the subject concrete significance. Descartes used "cogito" (self-consciousness) as the starting point of cognition, situating humans as cognitive subjects and emphasizing their subjectivity in cognitive relations. Descartes confirmed the existence of the "I" as a matrix subject by raising the cognitive and thinking subject to a new level. As a result, the external world became an object represented, acknowledged, and intervened upon by the subject, with humans at the center of everything. As mentioned previously, establishing the subject status of humans in the philosophical sphere paved the way for considering them as legal subjects. Throughout human history, the origins of law were not initially attributed to

[65] Ibidem
[66] Ibidem

human beings, but rather to a source outside of them. For instance, medieval jurists believed that humans understood the law through the revelation of divine will. However, modern subjective philosophy altered this viewpoint, attributing law as an order of humans. The law is no longer viewed as a divine revelation or a gift from nature; rather, it is viewed as a human invention that regulates human behavior. This subjective philosophy has elucidated the doctrinal value of humans and has had a substantial impact on worldview.

Humans are responsible for determining the premise and limits of the law. As subjects, they are no longer God's vassals or co-owners of objects; rather, they exemplify a coherent set of values. Humans are the genuine originators, participants, implementers, and adherents of the law, constituting its core.[67] The metaphysical aspect of law derives from the intrinsic worth of humanity, whereas the objective and practical aspects derive from human social existence.

There is still a possibility that artificial intelligence will be recognized as a legal subject, despite the fact that it cannot be considered the original legal subject. This issue is examined through the lens of the legal subject concept, with a particular emphasis on the relationship between legal personality and right capacity. Humans as philosophical subjects are the basis of the legal subject. The concept of the legal subject is not exclusive to legal philosophy; rather, it develops progressively through the reduction and rationalism construction of the philosophical subject of humanity during the evolution of positivism.

ii. The possibility of AI becoming a derivative legal subject.

The process of substantiating the legal subject begins with transforming concrete individuals into abstract entities, giving rise to the concept of legal personality. The legal subject deals with legal relationships between individuals as legal subjects, as well as between the subject of law and the object of law. As positivism jurisprudence develops, the meaning of the legal subject is initially abstracted from real concrete individuals in the process of constructing the law. The universality of law necessitates further abstraction of the subject of law into a broader concept of person, one that removes the individual characteristics of all concrete individuals. This abstract legal personality becomes the common denominator of all people in the law, granting law authority, promoting equality, and producing widespread effects. This adaptation of the subject of law to the development of law serves as a public rule and universal law.

[67] Supiot, A. Homo Juridicus: Essai sur la fonction anthropologique du droit (p. 37), 2019

Knieper summarizes this deeply abstract process into three steps: first is the purification of freedom normatively by purifying emotion, and the purification of will normatively by purifying will; second is to think about the imaginary man as moral man, or the transcendental vulgarization; third is to achieve unity between rational (legally abstract) man and the mechanized world.[68] The concept of legal personality reduces and preliminarily abstracts human beings from the concept of human beings.

The concept of right capacity is a further deep abstraction based on legal personality, marked by depersonalization. As part of the subject category of law, right capacity is the legal status obtained through the provisions of substantive law. The concept of capacity for rights was first proposed in the Fragments of the Civil Law System of the City (1789). In the early 19th century, Thibaut was the first to elaborate on the capacity of rights in theory. He believed that the capacity of rights was divided into the capacity of natural rights and civil rights. The former includes all physical attributes that could produce a specific legal relationship, i.e., the natural identity, which was the basis for biological man to become a legal person. The latter was what was known in Roman law as Caput or Status, the external constraint that positive law imposed on the legal person. The German Civil Code in 1896 and the Swiss Civil Code in 1907 specifically created the capacity of rights in substantive law. Compared with the concept of legal personality, the capacity of rights further abstracts the legal "person," and the corresponding qualification of legal subject is determined by the rights that a "person" possesses or can possess. The capacity of rights means "having enough rights or assuming obligations." Only entities with the capacity of rights can become subjects of law. The concept of right capacity replaces the concept of personality. By replacing the concept of "qualification," which needs recognition or endowment by others, with the concept of "ability" based on objective facts, the natural person's birth with right capacity becomes a legal event established by the legal subject. The sovereign does not need to recognize it specifically, which allows positive law to more thoroughly reflect the thought of natural rights. This abstraction transfers the legal subject from the limited abstraction of legal personality to the deep abstraction of rights and capabilities, separating it from personality characteristics and abstracting the concrete person into a rational person. This allows the legal subject to apply to both individuals and groups, achieving a positive separation of the legal subject from the concept of person.[69]

The most crucial insight that legal person, as a recognized legal subject, imparts to artificial intelligence is that modern legal subjects need not be limited to individual natural

[68] Wen, Z. and Tong, D
[69] Ibidem

persons. This implies that the legal subject can transcend the rigid framework of the natural person template and possess flexibility in contemporary times, thereby opening up the possibility for artificial intelligence to become a legal subject. Yuval Harari suggested in A Brief History of Tomorrow that since legal persons can hold subject status, artificial intelligence will inevitably acquire corresponding legal qualifications. Some domestic scholars, inspired by the European Parliament's resolution on "electronic man" and drawing on the approval registration system in the current legal person system design, have proposed a set of legal procedures, such as identity registration, property establishment, legal supervision, and termination liquidation, for artificial intelligence to participate in legal activities as a legal subject with the identity of "electronic man".[70] The view that artificial intelligence could be a legal subject with the identity of "electronic man" remains a minority perspective, and its rationality requires further scientific validation. Nonetheless, it is worth comparing the distinctions between "legal person" and "electronic man" to better understand the potential for artificial intelligence to become a derivative legal subject.

The differences between "legal person" and "electronic person" primarily lie in the following aspects. Firstly, while both seek to simplify the legal relationship and innovate the legal subject when society reaches a certain stage, the existence of the legal person as a group of natural persons has a much longer history. The necessity to form a group emerged from the early stages of human society's development, from ancient Roman society and syndicates to religious groups in the Middle Ages. Before the legal person system was formally established in the German Civil Code, the legal practice of natural persons engaging in legal activities in the form of a group had always existed, forming the historical basis for the fictitious nature of the legal person as a legal subject. On the other hand, the historical basis of legal practice for "electronic people" is still relatively weak in comparison.

Secondly, although both represent the external expansion of human legal subjects, the legal person is a natural extension of the group form of natural persons in society. This makes it less challenging for the legal person to be fictionalized as a derivative legal subject. Even though a legal person is not a natural person in an individual form, all the individual members of the group are real natural persons, and its legal actions are mainly carried out through the actions of natural persons as legal entities. On the contrary, the fiction of an electronic man is not as "natural," but rather a legal subject innovation that spans larger and farther. It appears more like an extension of a specific part of human individuals and its union with real natural persons. Human beings are inevitably more cautious when considering whether this new form

[70] Guo, S. F. (2019). The Legal Construction of the Power Capacity of Artificial Intelligence “Electronic Human”. Gansu Social Sciences, No. 4, 108-116.

of union can become a derivative legal subject.

Thirdly, the fiction of a legal person is mainly employed in the field of private law, primarily addressing legal issues related to economic relations. The call for artificial intelligence as an electronic person stems not only from the needs of economic relations such as intellectual property rights but also from the critical need to resolve legal liability issues concerning personal infringement caused by artificial intelligence. The latter may involve not only private law but also legal matters of public law, which makes artificial intelligence, in the form of "electronic man," a legal subject faced with more complex institutional design challenges.

However, if artificial intelligence is to become a legal subject, it can only be achieved through legal fiction technology at the level of legal technology. The existence of the legal person as a derivative legal subject leaves room for the possibility of artificial intelligence becoming a legal subject.

In conclusion, AI cannot challenge the position of humans as the original legal subject, which embodies the principle of legal anthropocentrism. Legal anthropocentrism is crucial when considering the subject status of artificial intelligence in law. It allows humans to establish themselves as the doctrinal matrix, bestowing meaning and purpose to life and existence. In metaphysics, anthropocentrism consolidates human beings as the source of meaning, elevating reason and free will to authority. This significance extends beyond individual dignity and value, as it also provides meaning to the social order and political process, instilling belief in the value and significance of the legal system as a human social governance scheme. By emphasizing anthropocentrism, we achieve beneficial coordination between individuality and commonality, material and spirit, becoming both creators and obedient subjects of the law, thereby realizing an organic unity with ourselves, others, and the whole. Importantly, anthropocentrism ensures we remain vigilant against the erosion of human subjectivity in the era of artificial intelligence and technological advancement.

Nevertheless, this does not mean that we should unilaterally emphasize the supremacy of anthropocentrism in the subject status of artificial intelligence law. When examining the development prospects of modern technology and its interaction with the law, the concept of the legal subject must transcend the narrow confines of anthropocentrism. Using narrow anthropocentrism as a pretext to arbitrarily deny artificial intelligence, the value of a legal subject may seem straightforward, but it could impede the progress of the law and human development. The historical experience of legal person as a derivative legal subject demonstrates that legal fiction technology, while utilitarian, also encompasses legal value considerations, particularly regarding whether it serves the fundamental interests of people.

Legal fiction arises from human needs, and the development of legal subjects must benefit humanity itself. The qualification of a legal subject is tied to the protection of legally recognized interests. In essence, legal fiction does not challenge the core value of the natural person as the original legal subject; rather, it serves to amplify the value of humans through the construction of derivative subjects.

From a legal technology perspective, the criteria for artificial intelligence to become a legal subject does not solely rest on the technical aspects but on the underlying value logic. The crucial question is not merely whether artificial intelligence can be granted rights and obligations, but whether it should be granted such a status. This consideration is aligned with the long-term interests of humanity, and the core value of humans as the subject of law should not be undermined in the process.

In my opinion, this issue reflects the most crucial part of this thesis, since there is not any eventual solid approach regarding this matter. The detailed answer to this question will be provided in the last section, right after the total explanation of different perspectives towards AI.

Chapter II

Insight into legal aspects of AI from European perspective

SUMMARY: I. A European approach to regulation and its evolution – i. The first stage of AI Regulation in the EU – ii. Regulation of artificial intelligence in the EU: the second stage– II.. Legal approaches to the artificial intelligence in the Member States i. Austrian AI Strategy – ii French AI Strategy – iii German AI Strategy – III. Artificial Intelligence Liability Directive – i. General analysis of Artificial Intelligence Liability Directive - ii. Subject matter, scope and other key provisions.

I. A European approach to regulation of AI and its evolution

Artificial intelligence technologies and products based on them are rapidly spreading in the territory of the member States of the European Union in the context of the developing Industry 4.0 in manufacturing, services, everyday life, education, healthcare and other areas. These processes entail the need for a response from European law, which, in turn, arouses interest outside the European Union.

European researchers began to study the relationship between artificial intelligence and law quite a long time ago, at about the same time as scientists from American universities. At first, it was about the possibilities of using artificial intelligence as a tool to facilitate and streamline the work of lawyers, an example of which is the work of K.Ciampi "Artificial Intelligence and legal information systems"[71], later issues related to the regulation of the use of artificial intelligence technologies in practice were raised. This became necessary because of the need for the right to "preserve its property of anticipating reality in the conditions of high dynamics of public relations in connection with digitalization, the transition to new technological modes."[72] Among the European authors engaged in research in this field, one can name the professor of the University of Turin U.Pagallo, who published a book on the "law of robots"[73] in 2013, his colleague E. Bassi, a lawyer from the Polytechnic University of Turin, a lecturer at the European College in Bruges, who is an adviser to the

[71] Ciampi C. Artificial Intelligence and L egal Information Systems. Vol. I: Edited Versions of Selected Papers from the International Conference on “Logic, Informatics, Law”. Florence, Italy, April 1981. Amsterdam. 1982.
[72] Zaloilo, M. V. (2021). "Artificial Intelligence in Law: Scientific and Practical Guide." In D. A. Pashentsev (Ed.). Moscow, 102.
[73] Pagallo U. (2013). The Laws of Robots: Crimes, Contracts, and Torts (Law, Governance and Technology Series). Springer Science + Business Media.

European Commission, P. Nemica, who already in 2018 insisted on the transition from ethical codes to the formulation of legal norms in the field under study,[74] and Professor N. Petit of the University of Liege, who proposed to distinguish different approaches to the regulation of artificial intelligence.[75] N. Petit, like a number of other European jurists, joined the interdisciplinary group of experts created by the European Commission of high-level artificial intelligence in 2018 (High-Level Expert Group on Artificial Intelligence).

This group has prepared most of the documents that form the basis of the European strategy for the development of artificial intelligence and, accordingly, the European approach to its regulation. During the first year of work, the group formulated a very voluminous definition of artificial intelligence as a software or hardware-software system developed by people, having a complex purpose, operating in physical or virtual reality, perceiving the environment through data collection, interpreting this data, basing conclusions on data processing and making decisions about the best actions that are necessary take steps to achieve this goal.[76] The coordinator of the high-level group of experts on artificial intelligence at the European Commission was a researcher from the Catholic University of Leuven, N. Smukha, her work is also devoted to the impact of artificial intelligence on human rights and ethical and legal issues arising from the distribution of products based on artificial intelligence.[77] The central place in the scientific works of European jurists is occupied by the problem of preventing and reducing the risks associated with the use of artificial intelligence systems, since these systems can potentially interfere with the observance of human rights, the functioning of democracy and the rule of law.

The activity of scientific research is stimulated by the political demand for the development of legal regulation of artificial intelligence technologies in the European Union and in the world as a whole.

i. The first stage of AI Regulation in the EU.

. Before commencing to examine this section of the thesis, we can describe this very

[74] Nemitz P. (2018). Constitutional democracy and technology in the age of artificial intelligence // Philosophical Transactions of the Royal Society A. Mathematical Physical and Engineering Sciences. Vol. 376. Iss. 2133. Art. ID: 20180089.
[75] Petit N. (2017). Law and Regulation of Artificial Intelligence and Robots — Conceptual Framework and Normative Implications
[76] A definition of AI: Main capabilities and scientific disciplines. URL:https://www.aepd.es/sites/default/files/2019-12/ai-definition.pdf Accessed on 07.10.2023
[77] Smuha N. A. (2021), From a “race to AI” to a “race to AI regulation”: regulatory competition for artificial intelligence // Law, Innovation and Technology. Vol. 13. Iss. 1. P. 57—84.

period as the first stage of regulation of AI in the EU, due to the fact that in this time span EU firstly decided to pay attention to the regulation of AI in an official way.

The creation of legal regulation of artificial intelligence began even before the formation of a group of experts at the European Commission. In 2016, the Legal Affairs Committee of the European Parliament commissioned the Department for Citizens' Rights and Constitutional Affairs to conduct a study on European civil law norms related to robotics. Based on the results of the study, the European Parliament approved the resolution of February 16, 2017. on Civil Law Rules on Robotics, which included a proposal to recognize a special legal status - electronic personhood - for complex robots supplemented with artificial intelligence. Interestingly, the report prepared by the Department for Citizens' Rights and Constitutional Affairs of the Legal Affairs Committee of the European Parliament, to which this resolution was a response, explicitly pointed out the risk of dehumanization associated with the proliferation of such "smart" robots. The authors of the report opposed the recognition of robots as a subject of law in order to prevent the equalization of natural and artificial intelligence.[78]

The first European resolution in the field of artificial intelligence regulation was quite rightly criticized for the incorrect distinction between artificial intelligence and robotics: "Robots should not be considered as central elements in determining the scope of regulation, any new legal norms should be based on the concept of artificial intelligence, and not, as proposed in the resolution of 2017, on the concept of a robot."[79] A few years later, in October 2020, new European resolutions appeared that eliminated this shortcoming.

In 2017, at least one more document related to the topic of artificial intelligence was adopted - the resolution of June 1, 2017, on the digitalization of European industry, and a year later the resolution of September 12, 2018, on autonomous weapon systems was approved, concerning the use of artificial intelligence in the military sphere.

Resolutions as acts of "soft law" were supplemented with programmatic documents, namely:

- The Declaration of Cooperation on Artificial Intelligence[80];
- Communique "Artificial Intelligence for Europe" which contained a description of the European strategy for the development of artificial intelligence, including

[78] European Parliament Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)

[79] Księżak, P., & Wojtczak, S. (2020). AI versus robot: in search of a domain for the new European civil law. Law, Innovation, and Technology, 12(2), 297-317.

[80] URL: https://digital-strategy.ec.europa.eu/en/news/eu-member-states-sign-cooperate-artificial-intelligence#:~:text=On%2010%20April%2025%20European,European%20approach%20to%20deal%20therewith. Accessed on 07.10.2023

the need to create a single "digital market" with common requirements towards cybersecurity[81];

- The Coordinated Plan on Artificial Intelligence, based on anthropocentrism in relation to the development of artificial intelligence.[82]

In 2019, another resolution concerning the civil sphere was adopted - the resolution of February 12, 2019 on the integrated European industrial policy in the field of artificial intelligence and robotics, and also published "Ethics Guidelines for Trustworthy AI on April 8, 2019, and "Policy and Investment Recommendations for Reliable Artificial Intelligence" dated June 26, 2019. The Ethics Guide for Reliable Artificial Intelligence lists key requirements based on fundamental human rights and ethical principles that artificial intelligence systems must comply with, in particular: human control, technical security, confidentiality, transparency, non-discrimination and justice, public and environmental well-being,[83] and in the "Policy and Investment Recommendations for Reliable Artificial Intelligence", it is proposed to systematically raise people's awareness of artificial intelligence, promote an anthropocentric approach to the use of artificial intelligence in the workplace, track the impact of artificial intelligence on society, stimulate and scale artificial intelligence-based solutions in the public and private sectors.[84]

The result of all previously developed documents was the "White Paper on Artificial Intelligence: a European Approach to excellence and Trust" published by the European Commission on February 19, 2020. For the first time, the European approach to artificial intelligence was formulated and submitted for public discussion, aimed at forming a European ecosystem within the framework of a policy that allows for the reliable and safe development of artificial intelligence with full respect for the values and rights of EU citizens.[85] This made it possible to talk about the development of a digital strategy of the European Union for the next decade (2020-2030), which sets a priority in the development of artificial intelligence and at the same time fixes the principles of developing legal norms for the development and implementation of artificial intelligence.[86] The "White Paper of Artificial Intelligence" used a binary structure for dividing artificial intelligence systems into systems with "low" and "high" risk.[87]

[81] Communication From The Commission Artificial Intelligence for Europe {SWD(2018) 137 final}
[82] European Commission Coordinated Plan on Artificial Intelligence COM(2018) 795 Final
[83] European Commission. Ethics Guidelines for Trustworthy AI
[84] High-Level Expert Group on Artificial Intelligence. (2019). Policy and Investment Recommendations for Trustworthy Artificial Intelligence.
[85] European Commission. White Paper on Artificial Intelligence: a European approach to excellence and trust, p.3
[86] The Digital Europe Programme. Available at: https://digital-strategy. ec.europa.eu/en/activities/digital-programme
[87] White Paper on Artificial Intelligence: a European approach to excellence and trust, p.3

In the same year, four resolutions concerning the regulation of artificial intelligence were adopted:

- Resolution on automated decision-making processes: ensuring consumer rights protection and free movement goods and services[88],
- Resolution on the ethical aspects of artificial intelligence, robotics and related technologies[89],
- Resolution with recommendations of the Commission on the Regime of Civil Liability for Artificial Intelligence[90],
- Resolution on intellectual property rights for the development of artificial intelligence technologies.[91]

In 2021, the discussion of the topic of artificial intelligence regulation intensified and the number of resolutions on topics related to artificial intelligence increased, among them:

- Report on artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice[92];
- Resolution on a European strategy for data[93];
- Report on artificial intelligence in education, culture and the audiovisual sector;[94]
- Report on shaping the digital future of Europe: removing barriers to the functioning of the digital single market and improving the use of AI for European consumers[95];
- Resolution on artificial intelligence in criminal law and its use by the police and judicial authorities in criminal matters[96];

[88] European Parliament resolution of 12 February 2020 on automated decision-making processes: ensuring consumer protection and free movement of goods and services (2019/2915(RSP))
[89] European Parliament resolution of 20 October 2020 with recommendations to the Commission on a framework of ethical aspects of artificial intelligence, robotics and related technologies (2020/2012(INL))
[90] European Parliament resolution of 20 October 2020 with recommendations to the Commission on a civil liability regime for artificial intelligence (2020/2014(INL))
[91] European Parliament resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI))
[92] Report on artificial intelligence: questions of interpretation and application of international law in so far as the EU is affected in the areas of civil and military uses and of state authority outside the scope of criminal justice
[93] European Parliament resolution of 25 March 2021 on a European strategy for data (2020/2217(INI))
[94] Report on artificial intelligence in education, culture and the audiovisual sector (2020/2017(INI))
[95] Report on shaping the digital future of Europe: removing barriers to the functioning of the digital single market and improving the use of AI for European consumers, (2020/2216(INI))
[96] European Parliament resolution of 6 October 2021 on artificial intelligence in criminal law and its use by the police and

- Resolution on the state of EU cyber defence capabilities.[97]

On April 21, 2021, the European Commission published a new Communique on Promoting a European Approach to Artificial Intelligence (Communication on Fostering a European Approach to Artificial Intelligence), accompanying the updated Coordinated Plan on Artificial Intelligence (Coordinated Plan on Artificial Intelligence 2021 Review) and the first European bill on artificial intelligence, to be more precise - Draft Regulation on Artificial Intelligence (Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonized Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts C0M/2021/206). The Communique states that, faced with the rapid technological development of artificial intelligence and the global political context demonstrating increasing investments in the development of artificial intelligence, the European Union, acting as a whole, intends to use the available opportunities, solving problems related to the development and application of artificial intelligence with an eye to the future. The content of the Communique testifies to the beginning of the transition to a new stage in the development of artificial intelligence regulation - from regulation by acts of "soft law" to regulation based on "hard law", i.e. the transition from regulation through resolutions, recommendations, declarations and other documents of a recommendatory nature to regulation based on directives and regulations, the implementation of the requirements of which are mandatory for all member States of the European Union.

ii. Regulation of artificial intelligence in the EU: the second stage

So, in 2021-2022, the transition from the stage of "soft" legal regulation to the creation of legally binding legal norms began. This is evidenced by the publication by the European Commission of the draft Regulation on Artificial Intelligence, which became the first major attempt by the European Union to comprehensively regulate relations related to the use of artificial intelligence technologies, amid concerns that artificial intelligence increasingly affects socio-economic rights. The draft Regulation on Artificial Intelligence was the result of two years of work and numerous consultations with national regulators of the EU member states, expert groups, large European companies and representatives of civil society. After the adoption of this act, its provisions will apply to all types of artificial

judicial authorities in criminal matters (2020/2016(INI))

[97] European Parliament resolution of 7 October 2021 on the state of EU cyber defence capabilities (2020/2256(INI))

intelligence and to all areas in which it is involved, except for the military one.

The approach envisaged by the future Regulation on Artificial Intelligence, as already clear from the previous stage of development of European regulation in this area, is based on risk assessment. Unlike the Artificial Intelligence White Paper, the draft Regulations on Artificial Intelligence no longer distinguish two, but four groups, depending on the level of risks associated with the use of artificial intelligence (unacceptable, high, moderate and minimal).

The first category - the unacceptable risk group - includes artificial intelligence models that pose a threat to the security of citizens and their rights: allowing governments to conduct a "social assessment", producing biometric identification in public places, allowing manipulation of citizens' behavior by influencing the subconscious, and exploiting people's vulnerabilities.[98] Such models should be banned. The collection of data on citizens using surveillance systems, monitoring of social networks, banking information, total tracking using biometrics, emotion recognition as indiscriminate surveillance of individuals is unacceptable, at the same time, the possibility of selective surveillance if a person is interested in law enforcement agencies remains.

The second category is a high-risk group, it includes artificial intelligence models used by:

- in critical infrastructure, if at the same time people's lives and health may be put at risk (for example, in the transport sector);
- healthcare (for example, upon using artificial intelligence in surgery);
- education and training affecting access to work (for example, upon assessing knowledge and skills on an exam), as well as in the field of employment and personnel management (for example, upon hiring);
- provision of basic private and public services (for example, upon assessing creditworthiness);
- the work of law enforcement agencies, if it may affect the basic rights of people (for example, upon assessing the reliability of evidence), and the administration of justice;
- migration management and border control (for example, upon verifying the authenticity of documents), and etc.

Developments classified in this category must meet strict safety criteria, have a clear

[98] Lawson A. EU AI Act Explained. Responsible AI Institute. December 20, 2022. URL: https://www.responsible.ai/post/eu-ai-act-explained?utm_source=substack&utm_medium=email Accessed on 07.10.2023

risk assessment system and be controlled by people. It will be necessary to determine whether a particular use case is a high risk and, therefore, whether it is necessary to conduct a mandatory preliminary assessment of compliance with the requirements. The assessment should be carried out by the subject itself (supplier, user), but for some models, for example for medical devices, in addition to self-assessment, an external assessment by an authorized body should be carried out.

The third category - a moderate risk group - includes less dangerous artificial intelligence models, when using which people nevertheless have the right to know that they are interacting with an artificial intelligence agent, and not with a person (for example, chatbots are attributed to them). Systems with moderate risk will require a mandatory conformity assessment conducted by the supplier as a self-assessment before being released to the market. By the way, according to the amendments made to the draft Regulations on Artificial Intelligence in January 2023, the risk of using generative artificial intelligence models, such as ChatGPT, capable of generating original content based on queries in natural languages, working in an interactive mode, is recognized as increased.[99] Users of such systems will have to report that the result of their use (for example, text) was generated or processed by artificial intelligence.

The fourth category - the minimum risk group - includes most of the artificial intelligence systems used in practice, including intelligent spam filters, video games with artificial intelligence elements, and etc. Such models can be used without the restrictions set for the previous groups.

During the discussion of the draft in the European Parliament, many of its provisions caused serious controversy, in particular on the following issues:

- definitions of the concept of "artificial intelligence" itself (it has been significantly reduced compared to the definition originally formulated by a high-level group of experts at the European Commission);
- the ongoing expansion of prohibitions on the use of artificial intelligence;
- allocation of general-purpose artificial intelligence systems that can be used for a variety of purposes and subsequently integrated into another system belonging to a high-risk group;
- legal clarity (determining reliability by formulating a set of principles for the use

[99] Bertuzzi L. AI Act: MEPs want fundamental rights assessments, obligations for high-risk users // EURACTIV. January 10, 2023. URL: https://www.euractiv.com/section/artificial-intelligence/news/ai-act-meps-want-fundamental-rights-assessments-obligations-for-high-risk-users/

of artificial intelligence);

- the powers of the European supervisory authority in the field of artificial intelligence;
- the size of penalties; features of the functioning of regulatory sandboxes in the field of artificial intelligence, which should create a controlled environment for the development and testing of new models of artificial intelligence, allowing them to be tested in real conditions; stricter environmental requirements for artificial intelligence systems;
- the use of artificial intelligence in the context of the development of the metaverse, and etc.

The technical standards on the basis of which the provisions of the Artificial Intelligence Regulation will be implemented should be developed jointly by three European bodies: the European Committee for Standardization (European Committee for Standardization, CEN), the European Committee for Electrotechnical Standardization (European Committee for Electrotechnical Standardization, CENELEC) and the European Telecommunications Standards Institute (European Telecommunications Standards Institute, ETSI). The technical standards will address the risk management system, the management and quality of data sets, record keeping, transparency and user awareness, human control, and etc.

In order to supervise the implementation of the requirements of the Artificial Intelligence Regulation, it is planned to create a European Artificial Intelligence Council consisting of representatives of national artificial intelligence authorities of the EU member states, as well as a European Data Protection Inspector. Some experts are of the opinion that the creation of a European Agency for Artificial Intelligence, which has a different nature, is preferable as a supervisory authority.[100]

Despite the fact that by the beginning of 2023, the EU Council submitted an updated agreed draft Regulation on artificial Intelligence, the discussion of the project continues. It is expected that the document will be adopted no earlier than the end of 2023.[101]

The adoption of the Artificial Intelligence Regulation will not only put an end to the

[100] Carsten Stahl B., Rodrigues R., Santiago N., Macnish K. A European Agency for Artificial Intelligence: Protecting fundamental rights and ethical values // Computer Law & Security Review. 2022. Vol. 45. Art. 105661.

[101] Olivi G. The future of European AI regulation: Q&A with Brando Benifei, member of the European Parliament and co-Rapporteur on the AI regulation. April 2022. URL: https:// www.businessgoing.digital/the-future-of-european-ai-regulationqa- with-brando-benifei-member-of-the-european-parliament-andco- rapporteur-on-the-ai-regulation/

solution of conceptual issues but will also increase the level of integration of the European digital market.[102] In 2021-2022, four more regulations were adopted, more or less related to artificial intelligence technologies:

- Regulation of April 29, 2021, which established the Digital Europe Program and provides for the financing of projects under this program until the end of 2027[103];
- Regulation of May 30, 2022, on European data management(Data Governance Act)[104];
- Regulation of September 14, 2022, on competitive and fair markets in the digital sector (Digital Markets Act)[105];
- Regulation of October 19, 2022, on the single market of digital services (Digital Services Act)[106].

The last two regulations impose obligations on large online platforms and establish antitrust rules, as well as requirements for the work of intermediaries on the Internet. In accordance with the Regulation on the Single Market of Digital Services, the European Centre for Algorithmic Transparency (ECAT) was established at the end of 2022, whose tasks include providing technical assistance in the use of algorithmic systems to ensure a safe, predictable and reliable online environment.

In addition to the draft Regulation on Artificial Intelligence and the four regulations already adopted concerning the European digitalization program, data management, digital markets and digital services, on September 15, 2022, the European Commission submitted a draft of another document - The Regulation on Horizontal Cybersecurity Requirements for products with Digital Elements (Proposal for a Regulation of the European Parliament and of the Council on horizontal cybersecurity requirements for products with digital elements and amending Regulation (EU) 2019/1020 (Cyber Resilience Act)), introducing mandatory requirements for cyber security of digital products, including all products directly or indirectly connected to another device or network, including hardware and software, are included.

[102] Justo-Hanani R. The politics of Artificial Intelligence regulation and governance reform in the European Union // Policy Sciences. 2022. Vol. 55.p. 137—159.
[103] Regulation 2021/694 of the European Parliament and of the Council establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240
[104] Regulation 2022/868 of the European Parliament and of the Council on European data governance and amending Regulation (EU) 2018/1724
[105] Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828
[106] Regulation (EU) 2022/2065 of the European Parliament and of the Council on a Single Market for Digital Services and amending Directive 2000/31/EC

Three draft directives directly related to artificial intelligence have also been submitted to the European Parliament by the European Commission. The first of them is the draft Directive on improving working conditions when working on the platform (European Commission's proposal for a directive on improving working conditions in platform work C0M/2021/762), introduced on December 9, 2021, concerns the possibilities of implementing algorithmic management, i.e. automated management using artificial intelligence systems capable of transforming input data to the desired result.[107] The purpose of this document is to increase the transparency of the use of artificial intelligence algorithms by digital labor platforms, which should ensure human control over compliance with working conditions and provide the right to challenge automated solutions. After all, "algorithmic opacity creates a sense of uncertainty and social injustice," which can lead to dehumanization and displacement of a person from production.[108]

Two other documents - draft Directive on liability for defective products[109] and draft Directive on the adaptation of norms of non-contractual civil liability of artificial intelligence[110] introduced on September 28, 2022, they provide compensation to victims and simplification of the judicial process for them in terms of proving guilt in causing damage when using artificial intelligence through the presumption of causation. Previously, the problem of the distribution of responsibility and the issues of compensation for harm were repeatedly raised in acts of "soft law" - resolutions, now this issue is shifting to the sphere of "hard law". This issue will be examined in a more detailed way in the next section.

Similar processes of transition from "soft" to "hard" legal regulation are taking place in parallel at the level of the Council of Europe, where work has been underway since 2022 to create a multilateral international treaty - the Convention on Artificial Intelligence. The discussion of the draft of the new treaty is planned to be completed by the end of 2023, and its ratification will be carried out in 2024. Like the draft Regulation on Artificial Intelligence discussed at the level of the European Union, the draft Convention of the Council of Europe on Artificial Intelligence is based on a risk-oriented approach, and in principle has much in common with the draft Regulation on Artificial Intelligence, which is explained by the

[107] Kellogg K. C., Valentine M., Christin A. Algorithms at Work: The New Contested Terrain of Control // Academy of Management Annals, 2020, Vol. 14. Iss. 1. P. 366.
[108] Filipova I. A. Artificial Intelligence: A European Approach to Regulation. Journal of Foreign Legislation and Comparative Law, 2023, vol. 19, no. 2, p 61.
[109] Proposal for a Directive of the European Parliament and of the Council on liability for defective products COM/2022/495
[110] Proposal for a Directive of the European Parliament and of the Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive) COM/2022/496)

leading role of the "core" of the member States of the European Union in the Council of Europe.

The development of "hard law" acts on the territory of Europe does not mean abandoning the development of regulation in this area using the capabilities of "soft law", as evidenced by the adoption in 2022 of an important document - the resolution of May 3 2022, on artificial intelligence in the digital age[111]. This document describes in detail the key issues related to the use of artificial intelligence, focusing on six thematic blocks: health, ecology, foreign policy and security, competitiveness, labor market and the future of democracy.

In December 2022, another "soft law" document was signed - the European Declaration on Digital Rights and Principles for the Digital Decade. The Declaration was approved jointly by the European Parliament, the EU Council and the European Commission. The principles are grouped into six main themes and are aimed at placing a person and his rights at the center of digital transformation; supporting solidarity and inclusion; ensuring freedom of choice on the web; promoting participation in digital public space; improving security while empowering people; promoting the sustainability of the digital future.[112]

In accordance with the text of the Declaration, the importance of freedom of choice in interaction with algorithms and artificial intelligence systems is confirmed,[113] ensuring transparency in the use of artificial intelligence in the workplace and a risk-based approach, including preventive measures to maintain a safe and healthy working environment[114], as well as the recognition of artificial intelligence as a tool that should serve people in order to improve their well-being.[115]

The Declaration became part of the implementation of a new European program - Decision (EU) 2022/2481 of the European Parliament and of the Council of December 14, 2022, establishing the Digital Decade Policy Program 2030, aimed at strengthening integration to achieve common goals for digital transformation in the European Union.

II. Legal approaches to the artificial intelligence in the Member States

On April 10, 2018, twenty-four EU member States and Norway signed a Declaration on Cooperation in the field of AI to develop a European approach to artificial intelligence.[116] Romania, Greece and Cyprus joined this initiative in May 2018, and Croatia in July 2018. In

[111] European Parliament Resolution of May 3, 2022 on artificial intelligence in a digital age (2020/2266(INI))
[112] Declaration on Digital Rights and Principles, Official Journal of the European Union.
[113] Ibidem, Paragraph 7 of the preamble and Paragraph 9 of Chapter III
[114] Ibidem, Subclause "d", Paragraph 6 of Chapter II
[115] Ibidem, Paragraph 8 of Chapter III
[116] Declaration: Cooperation on AI, Apr. 10, 2018

the Declaration, the signatories agreed to cooperate in the following areas: - stimulating the European technological and industrial potential in the field of AI, its use, including access to public sector data; - solving socio-economic problems, such as the transformation of labor markets and the modernization of European education and training systems; - ensuring an adequate legal and ethical framework that includes EU values, including confidentiality and protection of personal data, as well as principles such as transparency and accountability. Focusing in more detail on the analysis of legal approaches to the regulation of AI and robots in the EU member states, it is advisable to consider the norms of individual states.

i. Austrian AI Strategy

The Austrian government in its government program for 2017-2022 stated that "new digital technologies, such as AI, robotics and blockchain, will have unpredictable consequences for society"[117].

In 2017, the Austrian Ministry of Transport, Innovation and Technology established the Austrian Council for Robotics and Artificial Intelligence (Österreichischer Rat für Robotik und künstliche Intelligenz).[118] Its main task is to assist the Ministry of Transport in developing a strategy for artificial intelligence and robotics, the Council is also authorized to independently solve important technological, economic, social and legal issues in this area and make appropriate recommendations. The full strategy will be based on a White Paper published by the Austrian Robotics and Artificial Intelligence Council and the Artificial Intelligence Mission in Austria in 2030.

In 2016, Austria amended its Automobile Law to allow the use of automated vehicles. These systems can be used if they are either authorized or meet certain conditions established by the regulations for testing purposes. Nevertheless, the law stipulates that the driver must be responsible for performing the driving functions. Autonomous vehicles can only be tested on the road if they have car insurance and transmit certain data to the Ministry of Transport. Trial trips on public roads can only be carried out after the vehicles have been previously tested. The test results must be submitted to the Ministry of Transport after the end of the trial period. Information about critical situations, accidents and their causes should be reported without undue delay. In addition, all test vehicles with automated or networked systems must be equipped with an accident data recorder, which must be activated during all

[117] Tatyana Sergeevna Zaplatina, T.S. Legal Approaches to the Artificial Intelligence and Robots Regulation in the European Union and Its Member States, 2020, p. 125
[118] Ibidem

test trips.[119]

ii. French AI Strategy

The French AI Strategy[120] specifies the need to adopt the social acceptability of AI as one of the basic principles. To this end, the strategy considers the need to adopt a policy of transparency and audit, including ethics for the training of engineers and researchers of artificial intelligence, and also notes the need to apply the principle of human responsibility. In addition, the French government is experimenting with using AI for certain aspects of governance. In particular, the Courts of Appeal of Rennes and Douai tested predictive justice software in various appellate cases in 2017.[121] In this regard, the French government is making some efforts to anticipate the problems of legal regulation of AI. Thus, the National Commission on Computer Technology and Civil Liberties (CNIL) prepared a report on "ethical algorithms of artificial intelligence" in December 2017.[122] This report indicates a number of the AI-related common ethical problems as below:

- Will human free will and responsibility be undermined if decision-making is increasingly delegated to machines and software?
- How may the benefits of big data be balanced with the need to protect individual privacy?
- How may the data used to provide AI machine learning be chosen, and a balance between matching the need for a certain amount of data to a certain goal be found?
- Does the development of autonomous AI call into question the very meaning of human identity, does it lead to a blurring of the boundaries between people and machines?

To consider such issues, the CNIL report offers two general principles and six specific recommendations. The first principle (the principle of loyalty) contains the idea that AI

[119] Ibidem, p. 126
[120] Strategy in the field of artificial intelligence (AI), 29 March 2018 // URL: https://uk.ambafrance. org/France-s-AI-strategy Accessed on 07.17.2023
[121] CEPEJ, European Ethical Charter on the use of Artificial Intelligence in judicial systems and their environment 34 // CEPEJ (2018) 14, Dec. 3, 2018.
[122] Commission Nationale De L'informatique Et Des Libertés (CNIL), Comment Permettre À L'homme De Garder La Main? [How to keep mankind in control?], Dec. 2017 // URL: https:// perma.cc/B3KD-63B5 Accessed on 07.17.2023

algorithms should not betray the interests of their users, not only as consumers, but also more broadly — as citizens and members of society, persons whose interests may be affected by the algorithm. The second principle (reflexivity) refers to the idea that the constant development and unpredictability of AI require methodical, deliberative and regular verification by all stakeholders. The CNIL recommendations include the following:

- ethical education of all involved in the development and use of AI;
- intelligibility of AI algorithms to their users;
- development of algorithms that serve human freedom and counteract the effect of the unknown;
- creation of national bodies for AI and robot audit algorithms; - stimulating ethical AI research;
- strengthening of ethics bodies in corporations.ory framewrk in the field of artificial intelligence, improve the protection of fundamental rights and freedoms and fight for the role of a "global standard-setter".

iii. German AI Strategy

In Germany, initially, the ethics-related debate was mainly driven by industry interests, as a result, in June 2017, the Ethics Commission of the Ministry of Transport adopted several ethical rules for automated and connected automobile traffic. In November 2018, the National Strategy in the field of artificial intelligence was launched, providing for a few ethical measures. For example, the document suggests using an ethical approach for all stages of AI development and use, and notes the need to promote research on new ways of pseudonymizing and anonymizing data, as well as differential confidentiality. In addition, the Federal government is considering whether the German legal framework covers all aspects related to services and products based on the AI algorithm and its adaptation so that it can be checked whether there is any discrimination or bias.

The German Government has published the 2014-2017 agenda, the Digital Strategy 2025, which sets out the guiding principles of digital policy and highlights a number of key areas of activity.[123] Inter alia, two competence centers in the field of big data were created. In the implementation report, the government points out that artificial intelligence and machine

[123] Bundesregierung , Digitale Agenda 2014—2017, Aug. 2014 // URL: http://perma.cc/6ZAA-DDM3; Federal Ministry for Economic Affairs and Energy, Digital Strategy 2025, Apr. 2016, Accessed on 07.17.2023

learning provide the necessary tools to operate with big data. [124]

In July 2018, the German government published key provisions for the AI Strategy (Strategie Künstliche Intelligenz)[125]. The full AI strategy was published at the end of November 201823; it states that AI technology should be built "on European values, such as the inviolability of human dignity, respect for privacy and the principle of equality". The Strategy also points to the need for further development of the regulatory framework to ensure a high level of legal certainty. In June 2016, the German Road Traffic Law was amended to allow drivers to transfer control of a vehicle to automated driving systems for vehicles to be used on public roads. In addition, the German Ministry of Transport and Digital Infrastructure has established a Commission on the Ethics of Automated and Controlled Driving. In August 2017, it has published a report outlining 20 ethical principles for programming automated driving systems with an emphasis on safety, human dignity, personal freedom and data autonomy.[126]

III. Artificial Intelligence Liability Directive

i. General analysis of Artificial Intelligence Liability Directive.

As previously indicated, the European Commission introduced the draft Artificial Intelligence Liability Directive on September 28, 2022. The proposed AI Liability Directive seeks to "adapt private law to the needs of the transition to the digital economy" and facilitate the filing of claims for injury caused by AI systems and the use of AI. The proposal addresses the specific causality and fault issues associated with AI systems and ensures that claimants enduring losses in fault-based scenarios will have recourse to damages or other appropriate remedies.

It is essential to remember that the AI Liability Directive's effective date is presently unclear. The European Parliament and Council of the European Union still need to examine the draft AI Liability Directive. Once the AI Liability Directive has been negotiated and adopted, EU Member States will be required to transpose its terms into national law, most likely within two years.

The AI Liability Directive is intended to supplement the proposed Regulation on Artificial Intelligence by the European Commission, which will classify AI systems by risk

[124] Bundesregierung, Legislaturbericht. Digitale Agenda 2014—2017, May 2017 // URL: http://perma.cc/EQD9-XLJW Accessed on 07.17.2023
[125] Key Points for a Federal Government Strategy on Artificial Intelligence, supra note 143.
[126] Tatyana Sergeevna Zaplatina, p.128

and regulate them accordingly. In addition, it will be accompanied by proposals for a new Directive on Liability for Defective Products, which will revise the EU's product liability framework to better reflect the digital economy and explicitly include AI products within its scope.

Fundamentally, the AI Liability Directive aims to make it easier to bring claims for harm caused by AI: Courts will be able to compel providers of AI systems to provide claimants with relevant evidence about systems that are alleged to have caused the damage; and if certain conditions are met, there will be a rebuttable presumption of causation between the defendant's fault and the damage caused by the AI system.

The proposed AI Liability Directive is part of a broader package of EU legal reforms aimed at regulating AI and other emerging technologies. As currently drafted, the AI Liability Directive is aimed to achieve principally three things:

- Reducing legal uncertainty surrounding liability claims and AI-related damages;
- Ensuring that victims can seek effective redress for AI-related damages;
- Harmonising certain rules across Member States and bringing national liability rules up-to-date.

The AI Liability Directive will apply to providers, operators and users of AI systems, with these terms to have the same definitions as in the draft EU Artificial Intelligence Act.[127]

ii. Subject matter, scope and other key provisions.

The purpose of AI Directive is to improve the functioning of the internal market by laying down uniform requirements for certain aspects of non-contractual civil liability for damage caused with the involvement of AI systems. It follows up on the European Parliament's Resolution 2020/2014(INL) and adapts private law to the needs of the transition to the digital economy.[128]

Given the unique challenges presented by AI's nature and the burden-of-proof issue, the available legal options are limited. Therefore, AI Liability Directive employs targeted and proportionate measures, such as disclosure and rebuttable presumptions, to ease the burden of proof. It enables those seeking compensation for damage caused by high-risk AI systems, as

[127] EU AI Act, p. 3-6
[128] AI Liability Directive, Article 1

governed by the AI Act, to access relevant information. Moreover, the rebuttable presumptions afford a more reasonable burden of proof and improve the chances of success for justified liability claims.

These measures are not novel, as similar tools exist in national legislative systems. So, they serve as useful references for addressing AI-related challenges in existing liability rules while minimally interfering with diverse national legal frameworks. The consultations with businesses indicated that more far-reaching changes, like reversing the burden of proof or establishing an irrebuttable presumption, were not favored.[129]

Furthermore, Article 1 outlines the scope of this Directive, which applies to non-contractual civil law claims seeking damages caused by AI systems under fault-based liability regimes. It specifically pertains to statutory responsibilities for compensating intentional or negligent acts or omissions. The measures provided by this Directive can be smoothly integrated into existing civil liability systems, as they do not modify fundamental concepts like 'fault' or 'damage', which may vary across Member States. Additionally, it does not affect other rules concerning the burden of proof, standard of proof, or fault definitions at the Union or national level.

Moreover, this Directive does not impact existing liability regulations in the transport sector or those established by the Digital Services Act.[130]

After determining the subject matter, we can pay attention to the key provisions of AI Liability Act:

- Lowering the evidentiary hurdles for victims injured by AI-related products or services and making it easier for victims to successfully establish claims against AI operators, providers or users.[131]
- Introducing measures to empower courts in EU Member States to compel the disclosure of evidence related to AI systems in certain situations. The AI Liability Directive would allow national courts to compel providers of high-risk AI systems (as defined under the AI Act) to give relevant evidence to potential claimants about a specific system that has been alleged to have caused damage. This rule will apply if the claimant: (i) presents sufficient facts and evidence to support the claim for damages; and (ii) shows that they have exhausted all proportionate

[129] Ibidem
[130] Ibidem
[131] Ibidem, Article 3

attempts to gather the relevant evidence from the defendant.[132]

- Allowing claims to be brought by a subrogated party or a representative of a claimant, including by class action.[133]
- Introducing a presumption of causation between the defendant's fault and the damage caused to a claimant by the AI system. This presumption would apply if all of the following three conditions are met: (i) The claimant has shown that the defendant failed to comply with a duty of care intended to protect against the damage that occurred, including a failure to comply with relevant obligations under the AI Act; (ii) It can be considered reasonably likely, based on the circumstances of the case, that the fault influenced the output produced by the AI system, or the AI system's failure to produce an output; (iii) The claimant has shown that the output of the AI system, or the AI system's failure to produce an output, gave rise to the damage.

In conclusion, AI Liability Directive appears to impose on AI system consumers and providers responsibilities comparable to those associated with tangible technologies such as industrial apparatus. It suggests that users of AI systems can be held liable for misusing the technology or ignoring instructions, while providers can be held liable for flawed design, development, or failure to resolve identified defects. Due to the inherent intricacy and opaqueness of artificial intelligence (AI) systems, some of which are colloquially referred to as "black boxes," the efficacy of this approach in addressing the ever-changing technological landscape is uncertain.[134]

Nonetheless, the primary objective of the AI Liability Directive is to establish a distinct cause-and-effect relationship between the actions of an individual or organization and the harm caused by an AI system in fault-based scenarios. This ensures that victims of loss or injury are able to seek redress in simple cases, despite potential limitations in addressing complex liability issues.

However, the AI Liability Directive may have limitations in situations where a claimant cannot clearly establish a link between the damage caused by an AI system and the defendant's negligence, particularly when the AI system operates as intended but still causes

[132] Ibidem
[133] Ibidem, Article 2
[134] Simon Bollans, EU Artificial Intelligence Liability Directive, 29 Jun 2023, URL: https://www.shlegal.com/insights/eu-artificial-intelligence-liability-directive#:~:text=Summary%20overview,to%20have%20caused%20damage%3B%20and Accessed on 07.19.2023

injury. This exclusion appears intentional, as the Directive's draft proposals mention the European Commission's intention to reevaluate the need for non-fault-based liability rules five years after the adoption of the AI Liability Directive.[135]

[135] Ibidem

Chapter III

Examination of liability of artificial intelligence from various perspectives.

SUMMARY: I. Prospects for the development of AI regulation in the EU – II Legal approaches to AI regulation by other countries and their comparison with EU i. American approach – ii. Chinese approach – iii. Russian approach – III Probable negative repercussions of AI regarding law and remedies for them. – i. Contract law and tort, – ii. Critique on current narrow approach to AI by EU

I. Prospects for the development of AI regulation in the EU.

So, in the European Union, the second stage of the formation of regulation in the field of artificial intelligence is underway, the tasks of which, as indicated in the resolution of May 3, 2022, are to create a regulatory framework in the field of artificial intelligence, improve the protection of fundamental rights and freedoms and fight for the role of a "global standard-setter". The main competitors of the European Union in the latter issue are China and the United States. The United States is still focused on industry legislation, but China is actively promoting international partnerships, which increases the chances of exporting its standards in the field of artificial intelligence.

The European approach will certainly have an impact on other actors in world politics. The report of experts from the Brookings Institution (Washington) states: "The Artificial Intelligence Law represents the first attempt at global horizontal regulation of artificial intelligenc. The extraterritorial application of the AI Law and its likely demonstration effect (the so-called "Brussels effect") for politicians mean that the AI Law will have a number of consequences for the development of AI regulation worldwide, as well as for efforts to establish international cooperation in the field of AI."[136] For example, at one time the European Union Regulation on Data Protection (Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27, 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), in force since 2018, has been taken as a basis or even partially copied by many countries of the world.

[136] Meltzer J., Tielemans A. The European Union AI Act: Next steps and issues for building international cooperation. Brookings Institution. Policy brief. June 1, 2022. URL: https:// www.brookings.edu/research/the-european-union-ai-act-nextsteps- and-issues-for-building-international-cooperation-in-ai/ Accessed on: 07.19.2023.

The European risk-based approach to the regulation of artificial intelligence meets the security request broadcast by most countries. If the European Union manages to create a comprehensive, consistent and effective regulation, "it can become a model for other countries that hope to do the same. American companies, in accordance with the EU Law on Artificial Intelligence, will also eventually raise their standards."[137]

Speaking about the prospects, it should be borne in mind that the European approach to the regulation of artificial intelligence is aimed at preserving the priority of human rights and developing strict ethical rules on the basis of which legislation will be formed. For comparison, ethical restrictions in China are given much less importance, for example, the Chinese government uses facial recognition technology in public places. The Chinese system of control over the behavior of citizens is based on artificial intelligence technologies, designed to ensure socio-political stability - the social credit system[138], launched in 2018 and later actively "completed". In the United States, human rights are given more attention than in China, but the restrictions associated with the use of artificial intelligence systems differ significantly according to the legislation of different states.[139]

Compared to the United States and China, the European approach to regulating artificial intelligence is more conservative. This causes concern among representatives of some European countries, for example, in 2020, several European Union countries called on the European Commission to limit itself to the formation of a "soft law" to regulate artificial intelligence. In a document prepared by representatives of 14 EU countries, including France, the Netherlands, Spain and Belgium, the following position was expressed: the European Union needs to stimulate the development of artificial intelligence technologies of a new generation, and not create obstacles to this. The agreed position of the group of countries was announced immediately after the publication of the Artificial Intelligence White Paper. In opposition to these countries was Germany, which advocated stricter regulation of technologies and was concerned that with a "soft" approach, some technologies would not be covered by regulation at all, and therefore the risks to civil liberties associated with the use of facial recognition technologies and some others would increase.

According to analysts of the American Center for Data Innovation, if the Draft

[137] Heikkilä M. A quick guide to the most important A I law you have never heard of. The European Union is planning new legislation aimed at curbing the worst harms associated with artificial intelligence // MIT Technology Review. May 13, 2022. URL: https://www.technologyreview.com/2022/05/13/1052223/ guide-ai-act-europe/ Accessed on: 07.19.2023.
[138] Ruvinsky, R. Z. Legal aspects of implementing a social credit system in modern public administration: a monograph. Nizhny Novgorod, 2022. p. 9.
[139] Filipova I. A., Akhatov A. R., Kuvandikov Z. O. Artificial Intelligence Regulation: Experience of the European Union // Bulletin of Samarkand State University. 2022. No. 4(134). p. 169—175.

European Regulation on Artificial Intelligence is adopted, this act will become the most restrictive regulatory measure on artificial intelligence in the world.[140] At the same time, the opposition to the technological rise of China forces the United States to look for points of convergence with the European Union, and such a rapprochement may entail some liberalization of the approach to regulation in the European space.

The main disadvantage inherent in the European approach is that in order to accelerate the development of artificial intelligence and the introduction of products based on it in practice, the regulatory framework should not create unnecessary barriers that hinder manufacturers and suppliers, but the legislative consolidation of high-level ethical standards based on transparency, verifiability and accountability in combination with provisions on product safety and the relevant liability rules indicate the opposite. For example, paragraph 1 of article 13 of the draft Regulations on Artificial Intelligence states: "High-risk artificial intelligence systems should be designed and developed in such a way that their operation is sufficiently transparent, users can interpret the output of the system and use it appropriately." The higher the requirements for transparency in the use of artificial intelligence, the more difficult it is to combine them with such an intensively developing area as neural networks (artificial neural networks), the results of which clearly demonstrate the principle of the "black box".

The withdrawal of the United Kingdom from the European Union, which is one of the countries where the development of artificial intelligence, although it does not reach a leading position, is at a very high level, has weakened the position of the European Union. According to the "Global Artificial Intelligence Index"[141], as of 2022, the UK occupied the third line of the rating immediately after the United States and China, and the Netherlands, the first in this rating from the EU countries, was only the eighth line, the ninth and tenth positions remained behind Germany and France.

Another disadvantage is the difficulties in coordinating the positions of the 27 EU member states. This is a problem that is missing when creating artificial intelligence legislation in the United States and China.

In conclusion, if we proceed from the fact that all possible approaches to the regulation of artificial intelligence can be conditionally divided into two groups or two pan-approaches: legalistic (legal or formal) and technological, where the first is aimed at a systematic solution of issues arising from the use of artificial intelligence and related to responsibility, confidentiality, cybersecurity, and supporters the second (technological)

[140] Mueller B. How Much Will the Artificial Intelligence Act Cost Europe? July 26, 2021. URL: https://www2.datainnovation. org/2021-aia-costs.pdf Accessed on 07.19.2023
[141] The Global AI Index. URL: https://www.tortoisemedia.com/ intelligence/global-ai/ Accessed on: 07.19.2023

approach insists on the secondary nature of law and pushing away from technological changes, solving problems point-by-point, then the European approach, without a doubt, belongs to the first group.

The European approach to the regulation of artificial intelligence, as already mentioned, is risk-oriented, as well as anthropocentric, which means that a person and the protection of his rights and freedoms should always remain at the center of all political and legislative considerations. A feature of the European approach is the systematic development by the European Union of a comprehensive policy to tighten control over artificial intelligence in order to protect a person and his fundamental rights. This leads to a lack of approach - conservatism in regulation, partly reducing the desire of investors to invest in new projects in this area.

Nevertheless, within the framework of the European approach, a regulatory model is being created based on fundamental values, putting algorithmic security above all and therefore capable of influencing the development of legal regulation of artificial intelligence in various regions of the world and globally at the international level.

II. Legal approaches to AI regulation by other countries and their comparison with EU

As noted by the Dutch lawyer and legal regulation specialist AI M. Kop, such a bold approach of the European legislator creates new challenges for the largest competitors in the market – American and Chinese companies. If the EU AI Law is adopted, foreign competitors will have to ensure detailed compliance with all the provisions of the new European standards before gaining access to the European market of 450 million consumers.[142] It seems that such a legal policy, formally based on a value-oriented approach if properly implemented, can provide European business with substantial support in the innovation environment.

i. American approach

At the moment, the main regulatory act of the United States in the field of artificial intelligence is the Law on the National Artificial Intelligence Initiative 2020 (National Artificial Intelligence Initiative Act of 2020).[143] This act, which entered into force on January

[142] Kop M. EU Artificial Intelligence Act: The European Approach to AI // Transatlantic Antitrust and IPR Developments. Stanford Law School. 2021. P. 1-11.
[143] National Artificial Intelligence Initiative Act of 2020, URL: https://www.congress.gov/116/crpt/hrpt617/CRPT-116hrpt617.pdf#page=1210 Accessed on 07.20.2023

1, 2021, laid the foundation for the activities of the American government to increase the pace of development of artificial intelligence technology and its application for the development of the economy and state security. According to the text of the Law, the initiative in the field of artificial intelligence should ensure the continued leadership of the United States in the field of research and development of artificial intelligence, maintaining the leading position of the United States in the world regarding the development and use of reliable artificial intelligence systems in the public and private sectors. In addition, it is noted the need to prepare current and future American human resources for the integration of artificial intelligence systems in all sectors of the economy and society, as well as the importance of coordinating ongoing activities for the research, development, and demonstration of artificial intelligence between civilian agencies, the US Department of Defense and the US intelligence community in order to ensure mutual stimulation of work activities.

These provisions assign the United States the role of the first-world power in the field of the study and application of artificial intelligence, preventing the possibility of competitive concessions to any other country. In this regard, the Law on the National Initiative in the Field of Artificial Intelligence continues the strict line of maintaining global leadership in the development of AI technologies, set by the Order of the US President on maintaining American leadership in the field of artificial intelligence in 2019. To achieve these goals, the Law assumes that the President of the United States will hold events in eight areas, in which significant attention is paid to the issues of education and training of personnel to support the innovative economy.

Similar accents are placed in other significant documents aimed at regulating the American artificial intelligence industry. The National Security Commission on Artificial Intelligence (NSCAI), which officially ended its activities in 2021, divided its latest report to the US Government into two main thematic parts: "Protecting America in the Era of Artificial Intelligence" and "Winning Technological Competition." These two directions are the main vectors of American policy in the field of AI and related technologies. It is noteworthy in comparison with the documents prepared by European expert groups that in the final NSCAI report, five chapters are devoted to issues of national security, defense and military technologies, while only one is devoted to the protection of democratic values.[144]

The North Atlantic Alliance has also developed its own strategic document on

[144] National Security Commission on Artificial Intelligence Final Report
URL: https://cybercemetery.unt.edu/nscai/20211005220332/https://assets.foleon.com/eu-west-2/uploads-7e3kk3/48187/nscai_full_report_digital.04d6b124173c.pdf Accessed on 07.21.2023

artificial intelligence technologies. According to the summary published on the official network portal[145], the NATO Artificial Intelligence Strategy assumes the use of artificial intelligence by the Alliance and its allies in accordance with the following principles: legality, responsibility and accountability, explicability and traceability, reliability, manageability, reduction of bias.

Thus, the main strategic priorities of the American legal policy in the field of artificial intelligence are ensuring national security (to a large extent from external threats arising in the context of the rapid development of AI technologies) and maintaining competitive leadership in the global artificial intelligence market.

ii. Chinese approach

Being one of the main countries fighting for world economic leadership, China could not stay away from the global competitive race in the market of artificial intelligence technologies. In July 2017, the State Council of the People's Republic of China published a document entitled "The Plan for the Development of Artificial Intelligence of the New Generation"), focused on China's achievement of global leadership in the field of artificial intelligence by 2030[146]. According to the AI Development Plan, the progressive fulfillment of the set goals and objectives for the development of the AI industry in China by 2020, 2025 and 2030 will make China a world center of innovation in the field of artificial intelligence.

To achieve such high results, the creation of pilot zones of innovation and development of AI technologies has begun in China. In August 2019, the Ministry of Science and Technology of the People's Republic of China published Guidelines for the Construction of National pilot zones of innovation and Development of Artificial Intelligence of the new Generation (Guidelines for National New Generation Artificial Intelligence Innovation and Development Pilot Zone Construction Work). According to this Guide, by the end of 2023 About 20 pilot zones should be created in China, on the territory of which the best universities, national laboratories and leading technology companies in the field of development and use of AI technologies will be located. At the same time, by March 2020,

[145] Summary of the NATO Artificial Intelligence Strategy // North Atlantic Treaty Organization URL: https://www.nato.int/cps/en/natohq/official_texts_187617.htm Accessed on 07.21.2023

[146] Lucero K. Artificial Intelligence Regulation and China's Future // Columbia Journal of Asian Law. 2019. № 33 (1). P. 94-171.

11 such zones had already been deployed in China.[147]

Unlike the European Union and the United States, China's strategic documents and key regulations in the field of artificial intelligence focus exclusively on economic and scientific achievements. Issues of protecting the rights of citizens and humanitarian values, as a rule, are not included in the main agenda of the Chinese AI industry. In other words, China, even more than the United States, is aimed at tough competition for world leadership in artificial intelligence technologies. The seriousness of these intentions is confirmed by the volume of Chinese investments in high-tech businesses engaged in the development of AI algorithms, which in some years significantly exceeded the amount of similar investments in the United States.

M.S. Reshetnikova and Yu.D. Lukina rightly note that the policy of such rapid development of AI technologies in China under the slogan of the struggle for global technological dominance is largely due to similar actions of the United States – China's main strategic opponent on the world stage and the traditional technological and economic leader of the modern world.[148] The United States is taking active measures to curb the growth of Chinese trade and economic power and, as already noted, is focusing on maintaining its own leadership and strengthening national security in the field of artificial intelligence. In such conditions, the situation of a "technological cold war" between the two largest economies of the world becomes a very real prospect.

iii. Russian approach

Russian practice of Artificial Intelligence regulation Despite the prospect of competition with such economic giants as the EU, USA and China, Russia also plans to develop its own innovative AI and machine learning industry. Nevertheless, against the background of the economic crisis caused by the pandemic, the volume of Russian investments in AI-startups in 2020, according to Stanford University research, decreased by 63%. One of the main reasons for curbing the interest of investors is the lack of the necessary regulatory framework[149], which only exacerbates the need to develop high-quality legal regulation of the development and use of artificial intelligence.

---

[147] Guidelines for National New Generation Artificial Intelligence Innovation and Development Pilot Zone Construction Work: Translation // Center for Security and Emerging Technology. – URL : https://cset.georgetown.edu/publication/guidelines-for-national-new-generation-artificial-intelligence-innovation-and-development-pilot-zone-construction-work/ Accessed on 07.17.2023

[148] Reshetnikova M.S., Lukina Yu.D. China's Policy in the Struggle for Global Dominance in Artificial Intelligence. Issues of Innovative Economy, 2020, vol. 10, no. 4, p. 1929-1942

[149] Investments in AI startups decreased by 63% in 2020. // TASS [website]. – URL: https://tass.ru/ekonomika/11152153 Accessed on 07.17.2023

The current regulatory landscape of the Russian Federation regarding artificial intelligence technologies is noticeably smaller than that of a number of other large jurisdictions. At the moment, the fundamental strategic document of the Russian Federation in the field of AI is the National Strategy for the Development of Artificial Intelligence for the period up to 2030, approved by Presidential Decree No. 490 dated October 10, 2019 "On the Development of Artificial Intelligence in the Russian Federation" (AI Development Strategy in the Russian Federation). Article 19 of this document highlights the following basic principles of the development and use of artificial intelligence technologies: protection of human rights and freedoms, security, transparency, technological sovereignty, integrity of the innovation cycle, reasonable thrift, support for competition. The given list in its general orientation echoes the principles laid down in the strategic documents and ethical guidelines of the USA and the EU.

Another important strategic document defining the priorities for the development of artificial intelligence in Russia is the National Program "Digital Economy of the Russian Federation", to be implemented in the period from 2019 to 2024.[150] This program provides for the implementation of the federal project "Artificial Intelligence", carried out with the participation of the Ministry of Communications of the Russian Federation in the following areas: support for research and development; software development and development, including through the support of startups and pilot implementations of AI technologies; creation of a comprehensive system of legal regulation in the field of artificial intelligence; increasing the availability and quality of data; increasing the availability of hardware; increasing the level of provision of the Russian AI technology market with qualified personnel and the level of awareness of the population about possible areas of AI use.

In order to establish an experimental legal regime, 123-FZ grants the Moscow Government a number of powers for a period of 5 years, the implementation of which is designed to improve the conditions for the development and implementation of AI technologies in the territory of the city of Moscow. The list of such powers is given in Article 4 123-FZ. At the same time, it clearly follows from the contents of the list that such essential issues for the IT business, such as, for example, the establishment of special tax regimes and benefits, remain outside the experimental legal regime. The reason for this is the impossibility of resolving issues related to the jurisdiction of the Russian Federation at the level of the subject of the federation, even in the conditions of the creation of special powers. Therefore, from my point of view, at the moment it is quite difficult to predict how effectively the

[150] Official website of the National Program "Digital Economy of the Russian Federation". - URL: https://digital.ac.gov.ru/ Accessed on 07.20.2023

development of artificial intelligence technologies will be stimulated by those limited measures that are directly established by 123-FZ (in particular, issues of personal data regulation) or the powers which it gives the Moscow Government.

In October 2021, within the framework of the First International Forum "Ethics of Artificial Intelligence: the Beginning of Trust" with the participation of the Ministry of Economic Development and representatives of the Alliance in the field of Artificial Intelligence, uniting the largest Russian companies investing in AI technologies, the Code of Ethics in the field of Artificial Intelligence[151] was signed. According to the provisions of the Code of Ethics in the field of AI, the main priority of technology development is to protect the rights and interests of both the entire human society and individuals. This priority is expressed in the following principles: a human-oriented and humanistic approach, respect for human autonomy and freedom of will, compliance with the law, non-discrimination, and assessment of the risks of humanitarian impact. Joining the Code of Ethics in the field of AI is voluntary.

Some lawyers consider that the Code of Ethics in the field of AI is rather a working document laying the first foundation for the future regulation of relations developing over the development and use of AI technologies, rather than a fundamental set of rules and recommendations, such as a Guide to the Ethics of Reliable AI or an AI White Paper developed by expert groups of the European Union. Despite this, the adoption of the Code is an important step towards the creation of a comprehensive system of artificial intelligence regulation in Russia, combining state regulatory requirements and conventions developed on the initiative of the business community.[152]

The need to develop legal regulation of artificial intelligence and related technologies is also emphasized by individual private initiatives. So, in 2016, the founder of Grishin Robotics, Dmitry Grishin, presented the concept of the world's first law on robotics, which received a lot of attention from both the press and the expert community.[153] Such an early step towards the creation of a special regulation of relations related to the development and use of robots and AI is explained by the excitement already observed at that time about artificial intelligence technologies and the rapid growth of investments in the relevant area. Direct developers of the bill V.V. Arkhipov and V.B. Naumov points out that this was "the first experience in creating such a document, which was designed to initiate a discussion about systemic (and not aimed at regulating certain aspects of relations involving robots)

[151] Code of Ethics in the field of AI // Alliance in the sphere of Artificial Intelligence. - URL: https://a-ai.ru/code-of-ethics/ Accessed on 07.17.2023
[152] Medvedev A.I. Legal aspects of artificial intelligence and related technologies, December 2022. 4 (38). p. 48–63.
[153] Russia may become the first to legalize robots // VEDOMOSTI. - URL: https://www.vedomosti.ru/technology/articles/2016/12/15/669703-rossiya-uzakonit-robotov" Accessed on 07.20.2023

legislative regulation in the field of robotics".[154]

Another notable project is the Model Convention on Robotics and Artificial Intelligence, published in 2017.[155] According to the authors of the Convention, A.V. Neznamov and V.B. Naumov, the main purpose of the development of this document was "to take the first step towards a common understanding of the basic rules of coexistence of people and cyber-physical systems".[156] The Convention contains a number of principles and rules that could potentially form the basis for regulatory regulation of the processes of creation, implementation or use of robots and AI systems both at the international and national levels.

The creation of comprehensive legislation on the development and use of artificial intelligence and robotics in Russia is still only at the beginning of the road. Strategic documents and initiative bills that currently exist can form the basis of future legal regulation, the formation of which will require long-term expert and normative work, accompanied by active discussions at different levels. Nevertheless, public and expert attention to the need to regulate the robot and artificial intelligence industry allows us to hope that in the coming years, Russian law will make progress in solving this problem.

To sum up, the analysis of various countries' perspectives allows us to conclude that at the moment a number of fundamental problems of legal regulation of artificial intelligence remain unresolved. Perhaps one of the results of the large-scale rule-making work organized by the largest states of the world will be finding reliable approaches to resolving those complex theoretical and legal issues that fill the subject of legal aspects of artificial intelligence and related technologies.

III. Probable negative repercussions of AI regarding law and remedies for them.

As mentioned in the previous chapters, the rapid pace of technological advancement poses a significant challenge to law and regulation. McKinsey estimates that, compared to the

[154] Archipov V.V., Naumov V.B. Artificial Intelligence and Autonomous Devices in the Legal Context: On the Development of the First Law on Robotics in Russia. Trudy SPIIRAN (Proceedings of the St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences), 2017, no. 6 (55), p. 46-62.
[155] Model Convention on Robotics and Artificial Intelligence. // Project 'ROBOPRAVO'. - URL: https://robopravo.ru/modielnaia_konvientsiia, Accessed on 07.20.2923
[156] Neznamov A.V., Naumov V.B. Regulation Strategy for Robotics and Cyber-Physical Systems. Zakon (Law), 2018, no. 2, p. 69-89.

Industrial Revolution, the changes brought about by AI are occurring 10 times quicker and on a 300-times-larger scale, resulting in an approximately 3,000 times greater impact.[157] The McKinsey Global Institute emphasizes the accelerating rate of technological change and cites an industry expert's prediction that humankind will produce more data in the next five years than it has in the previous 5,000.[158] The question of how the law can respond to this challenge must be asked.

The evolution of algorithms has enabled the collaborative construction of digital distributed ledgers, whereby a database of assets can be shared throughout a network of websites, regions, and institutions, and each participant has their own copy of the ledger.

The European Securities Markets Authority[159] defines distributed ledger technology systems as records of electronic transactions maintained by a shared or "distributed" network of participants, thus forming a distributed validation system, that can make extensive use of cryptography – that is, computer-based encryption techniques such as public keys and private keys and hash functions, which are used to store assets and validate transactions on distributed ledgers.

AI and the ability to swiftly process so much more data than was previously feasible should aid institutions in making better decisions based on evidence. Peer-to-peer lending is one area in which sophisticated investors and commercial organizations may be able to benefit tremendously from what technology has to offer. However, there are also significant hazards that should not be overlooked. The availability of big data and the capacity of computers to process and analyze the data in previously unimaginable ways raises unprecedented ethical and regulatory concerns. Since at least 2008, the responsibility and ethical standards of financial institutions have been the subject of negative public discourse.

Concerns have been raised regarding the potential for unethical data usage. Big data poses a risk to privacy. The increased capacity to integrate and analyze data from multiple sources has facilitated the identification of data subjects. Reidentification technology may challenge current conceptions of what constitutes personal data. Algorithms could be used to restrict certain people's access to finance or insurance on the basis of unconstitutional

[157] D. Kim, “Intellectual Property in the Fourth Industrial Revolution Era,” (2018) p.53
[158] Tom C. W. Lin, “Artificial Intelligence, Finance, and the Law,” (2019), p 88
[159] European Securities Markets Authority, “The Distributed Ledger Technology Applied to Securities Markets,” (7 February 2017) p. 4.

discrimination; they are a tool for social control. If financial services are provided in this manner, the exploitation or loss of data stored "in the cloud" will be a concern;[160] Cybersecurity is a challenge because, as financial institutions continually strengthen their defenses, cybercriminals devise increasingly sophisticated attack methods.[161]

i. Contract law and tort

Due to the significance of contract law, the focus will be put upon this issue. As long as the operation of the computer program can be explained to judges who may be deficient in computer science, it should be relatively easy to conclude that people who agree to use a program with smart contracts in their transactions have objectively agreed to the consequences of the program's "if-then" logic.

The self-executing smart contract cannot be deciphered in the same manner as a conventional contract, as it is not possible to revoke it and cease its performance during execution. The courts are unable to halt the performance of the contract due to the smart contract's capacity to eliminate default by causing X to result in Y. The contracting party has no option for rescinding the agreement. This means that the remedies for, for example, fraud or misrepresentation inducing the contract are to order the re-transfer of property that has been transferred under the contract. By developing the law of unjust enrichment to reverse the effect of an unrescinded contract, this could be accomplished with a declarator or declaration that the contract was induced by fraud or other misrepresentation and an order for re-transfer.

If computers are programmed to optimize the transactions, they enter into through the use of machine learning, the law of contracts could face significantly more issues. If businesses were to use computers with machine learning capabilities to interact with other computers with similar capabilities, they would be able to generate autonomous transactions that do not readily fall within contract law. Could one contracting party say to the other, as Aeneas did to Dido, "non haec in federa veni" ("that wasn't part of the agreement"). Or should the law presume that those who voluntarily use computers with machine learning to conduct transactions intend to be bound by the agreements that these autonomous machines make? If a financial institution could withdraw from a transaction generated by a computer, it could cause pandemonium in the business world. If there is to be a contract drafted or adapted by machines, there will need to be a significant development of our contract law, which will

[160] A. S. Y. Cheung and R. H. Weber (2016), Privacy and Legal Issues in Cloud Computing, (London: Edward Elgar Publishing Ltd..
[161] Dennis J. Baker, Paul H. Robinson (2020), Artificial Intelligence and the Law

necessitate deliberate and creative thought.[162]

It could seem far-fetched that commercial organizations would permit computers to independently negotiate and sign contracts with each other. However, it may not be impossible, as there are commercial benefits to allowing algorithms to optimize trading transactions. And there is always the possibility of unintended results. As a method for testing innovative Fintech in a relatively secure environment, Dennis J. Baker believes the regulatory sandbox concept has great merit.[163]

The law of tort or delict must be revised in order to assign liability for damage inflicted by AI-powered machinery. The three classical legal precepts of Ulpian, "to live honorably, to harm no one, and to give everyone his due," can serve as a foundation for the regulation and self-regulation of human behavior. In numerous contexts, in the law of negligence, reasonable foresight and proximity – the neighborhood principle – have defined the limits of involuntary obligation. But how do you impose liability and provide recompense for a machine's failure to comply with Ulpian's tenets – to cause no harm and give everyone his due? And when one addresses economic torts, such as the intentional infliction of harm by unlawful means, inducing breach of contract or conspiracy, which require a mental element of intent to cause harm, or the delict of fraud, in which the knowledge or belief of the representor is relevant, how does one impose liability for the harm caused by the autonomous acts of computers?[164]

When financial companies decide to use AI in transactions with one another, the parties involved can contractually regulate their relationship, including responsibility for AI outcomes. But when damage is caused to individuals who are not parties to the contract, we enter the realm of involuntary obligation, which includes tort (delict), statutory liability, and unjust enrichment.

Concerning autonomous vehicles, questions regarding liability allocation are arising.[165] The primary concern is obtaining compensation for personal injuries and property damage caused by the vehicle. Part 1 of the Automated and Electric Vehicles Act of 2018 imposes liability on the insurer or, if the vehicle is uninsured, the proprietor for third-party bodily injury or property damage caused by an automated vehicle operating itself on a road or other public place.

In the context of Fintech transactions, attribution of liability and causation will raise

[162] Cf. S. Agnikhotram and A. Kouroutakis (2019), “Doctrinal Challenges for the Legality of Smart Contracts: Lex Cryptographia or A New, ‘Smart’ Way to Contract?
[163] Dennis J. Baker, Paul H. Robinson
[164] Ibidem
[165] A. B. Lemann, “Autonomous Vehicles, Technological Progress, and the Scope Problem in Products Liability,” (2019) 12 J. Tort L. 157

comparable but more challenging questions. Is the machine's manufacturer liable for damage caused by the machine's decisions under the product liability model? Or should the machine's proprietor or operating organization be responsible for such damage? How do you define an economic wrong resulting from the autonomous actions of machines in a market system in which it is wholly legal to cause economic damage to a competitor if one trades within the legal bounds? Should the law impose strict liability for the harm caused by machines, or should liability be imposed on the natural or non-natural person producing, owning, or operating the machine only if a natural person could have reasonably anticipated the risk of harm? These are profoundly significant concerns of legal policy, and the common law offers no ready-made solutions.

ii. Critique on the current narrow approach to AI

As mentioned before, the current European approach to AI is solely based on treating it like tangible “object” stipulated in Gaius classification. However, since there is a remarkable difference between AI and other objects, this thesis does not completely concur with this narrow perspective due to potential risks foreseen by science.

We should acknowledge that in some periods of history, humanity did not perceive the necessity of legal regulations on even themselves. This disregard could only be tackled after facing outrageous consequences caused by this negligence. In order not to face similar issues again in the future, humanity must pay broader attention to the development of AI rather than treating it as an ordinary object.

The primary reason for this critique is the fact that AI totally differs from other objects in terms of evolving like humans (persons). In other words, 350,000 years ago, before the appearance of homo sapiens, we (homo erectus) also could not be considered a legal subject because "humans" that do not meet the current definition of human would almost certainly fall outside the scope of these codal articles. The general principles already specify that all other species are not "humans" and are therefore not entitled to the same protections as humans.

Authorities must rethink the personhood and liability issues regarding AI. Since the scientific dimension and advancement of AI cannot be disregarded. The following example will bolster my argument in a more accurate way. Scientific research by Edd Gent represents that AI is literally evolving. Researchers have developed software that incorporates concepts from Darwinian evolution, such as "survival of the fittest," to create artificial intelligence programs that progress without human input generation after generation. The program

replicated decades of AI research in a matter of days, and its creators believe it may one day discover new AI techniques. "While most people were taking baby steps, they took a giant leap into the unknown," says Risto Miikkulainen, a computer scientist from the University of Texas at Austin who was not involved in the research. This is a paper that could inspire a great deal of future research. Developing an AI algorithm requires effort. Consider neural networks, a prevalent form of machine learning used for translating languages and driving automobiles. These networks approximate the structure of the brain and learn from training data by modifying the strength of connections between artificial neurons. Smaller subcircuits of neurons perform specific tasks, such as recognizing road signs, and researchers can spend months figuring out how to connect them so that they operate in a seamless manner.[166]

Consequently, the EU and other perspectives should take the inevitable evolution of AI in the future into consideration and must approach AI in a broader manner rather than considering it as an ordinary object.

[166] Artificial intelligence is evolving all by itself. URL: https://www.science.org/content/article/artificial-intelligence-evolving-all-itself Accessed on 07.22.2023.

Conclusion

Based on the factors mentioned above, there are no concrete regulations governing the legal status of artificial intelligence worldwide. Examining the discussions held in this context reveals opinions that believe it is appropriate to maintain artificial intelligence as a commodity, to grant it a legal entity, or to recognize it as a non-human person, electronic person, or artificial person. In fact, all the discussions in this process are valuable and significant in their own right, and each of them has remarkable nuances regarding the incorporation of the concept of artificial intelligence into the legal system. The scale has led the European Parliament's proposal to grant electronic personality and absolute responsibility. However, there are still numerous issues that require explanation, because it is uncertain whether or to what extent the European Parliament will adopt this report. Similarly, except for the legal recognition of personality, the limits and exceptions of this legally recognized personality lack clarity. Therefore, from a legal standpoint, we must closely monitor global developments in artificial intelligence and swiftly implement legal regulations. In this context, the most important data that will enhance legal regulation are doctrinal discussions and pro and con opinions. Legal personality should be accepted without a doubt in the face of increasingly autonomous and intelligent artificial intelligence, However, the concept of personality under consideration should be unique to artificial intelligence, sui generis, and distinct from existing concepts of a person with appropriate boundaries.

Furthermore, regarding the international level of regulation of AI and related technologies, it is crucial to highlight the imperative need to develop global cooperation in this area. During the course of the thesis, the increasing intensity of competition in the global AI technology market among both private companies and governments was observed. In such circumstances, the risk of a decline in the protection of human and civil rights and liberties, as well as the significance of fundamental humanitarian values, increases, as states and corporations are increasingly compelled to be guided solely by economic concerns. From my point of view, competition in the development of artificial intelligence and associated technologies should contribute to enhancing the well-being of humanity as a whole, and not exacerbate the socio-humanitarian crisis of contemporary society. The development of universal international legal regulation of the development and use of robotics and AI based on universal human values should become an integral element of contemporary trends in the development of the legal aspects of artificial intelligence and related technologies.

EU has taken a narrow yet cautious approach to the evolution of AI in the legal

context. While recognizing the potential benefits of AI, the EU has prioritized safeguarding fundamental rights and promoting a human-centric and trust-based approach to AI regulation. In the realm of liability and accountability, the EU is grappling with determining responsibility when AI decisions lead to errors, accidents, or unintended consequences. Striking a fair balance between AI system developers, users, and affected parties is essential to promote innovation while addressing potential harms. However, the legal terrain for AI liability remains complex and challenging to navigate.

Despite these efforts, as indicated before, the EU's approach to AI in the legal context is limited in scope. There is a pressing need for a more comprehensive regulatory framework that addresses the broader implications of AI in various sectors. While the data protection, ethics, and liability are crucial aspects, other legal dimensions, such as AI's impact on employment law, the justice system, and international collaboration, also warrant attention. Moreover, the dynamic nature of AI demands a more forward-thinking and adaptive legal approach. The EU must anticipate future AI developments and potential legal challenges to remain at the forefront of AI regulation. Flexibility is essential to strike the right balance between fostering AI innovation and preserving individual rights and societal well-being.

Ultimately, the EU's narrow approach to the evolution of AI in the legal context only prioritizes data protection, ethics, and liability without paying attention to the evolution of AI. While commendable in safeguarding fundamental rights, this approach may need to be expanded to address the broader legal implications of AI in diverse sectors. By taking the peculiar nature of AI differing from other objects into account and embracing a more comprehensive and adaptive approach, the EU can effectively harness the transformative potential of AI while upholding its core values and principles.

Bibliography.

EU Legislation.

- European Commission. Ethics Guidelines for Trustworthy AI (08.04.2019)
- European Commission. White Paper on Artificial Intelligence: a European approach to excellence and trust (19.02.2020)
- European Commission Coordinated Plan on Artificial Intelligence COM(2018) 795 Final
- European Parliament Resolution of 12 February 2020 on automated decision-making processes: ensuring consumer protection and free movement of goods and services (2019/2915(RSP))
- European Parliament Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL))
- European Parliament Resolution of 20 October 2020 on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI))
- European Parliament Resolution of 20 October 2020 with recommendations to the Commission on a civil liability regime for artificial intelligence (2020/2014(INL))
- European Parliament Resolution of 20 October 2020 with recommendations to the Commission on a framework of ethical aspects of artificial intelligence, robotics, and related technologies (2020/2012(INL))
- European Parliament Resolution of 25 March 2021 on a European strategy for data (2020/2217(INI))
- European Parliament Resolution of 3 May 2022 on artificial intelligence in a digital age (2020/2266(INI))
- European Parliament Resolution of 6 October 2021 on artificial intelligence in criminal law and its use by the police and judicial authorities in criminal matters (2020/2016(INI))
- European Parliament Resolution of 7 October 2021 on the state of EU cyber defence capabilities (2020/2256(INI))
- Proposal for a Directive of the European Parliament and of the Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive) COM/2022/496
- Proposal for a Directive of the European Parliament and of the Council on liability for defective products COM/2022/495
- Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) (25.11.2022)
- Regulation 2021/694 of the European Parliament and of the Council establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240
- Regulation 2022/2065 of the European Parliament and of the Council on a Single Market for Digital Services and amending Directive 2000/31/EC
- Regulation 2022/868 of the European Parliament and of the Council on European data governance and amending Regulation (EU) 2018/1724

- Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828

Academic sources.

English.

- A. B. Lemann. (2019). "Autonomous Vehicles, Technological Progress, and the Scope Problem in Products Liability"
- A. S. Y. Cheung and R. H. Weber (2016), Privacy and Legal Issues in Cloud Computing, (London: Edward Elgar Publishing Ltd)
- Andrea Padovani and others, A Treatise of Legal Philosophy and General Jurisprudence, Volume 7: The Jurists' Philosophy of Law from Rome to the Seventeenth Century (2005)
- Buiten M. Towards Intelligent Regulation of Artificial Intelligence // European Journal of Risk Regulation. 2019.
- Butler T.L. Can a Computer be an Author – Copyright Aspects of Artificial Intelligence // A Journal of Communications and Entertainment Law. 1981.
- Charles M. Radding and Antonio Ciaralli, The Corpus Iuris Civilis in the Middle Ages: Manuscripts and Transmission from the Sixth Century to the Juristic Revival (Brill Academic Publishers 2006)
- Christopher Gill, 'Personhood and Personality: The Four- Personae Theory in Cicero, De Officiis I', Oxford Studies in Ancient Philosophy: Volume VI (Oxford University Press 1988).
- Ciampi C. (1981) Artificial Intelligence and Legal Information Systems. Vol. I: Edited Versions of Selected Papers from the International Conference on "Logic, Informatics, Law". Florence, Italy.
- D. Kim (2018), "Intellectual Property in the Fourth Industrial Revolution Era,"
- Dennis J. Baker, Paul H. Robinson (2020), Artificial Intelligence and the Law
- Gaius, Institutiones of Roman Law (Edward Poste tr. ed., 4th edition, Clarendon Press 1904).
- Guo, S. F. (2019). The Legal Construction of the Power Capacity of Artificial Intelligence "Electronic Human". Gansu Social Sciences, No. 4
- Henry de Bracton, On the Laws and Customs of England (Samuel E. Thorne tr. ed., Belknap Press of Harvard University Press 1968)
- Hubbard, F. Patrick, 'Do Androids Dream?': Personhood and Intelligent Artifacts (April 22, 2010)
- J. Drexl, R. Hilty, D. Kim, P.R. Slowinski (2021) // Max Planck Institute for Innovation & Competition Research Paper
- J. R. Trahan, 'The Distinction between Persons and Things: An Historical Perspective' (2008)

- Kellogg K. C., Valentine M., Christin A. (2020) Algorithms at Work: The New Contested Terrain of Control // Academy of Management Annals, Vol. 14
- Księżak, P., & Wojtczak, S. (2020). AI versus robot: in search of a domain for the new European civil law. Law, Innovation, and Technology
- Kurki, Visa A.J., 'A Short History of the Right-Holding Person', A Theory of Legal Personhood (Oxford, 2019; online edn, Oxford Academic, 19 Sept. 2019).
- Lawrence D. Artificial Intelligence: The Shylock Syndrome / D. Lawrence, C. Palacios-Gonzalez, J. Harris // Cambridge Quarterly of Healthcare Ethics. 2016.
- Lee J. Artificial Intelligence and Human Rights: Four Realms of Discussion: Summary of Remarks // Proceedings of the ASIL Annual Meeting. 2020.
- Lucero K. Artificial Intelligence Regulation and China's Future (2019) // Columbia Journal of Asian Law. № 33
- P. W. Duff, Personality in Roman Private Law (Cambridge University Press 1938)
- Thomas, Pérennou, State of the Art On Legal Issues, 2014
- The Oxford International Encyclopedia of Legal History (Oxford University Press 2009).
- Tom C. W. Lin (2019) "Artificial Intelligence, Finance, and the Law,"
- Udo Thiel, The Early Modern Subject: Self- Consciousness and Personal Identity from Descartes to Hume (Oxford University Press 2011).
- Visa A.J. Kurki, A Theory of Legal Personhood (Oxford, 2019)
- Wen, Z. and Tong, D. (2023) Analysis of the Legal Subject Status of Artificial Intelligence. Beijing Law Review
- William L. Burdick, The Principles of Roman Law and Their Relation to Modern Law (The Lawbook Exchange, Ltd 2004)
- Zimmerman, Evan Joseph. "Machine Minds: Frontiers in Legal Personhood." (2015

German.

- Christian Hattenhauer, ' "Der Mensch als Solcher Rechtsfähig": Von der Person zur Rechtsperson' in Eckart Klein and Christoph Menke (eds), Der Mensch als Person und Rechtsperson (Berliner Wissenschafts-Verlag 2011)
- Matthias Lutz-Bachmann, 'Der Mensch als Person. Überlegungen zur Geschichte des Begriffs der "moralischen Person" und der Rechtsperson' in Eckart Klein and Christoph Menke (eds), Der Mensch als Person und Rechtsperson (Berliner Wissenschafts-Verlag 2011)

Turkish.

- Bozkurt, Armağan/Bak, Başak 'Artificial Intelligence', Futurist Hukuk, Aristo Yayınevi 2018, İstanbul, 6

- Kara Kılıçarslan, S. "Legal Status Of Artificial Intelligence And Debates On Its Legal Personality" . Yıldırım Beyazıt Hukuk Dergisi (2019)

Russian.

- Archipov V.V., Naumov V.B. Artificial Intelligence and Autonomous Devices in the Legal Context: On the Development of the First Law on Robotics in Russia. Trudy SPIIRAN (Proceedings of the St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences), 2017, no. 6
- Balashova A.I. Artificial Intelligence in Copyright and Patent Law: Objects, Subject Composition of Legal Relations, Terms of Legal Protection // Intellectual Property Court Journal, No. 2 (36), June 2022
- Filipova I. A. Artificial Intelligence: A European Approach to Regulation. Journal of Foreign Legislation and Comparative Law, 2023, vol. 19, no. 2
- Filipova I. A., Akhatov A. R., Kuvandikov Z. O. Artificial Intelligence Regulation: Experience of the European Union // Bulletin of Samarkand State University. 2022. No. 4
- Medvedev A.I. Legal aspects of artificial intelligence and related technologies, December 2022
- Neznamov A.V., Naumov V.B. Regulation Strategy for Robotics and Cyber-Physical Systems. Zakon (Law), 2018, no. 2
- Ruvinsky, R. Z. Legal aspects of implementing a social credit system in modern public administration: a monograph. Nizhny Novgorod, 2022. p. 9
- Smuha N. A. (2021), From a “race to AI” to a “race to AI regulation”: regulatory competition for artificial intelligence // Law, Innovation and Technology. Vol. 13. Iss. 1
- Talimonchik V. Is artificial intelligence an object of international legal protection? Intellectual Property. Copyright and Related Rights. 2020. No. 12
- Tatyana Sergeevna Zaplatina, T.S. Legal Approaches to the Artificial Intelligence and Robots Regulation in the European Union and Its Member States, 2020.
- Vedenskaya E.V. Current Issues in Robotics // Scientific Research. 2019. No. 2019. P. 88-101
- Yudina M.A. Industry 4.0: Perspectives and Challenges for Society // Public Administration. Electronic Bulletin. 2017. No. 60. P. 197-215.
- Zaloilo, M. V. (2021). "Artificial Intelligence in Law: Scientific and Practical Guide." In D. A. Pashentsev (Ed.). Moscow

Electronic sources.

- A definition of AI: Main capabilities and scientific disciplines. URL: https://www.aepd.es/sites/default/files/2019-12/ai-definition.pdf Accessed on 07.10.2023
- Alliance in the sphere of Artificial Intelligence. Code of Ethics in the field of AI // URL: https://a-ai.ru/code-of-ethics/ Accessed on 07.17.2023

- Artificial intelligence is evolving all by itself. URL: https://www.science.org/content/article/artificial-intelligence-evolving-all-itself Accessed on 07.22.2023.
- Artificial Intelligence and Intellectual Property Policy // World Intellectual Property Organization. URL: https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html Accessed on 06.29.2023
- Bertuzzi L. AI Act: MEPs want fundamental rights assessments, obligations for high-risk users // EURACTIV. January 10, 2023. URL: https://www.euractiv.com/section/artificial-intelligence/news/ai-act-meps-want-fundamental-rights-assessments-obligations-for-high-risk-users/
- Bołoz W., Kulesza P. Model Convention on Robotics and Artificial Intelligence. // Project 'ROBOPRAVO'. - URL: https://robopravo.ru/modielnaia_konvientsiia, Accessed on 07.20.2923
- Bundesregierung, Digitale Agenda 2014—2017, Aug. 2014 // URL: http://perma.cc/6ZAA-DDM3; Federal Ministry for Economic Affairs and Energy, Digital Strategy 2025, Apr. 2016, Accessed on 07.17.2023
- Code of Ethics in the field of AI // Alliance in the sphere of Artificial Intelligence. - URL: https://a-ai.ru/code-of-ethics/ Accessed on 07.17.2023
- Commission Nationale De L'informatique Et Des Libertés (CNIL), Comment Permettre À L'homme De Garder La Main? [How to keep mankind in control?], Dec. 2017 // URL: https:// perma.cc/B3KD-63B5 Accessed on 07.17.2023
- Davies, C. R.. An Evolutionary Step in Intellectual Property Rights—Artificial Intelligence & Intellectual Property. Computer Law & Security Review, 27, 601-606. URL: https://doi.org/10.1016/j.clsr.2011.09.006 Accessed on: 07.02.2023
- EPO refuses DABUS patent applications designating a machine inventor // European Patent Office, URL: https://www.epo.org/news-events/news/2019/20191220.html Accessed on: 07.02.2023
- First completely robot-supported microsurgical operations performed // The University of Münster. –URL: https://www.uni-muenster.de/news/view.php?&cmdid=12768 Accessed on 06.29.2023
- First International Symposium on Roboethics – URL: http://www.roboethics.org/sanremo2004/. Accessed on: 06.29.2023
- Heikkilä M. A quick guide to the most important A I law you have never heard of. The European Union is planning new legislation aimed at curbing the worst harms associated with artificial intelligence // MIT Technology Review. May 13, 2022. URL: https://www.technologyreview.com/2022/05/13/1052223/guide-ai-act-europe/ Accessed on: 07.19.2023.
- Investments in AI startups decreased by 63% in 2020. // TASS [website]. – URL: https://tass.ru/ekonomika/11152153 Accessed on 07.17.2023
- Lawson A. EU AI Act Explained. Responsible AI Institute. December 20, 2022. URL: https://www.responsible.ai/post/eu-ai-act-explained?utm_source=substack&utm_medium=email Accessed on 07.10.2023
- Meltzer J., Tielemans A. The European Union AI Act: Next steps and issues for building international cooperation. Brookings Institution. Policy brief. June 1, 2022. URL: https://www.brookings.edu/research/the-european-union-ai-act-nextsteps-and-issues-for-building-international-cooperation-in-ai/ Accessed on: 07.19.2023
- Mueller B. How Much Will the Artificial Intelligence Act Cost Europe? July 26, 2021. URL: https://www2.datainnovation.org/2021-aia-costs.pdf Accessed on 07.11.2023

- National Artificial Intelligence Initiative Act of 2020, URL: https://www.congress.gov/116/crpt/hrpt617/CRPT-116hrpt617.pdf#page=1210 Accessed on 07.20.2023
- National Security Commission on Artificial Intelligence Final Report URL: https://cybercemetery.unt.edu/nscai/20211005220332/https://assets.foleon.com/eu-west-2/uploads-7e3kk3/48187/nscai_full_report_digital.04d6b124173c.pdf Accessed on 07.21.2023
- Official website of the Mayor of Moscow. – URL: https://www.mos.ru/news/item/112032073/ Accessed on 06.29.2023
- Oppy, Graham and David Dowe, "The Turing Test", The Stanford Encyclopedia of Philosophy URL: https://plato.stanford.edu/archives/win2021/entries/turing-test/. Accessed on 06.27.2023
- Saudi Arabia grants citizenship to a robot for the first time ever , Available at: https://www.independent.co.uk/tech/saudi-arabia-robot-sophia-citizenship-android-riyadh-citizen-passport-future-a8021601.html
- Simon Bollans, EU Artificial Intelligence Liability Directive, 29 Jun 2023, URL: https://www.shlegal.com/insights/eu-artificial-intelligence-liability-directive#:~:text=Summary%20overview,to%20have%20caused%20damage%3B%20and Accessed on 07.19.2023
- Sophia the Robot 'self-portrait' NFT sells for almost $700K, URL: https://cnn.com/style/article/nft-art-sophia-robot-self-portrait-scn/index.html Accessed on: 07.02.2023.
- Strategy in the field of artificial intelligence (AI), 29 March 2018 // URL: https://uk.ambafrance.org/France-s-AI-strategy Accessed on 07.17.2023
- Summary of the NATO Artificial Intelligence Strategy // North Atlantic Treaty Organization URL: https://www.nato.int/cps/en/natohq/official_texts_187617.htm Accessed on 07.21.2023
- The AI Wonk // OECD.AI Policy Observatory. – URL: https://oecd.ai/en/wonk Accessed on 06.29.2023
- The Global AI Index. URL: https://www.tortoisemedia.com/intelligence/global-ai/ Accessed on: 07.11.2023
- WIPO Technology Trends 2019: Artificial Intelligence, URL: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1055.pdf Accessed on 06.29.2023
- World Intellectual Property Organization, In the Courts: Australian Court finds AI systems can be "inventors" // URL: https://www.wipo.int/wipo_magazine/en/2021/03/article_0006.html Accessed on: 07.02.2023
- World Intellectual Property Organization, Artificial Intelligence and Intellectual Property Policy // URL: https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html Accessed on 06.29.2023
- Guidelines for National New Generation Artificial Intelligence Innovation and Development Pilot Zone Construction Work: Translation // Center for Security and Emerging Technology. – URL : https://cset.georgetown.edu/publication/guidelines-for-national-new-generation-artificial-intelligence-innovation-and-development-pilot-zone-construction-work/ Accessed on 07.21.2023

Annexes.

English abstract

Using AI in various sectors such as production, services, education, healthcare, transport, and construction necessitates considering the evolving legal landscape. The profound impact of AI on public relations has led to extensive discussions, both nationally and internationally, regarding the formulation of laws and conventions to govern its practical use. The European Union has emerged as a prominent leader in this endeavor, aiming to comprehensively regulate this domain and establish standards that other global players may adopt.

This thesis covers theoretical and practical issues; therefore, the first focus is put on conceptual ideas. After defining those and illustrating the historical evolution and legal aspects of personhood and artificial intelligence, the issue of personhood and legal liability is elucidated by jurisprudence and various directives, proposals or communications adopted by European Union.

In conclusion, the primary objectives of this thesis are to comprehensively scrutinize the definition of terms, historical development as well as legal aspects of artificial intelligence, to examine current conceptual and legal approaches to issues concerning personhood and legal liability of artificial intelligence in the context of the European Union, and to determine probable negative repercussions stemming from the advent of groundbreaking artificial intelligence on large scale and suggest remedies for them.

The research employs formal-logical methods, including abstraction, generalization, classification, analysis, synthesis, and comparative legal analysis.

Keywords: artificial intelligence, person, personhood, legal subject, liability, European Union

German abstract.

Der einsatz von KI in verschiedenen sektoren wie produktion, dienstleistungen, bildung, gesundheitswesen, verkehr und bauwesen erfordert die berücksichtigung der sich entwickelnden rechtslandschaft. Der tiefgreifende einfluss der KI auf die öffentlichkeitsarbeit hat auf nationaler und internationaler ebene zu umfangreichen diskussionen über die formulierung von gesetzen und konventionen zur regelung ihres praktischen einsatzes geführt. Die Europäische Union hat sich bei diesem unterfangen zu einer herausragenden führungsrolle entwickelt und zielt darauf ab, diesen bereich umfassend zu regulieren und standards festzulegen, die andere globale akteure übernehmen können.

Diese arbeit deckt sowohl theoretische als auch praktische fragen ab und daher wird der erste schwerpunkt auf konzeptionellen ideen gelegt.. nachdem diese definiert und die historische entwicklung und die rechtlichen aspekte der persönlichkeit und der künstlichen intelligenz veranschaulicht wurden, wird die frage der persönlichkeit und der rechtlichen haftung anhand der rechtsprechung und verschiedener von der Europäischen Union angenommener richtlinien, vorschläge oder mitteilungen erläutert.

Zusammenfassend besteht das hauptziel dieser arbeit darin, die definition von begriffen, die historische entwicklung sowie rechtliche aspekte der künstlichen intelligenz umfassend zu untersuchen und aktuelle konzeptionelle und rechtliche ansätze zu fragen der persönlichkeit und der rechtlichen haftung künstlicher intelligenz im kontext zu untersuchen Europäische Union, und um die wahrscheinlichen negativen auswirkungen zu ermitteln, die sich aus der einführung bahnbrechender künstlicher intelligenz in großem maßstab ergeben, und abhilfemaßnahmen dafür vorzuschlagen.

Die forschung verwendet formal-logische methoden, einschließlich abstraktion, verallgemeinerung, klassifikation, analyse, synthese und rechtsvergleichende analyse.

Schlüsselwörter: künstliche intelligenz, person, persönlichkeit, rechtssubjekt, haftung, Europäische Union.