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Artificial Intelligence and Law

On the Transparency of Artificial Intelligence Algorithms from a Legal Perspective

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Abstract

In the modern era of active practical development of artificial intelligence (AI), lawyers are facing the question — how to resolve the 'black box' problem, i.e. the incomprehensibility and unpredictability of decisions that artificial intelligence makes. Developing rules that maintain the transparency and comprehensibility of AI algorithms enables artificial intelligence to be incorporated into conventional legal frameworks, thereby eliminating the threat to the concept of legal liability. In private law, protecting consumers from major online platforms makes algorithm transparency a key issue, changing the obligation to provide information to consumers, which can now be described by the formula 'to know + to understand'. Similarly, states are unable to adequately protect citizens from the harm caused by their dependence on algorithmic applications when public services are provided. The only way to counter this is through knowledge and understanding of how algorithms work. Fundamentally new regulations are required to bring the use of AI within a legal framework, which should include requirements for algorithm transparency. Experts are actively discussing the development of a regulatory framework to establish a system for observing, monitoring and provisionally authorising the use of AI technologies. Measures are being developed for an 'algorithmic accountability policy' and a 'transparency through design' framework, which address issues throughout AI development, with an emphasis on ongoing stakeholder engagement and organisational openness, as well as the implementation of explainable AI systems. Overall, the proposed approaches to regulating AI and ensuring transparency are quite similar ones, as are the predic-

tions regarding the mitigating role of transparent AI algorithms in building trust in AI. Of interest is the concept of 'algorithmic sovereignty,' that refers to a democratic state's ability to govern the development, deployment and impact of AI systems in accordance with its own legal, cultural and ethical norms. This model is designed to promote the harmonious coexistence of different states, which in turn leads to the harmonious coexistence of humanity and AI. Overall, although the use of AI differs ideologically in the private and public spheres, transparency of algorithms is equally important and ultimately increases the likelihood of regulation.

Keywords

Introduction

The present-day stage of technological development is unique. We already coexist with artificial intelligence in our daily lives, observe its advantages and disadvantages at first hand, and try to form our own individual opinions and attitudes towards it. At the same time, there is competition at the state level to 'tame' artificial intelligence, that involves both its development and use according to certain rules. Up-to-date rules for it do not exist still. In other words, the development of artificial intelligence is an area where the application of traditional law is limited, either deliberately or in practice. The creation of a regulatory framework is indeed a slow and cautious process requiring close cooperation with technical specialists. One of the remaining issues is the 'black box' problem: the fact that decisions made by artificial intelligence are incomprehensible and unpredictable ones. The law is moving towards establishing rules for the development and application of AI algorithms to ensure transparency and comprehensibility. This will make it possible to detect errors and deviations, and to appeal against and correct them. It will also make it possible to hold those responsible accountable and thereby to incorporate AI into traditional legal relationships. Therefore it has a sense to consider the approaches offered by contemporary science to ensure the transparency of AI algorithms.

1. How it all Began: AI Algorithms in the Private Sector

It is famous the widespread use of AI algorithms started in the private sector. This is the reason why transparency of algorithms was initially a concern for private law, with a view to protecting consumers from large online platforms. Initially, even before the era of AI algorithms, consumer—business relationships were generally based on classical economic theory. This theory viewed consumers as rational economic entities capable of making choices. To achieve this, professional sellers must provide consumers with all the necessary information, as has long been the case in ensuring transparency of information in B2C relationships [Sposini L., 2024: 2]. In regulatory terms, this is reflected in consumer protection legislation, which offers a variety of legal solutions for potential and real consumer disputes. The central element here is information.

However, it was soon noticed people are not as rational as they appear, and their choices are influenced seriously by social context, environment and prejudices. This can ultimately render their choices ineffective. In 1978, Herbert Simon has developed the theory of bounded rationality, which emphasises that the emotional component of decision-making takes precedence over the rational component. Nowadays, another Nobel Prize winner in economics, Richard Thaler, received this award for his theory of new behavioural economics. This theory contrasts with the efficient market theory, proving the irrationality of human behaviour in seemingly obvious economic situations. Behavioural economics has become mainstream, although, according to Thaler himself, 'the process of developing an enriched version of economic science that focuses simply on people is still far from complete' [Thaler R., 2018: 355]. For lawyers, this economic trend means abandoning the dominant prism of rational efficiency in the development and analysis of legal norms. And if to add a technological component to this mix, one can see further confirmation of the new human-centred trend in technology use, which is widely proclaimed as one of the principles of AI application. Thus, humans, as irrational beings, are returning to the centre of attention in various sciences.

In terms of consumer relations, the above trends have led to the creation of AI algorithms are capable to predict and anticipate users' characteristics, allowing highly personalised and persuasive offers to be created. Taking a broader view, this is part of a global trend towards per-

sonalization in AI-powered relationships, particularly in the context of commercial services.

Offering a customised product or service is a multi-step process. First, algorithms collect data that users provide (by agreeing to the terms and conditions or during registration) as a 'counter-obligation' for using the provider's services. In fact, it is not only data provided with consent that is collected, as algorithms also study traces unconsciously left by users while surfing the Internet (e.g., the time the computer mouse cursor hovered over a particular product before making a purchase). This goes far beyond traditional mass communication aimed at an anonymous audience, as companies tailor their products and services to the needs and desires of each individual consumer.

All collected personal data is processed by algorithms to analyse consumer behaviour and preferences, thereby creating digital profiles. This path is not free from deviations, since in addition to simply guessing behaviour, algorithms are capable of deliberately exploiting certain user vulnerabilities and manipulating them.

Obviously, in private law, the obligation to provide information to consumers is changing: it is not enough for users to know all the necessary information to make a choice; they must also understand it (the 'to know + to understand' formula). It is possible to formally ensure transparency by literally bombarding consumers with as much information as possible, but the goal is to maintain the quality of that information. As early as this stage of our research, we can identify the elements that make up the outline of algorithmic transparency: sufficient reliable information presented in a clear and timely manner. Transparency begins with the fact — people are always aware of the algorithms being applied to them.

2. AI Algorithms in the Public Sphere: the Case of Public Services in Russia

The transparency issue identified in private law practice is increasingly being confirmed in public law practice as well. Often states are unable to adequately protect their citizens from the harm caused by their dependence on algorithmic applications for public services. Once again, there are many examples of technological innovations in the public services sector that have failed. E.g., in the Netherlands, recipients of childcare benefits were falsely accused of fraud based on a risk assess-

ment model. Similarly, the Robodebt programme in Australia falsely attributed debts to citizens based on automatically calculated payments. False accusations and subsequent harsh punishments could lead, and in some cases did lead, to serious harm to innocent citizens, while also constituting a serious violation of human rights.

Government agencies may become less transparent if they use AI algorithms to improve management efficiency and solve complex policy issues. AI algorithms developed for public services can hinder people's ability to make predictions and develop their own understanding, e.g., by automating the calculation of social benefits. Furthermore, the very possibility of using algorithms in public administration depends on the authority's discretionary powers — if these exist, it will either be impossible to create an algorithm, or the algorithm will be based on broad rules leading to multiple decision options that are practically impossible to calculate. Moreover, the very shift of discretionary powers from civil servants to AI algorithm developers is may to pose a serious threat. There is also a risk to the established balance of power and relations between citizens and the authorities because, in cases of automated decision-making, the state authorities may shift responsibility for confirming eligibility and obtaining benefits onto citizens.

The most representative example in Russian public practice is the use of algorithms in the provision of public services. The Unified Portal of State and Municipal Services (Functions) ('Gosuslugi' (gosuslugi.ru) is a state information system providing state and municipal services in electronic form, as well as access for applicants to information about state and municipal services intended for distribution via the Internet and posted in state and municipal information systems that maintain registers of state and municipal services (paragraph 7, Article 2 of Federal Law No. 210-FZ of 27 July 2010 'On the Organization of the Provision of State and Municipal Services'[1]). In other words, it is a digital platform where individuals and legal entities can obtain government services in electronic form, including proactively. E.g., the following public services are available electronically: issuing documents; obtaining statements and certificates; making doctor's appointments; submitting applications to the registry office; obtaining driving licences; and paying fines, tax arrears and public fees. The procedure is based on algorithms.

Decree of the Federal Government No. 861 of 24 October 2011 'On federal state information systems providing state and municipal services

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[1] Code of Laws of the Russian Federation. 2010. No. 31. P. 4179.

(performing functions)[2] in electronic form' defines the requirements for the Gosuslugi portal. The portal is operated by the Federal Ministry of Digital Development, Communications and Mass Media (hereinafter— the Digital Development Ministry). Thus, the Digital Development Ministry is responsible for the portal's functionality and the implementation of the requirements set out in this resolution, while the agency providing the service is responsible for the quality of public services.

For the convenience of users, various government services are grouped into categories (e.g., family, health, education and children, fines, taxes, etc.). In addition, the portal allows one to search using the chatbot 'Robot Max'. Based on one's request, the bot will suggest switching to a particular service or ask clarifying questions to reduce the number of steps in the application process. Let us note that feedback from portal users is obtained through the implementation of the 'like' and 'dislike' functions, which measure the user's reaction to the virtual assistant's response. There is also the option of human control, which allows an operator to be connected if Robot Max is unable to respond to a user's request. Robot Max is available not only as a chatbot on the portal website, but also on the hotline — when a user contacts customer support, a voice assistant responds; however, the option of involving a human operator remains available. An updated version of Robot Max with GPT functionality was released in 2024, improving the accuracy of responses. The portal also has a section called 'Interesting and Useful,' where services are categorised according to citizens' life situations (e.g. law and order, social support, retirement, business, work and education).

It should be noted that, in addition to the gosuslugi.ru website, users can also use the Gosuslugi mobile app to access services. The app works on all popular operating systems and has full functionality. For the convenience of citizens, other applications are also provided (e.g., 'Home,' 'Gosuslugi-Key,' 'Gosuslugi-Auto,' etc.). The extent to which algorithms are used to provide specific public services varies significantly depending on the type of service. This ranges from significant automation with elements of proactivity, such as social benefits for the birth of a child, to minimal automation, such as the approval of apartment redevelopment. Nevertheless, even with a well-developed and fully functional infrastructure, little focus is given to the transparency of the algorithms that power it.

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[2] Ibid. 2011. No. 44. P. 6274.

3. Risks of Using AI and Ways to Regulate it

There is little doubt that the development of technologies capable of recognising human emotions and using them to influence consumer/ citizen behaviour requires appropriate legislation to ensure the system is reliable and respects established fundamental values.

It should be noted that approaches to regulating AI are gradually being developed around the world. At the moment, this is happening at the national or regional level. Some researchers identify the following models: human rights-based regulation in the European Union, centralised control in China, and non-intervention and minimal restrictions in the United States. While each approach represents different aspects — such as transparency, security or innovation — collectively they demonstrate the lack of a unified global governance system in the field of AI [Badawy W., 2025]. Other researchers point out that the Asia-Pacific region is highly diverse. While China takes a state-centric approach, using AI for social control and state security, countries such as Singapore and Japan focus on responsible AI development, balancing ethics and technological progress. The Singaporean model of AI governance places particular emphasis on accountability and transparency, while in Japan, human-centred AI principles emphasise inclusivity and ethical use. Australia similarly takes a proactive approach in its AI ethics framework, focusing on transparency, fairness and non-discrimination, ethical compliance, and fostering innovation. These regional differences reflect deep-seated geopolitical prejudices: Europe prioritises ethical standards, the US prioritises innovation and market freedom, and countries in the Asia-Pacific region prioritise a balance between government control and economic development. The Australian system, which places particular emphasis on both ethical standards and innovation, offers a happy medium [Batool A. et al., 2024].

Analysing national strategies approved by the US, China, India, the UK, Germany and Canada, as well as regulations and codes of conduct, researchers identify three main approaches to AI: soft law, experimental legal regimes (ELRs) and technical regulation. They conclude, the vast majority of countries, including the Russian Federation, have opted for 'soft law' (codes of conduct, declarations), which provides flexible regulation while avoiding excessive administrative barriers. At the same time, they note that experimental legal regimes are crucial for the validation of AI applications, allowing technologies to be tested in a controlled environment [Buriaga V.O., Djuzhoma V.V., Artemenko E.A., 2025: 50–68].

No matter what direction AI regulation takes, it is clear its use is inevitable. It is important to understand how to incorporate algorithm transparency requirements into this regulation. As a potential means of protecting consumers / users, experts are actively discussing the development of a regulatory framework to establish a system for observing, monitoring and preliminarily authorising the use of AI technologies. To make informed decisions about product safety and reliability, these mechanisms must be able to analyse confidential supplier information, including software and datasets for training AI technology. Inevitably, this creates a conflict between suppliers' commercial interests in keeping their technologies secret and the public interest in a fair, transparent and accountable regulatory environment. Clearly, democratic control over government decisions can only be exercised through public access to documents held by government bodies [Spina A.G., Yu R., 2021: 5–6]. At the same time, private law relationships provide greater opportunities for contractual confidentiality without compromising the general transparency regime.

Another problem is controlling the content of AI algorithms to prevent the risks and errors associated with the use of AI. There are already plenty of examples of AI-related errors in various fields. For instance, it has been proven that AI systems are three times more likely to wrongly deny state benefits to citizens who are entitled to them or wrongly enforce the collection of illegal debts from taxpayers. The reason is poor algorithm design. AI isn't just far from infallible; it can learn and change on its own without the programmers knowing (i.e. it is unpredictable). Moreover, AI errors are much more dangerous than human ones—they are widespread, discriminatory, and reproduce prejudices and stereotypes. Finally, AI decisions are largely uncontrollable and impossible to appeal.

Numerous examples demonstrate that AI-based tools are far from perfect in terms of transparency, accountability, manipulation, publicity, and fairness of algorithmic decisions [Han S.J., 2025: 2], prompting some authors to describe the negative consequences of AI as a 'weapon of mathematical destruction' [O'Neil C., 2016]. O'Neill, the author of this term, describes it as abstract computer models that are used to make judgements based on imperfect statistical models, often with disastrous consequences for those affected by these judgements. The logic behind weapon of mathematical destruction is non-transparent to everyone except the programmer writing the algorithm and the data scientist creating the model. These weapons are self-fulfilling prophecies, devoid of

any meaningful way to learn from the mistakes they make in their modelling of the world. Instead, they create feedback loops that, paradoxically, make their incorrect predictions inevitable. Algorithms are used to deny credit to creditworthy individuals; target advertising by commercial colleges to reach risk groups; create statistical confusion between correlation and causation in algorithms used by the insurance industry. Furthermore, the role of algorithms in shaping our civic life through social media is a cause for concern. O'Neill in his book demonstrates how algorithms punish the poor in particular and have a detrimental effect on society as a whole.

The description given is an extreme case — or at least one would hope so. Nevertheless, humanity hopes to 'tame' algorithms by regulating their development and use. Most of the time, failures are the result of flaws in algorithm design or training data sets. Unlike traditional computations, AI algorithms can self-modify based on past experience, much like the human brain, and improve over time. This is achieved through special computational techniques, such as backpropagation, which allows the algorithm to trace back from an undesirable result to the source of the error and improve the process from that point onwards.

Additionally, when using AI, any deviations and errors must be carefully recorded and analysed. In particular, tools are already being developed to assess the risks of using AI systems. E.g., the Massachusetts Institute of Technology (MIT) Computer Science and Artificial Intelligence Laboratory has published an AI[3] risk repository consisting of three parts: 1) a database covering more than 700 identified risks; 2) an analytical tool explaining how, when and why these risks arise; 3) a subsystem that classifies these risks. This repository identifies seven risk categories:

discrimination and toxicity;
personal data protection and security;
misinformation;
abuse of technology;
human-computer interaction;
social, economic and environmental damage;
AI system security, failures and limitations.

The framework for regulating the use of AI is fairly standard. As with any regulation, it will consist of two stages. The first is the establishment

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[3] AI Risk Repository. Available at: URL: https://airisk.mit.edu/ (accessed: 12.05.2025)

of new legal standards that incorporate respect for human rights, requirements for educational data, etc. The second stage involves ensuring compliance with established standards. This includes transparency and accessibility mechanisms to ensure that AI suppliers comply. This refers to the accountability of automated decision-making processes, the ability to prevent potentially harmful actions and correct any source of unequal, unlawful or undesirable behaviour.

As an illustration, let us cite one of the attempts at global research devoted to analysing the first wave of algorithmic accountability in the public sector. This was conducted jointly by the Ada Lovelace Institute, the AI Now Institute, and the Open Government Partnership.[4] The authors structure of this report around six key lessons:

1. Clear institutional incentives and a binding legal framework can support the consistent implementation of accountability mechanisms, reinforced by reputational pressure through media coverage and civil society activism.

2. Algorithmic accountability policies should clearly define the objects of governance and establish common terminology for all government departments.

3. Defining the scope of a policy's application helps to ensure its acceptance. The current approaches to defining the scope of application, such as risk-based classification, must be improved to prevent under- or over-coverage.

4. Policy mechanisms aimed at ensuring transparency must be detailed and tailored to the audience to maintain accountability.

5. Public participation supports policies that meet the needs of affected communities. In politics, public participation should be a priority objective, backed up by appropriate resources and formal public engagement strategies.

6. Policy benefits from institutional coordination between sectors and levels of governance to ensure consistency in implementation and the use of diverse experiences.

The term 'algorithmic accountability policy' is used in the cited study to refer to a set of measures aimed at ensuring that those who create, purchase and use algorithms are held accountable for their impact. According to the typology developed, the authors have proposed eight

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[4] Ada Lovelace Institute. AI Now Institute. Open Government Partnership. Accountability for the Public Sector. Available at: https://www.opengovpartnership. org/documents/algorithmic-accountability-public-sector/ (accessed: 16.02.2025)

various policy mechanisms used to ensure algorithmic accountability, differ in terms of their objectives, requirements and assumptions. The mechanisms are: principles and guidelines; prohibitions and moratoriums; public transparency; impact assessments; regulatory audits and inspections; external/independent oversight bodies; rights to hearings and appeals; and procurement conditions.

The strategy is designed for universal application, but it has its origins in the resolution of private law issues. E.g., ensuring transparency and accountability is crucial in the generative AI field of fintech to build trust, reduce risks, and uphold ethical standards. It is necessary to outline briefly the strategy for increasing transparency in this area. To increase transparency, stakeholders in the AI-based fintech sector need to take proactive steps to encourage accountability, openness and trust. These include:

explainability: creating understandable and interpretable AI algorithms so that stakeholders can understand the rationale behind decisions made using AI;

disclosure of information: providing clear and complete details about the use of AI in fintech products and services, including information about data sources, model inputs, and decision-making criteria.

audit and validation: regular independent assessments and audits by third parties to evaluate the effectiveness, impartiality and reliability of AI algorithms;

stakeholder engagement: gathering feedback, resolving issues, and building trust in AI-based financial applications among customers, regulators, and other stakeholders [Saleem M. et al., 2025: 67].

As it is possible to see, the proposed approaches to regulating AI and ensuring transparency are quite similar across different sources. It is necessary to consider more specific mechanisms for achieving transparency.

4. Transparency as Protection against Bias and Errors

Transparency is essential for safeguarding against systemic biases, particularly in areas where the fair distribution of resources is paramount. In result, this hypothesis automatically increases the effectiveness of transparency in public administration, as the transparency of AI decision-making allows stakeholders to identify and eliminate potential biases.

Three main aspects can be identified that reach and maintain real AI transparency. Firstly, it is important for users to understand how AI makes its decisions, including the associated confidence levels and limitations. AI should enhance, not replace, human judgement. Secondly, while AI systems often operate like 'black boxes', the organisations using them must strike a healthy balance between transparency and data security. Explainable AI (XAI) offers solutions through explanations that are understandable to humans. Thirdly, successful implementation requires industry-wide guidelines on transparency, human oversight, collaboration between AI developers, ethicists and industry experts, and clear communication about the capabilities and limitations of the system. The relationship here is straightforward: transparent AI systems strengthen user trust.

Two aspects of the principle of transparency are often emphasised, namely explainability and interpretability. The term 'explainability' refers to the ability to provide, subject to technical feasibility and taking into account the generally accepted level of development, clear explanations of why an AI system provides information, makes predictions, content, recommendations or decisions. This is particularly important in sensitive areas such as healthcare, finance, immigration, border services, and criminal justice, where understanding the rationale behind decisions made with the help of an artificial intelligence system is vital. In such cases, transparency may, e.g., take the form of a list of factors that the AI system takes into account when communicating or making a decision.

Another important aspect of transparency is interoperability. This refers to the ability to understand how an AI system makes predictions or decisions, or, in other words, it is about whether the results of AI systems can be made accessible and understandable to both experts and non-experts, or not. This includes ensuring that the inner workings, logic, and decision-making processes of AI systems are understandable and accessible to human users, including developers, stakeholders, and end users. It is important to understand it in the context of AI systems, transparency has technological limitations. The process by which an artificial intelligence system achieves a specific result is not always accessible, even to those who design or implement it.

To maintain transparency, researchers propose a framework called 'Transparency through Design' that addresses issues throughout the entire AI development process with an emphasis on continuous inter-

action with stakeholders and organisational openness [Visave J., 2025: 3967−3980]. Key principles for transparent AI development are formulated on this basis, with particular attention to contextual relevance and stakeholder interests throughout the process.

Transparency should be ensured from the outset, starting with the algorithm development stage. Transparency should be a fundamental design principle, not merely a modification. At this initial stage, priority is given to proactively implementing transparency measures, demonstrating how each component of the system influences decision-making. Next, AI operations need to be 'highlighted' during the data processing and analysis stage. At this stage, the main focus is on developing a clear understanding of AI operations among stakeholders, guided by four principles:

accountability: clearly define and explain decision-making processes to all stakeholders;

adapted communication: adapt explanations for both technical and non-technical audiences;

decision-making standards: explain the criteria for decision-making and their rationale;

risk management: openly disclose potential systemic risks, biases, and mitigation strategies.

Then, at the organizational management stage, transparency and interaction must be maintained. Particular attention is paid here to ongoing transparency and engagement with stakeholders, achieved through robust systems, audit and inspection capabilities, and timely responses to stakeholder enquiries, regular reporting on operational performance and impact [Visave J., 2025: 3970].

Therefore, to build strong trust and accountability, organizations must use a comprehensive transparency system that goes beyond the mere disclosure of data. This system requires clear algorithmic explanations, meaningful human oversight, and systematic evaluation protocols. Key elements include detailed documentation methods, implementation of XAI systems, robust control mechanisms, and well-structured communication channels. This mechanism can be applied at the micro level, in a specific organisation, when designing algorithms for a particular industry and for specific tasks. As for regulatory decisions of a more general nature, this is the responsibility of the state.

Overall, experts predict the transparency of AI algorithms will mitigate issues [Park K., Yoon Ho Y., 2025: 1160] relating to trust in AI.

At a business level, transparency is usually defined as the disclosure of organisational information to the public. In AI systems, transparency functions on two separate but interrelated levels: technical transparency, which relates to the way algorithms work, and organisational transparency relating to corporate accountability. This two-level structure explains how different types of transparency influence user perception through separate, but complementary pathways.

Based on informatics, the transparency of AI algorithms is technical transparency relating to the clarity and comprehensibility of the mechanisms and processes that control the operation of a chatbot and its interaction with users. Technical transparency emphasises the explainability of AI system mechanisms, including: disclosure of data sources for training and methodologies, explanation of decision-making processes, and clarification of system limitations. Such technical transparency directly addresses the 'black box' problem, allowing users to develop trust in AI by understanding how the system works. When users understand how algorithms process input data and generate output data, they can form more accurate mental models of the system's capabilities, reducing the rejection caused by uncertainty.

Organisational transparency is a level that reflects corporate practices for disclosing information about AI development and implementation. These include: ethical principles governing the use of AI, measures of accountability for systemic errors, and responding to stakeholder concerns. Unlike technical transparency with its direct influence on the process, organizational transparency mainly works through prism mechanisms, shaping perceptions of corporate reputation and indirectly influencing trust in the product. E.g., Google's transparency reports demonstrate organizational accountability without requiring users to understand technical details.

The interaction between these transparency measures is crucial for studying trust formation. Technical transparency provides the central route, providing assessment information about system operations, while organisational transparency facilitates the peripheral route through corporate reputation signals. This explains why both technical and organisational transparency are needed to build trust comprehensively: technical transparency alone cannot compensate for weak corporate accountability, as seen when technically complex systems face public discontent due to ethical issues. Similarly, organizational transparency alone cannot overcome a fundamental misunderstanding of the system's capabilities.

The variety of approaches and solutions to the problem of algorithm transparency demonstrates both the multidimensional nature of this category and the possibility of combining different mechanisms to ensure transparency depending on specific conditions [Kabytov P.P., Nazarov N.A., 2025: 171, 180]. E.g., transparency can be categorised according to the objective by grouping elements that fall under the requirements of transparency and explainability into two main categories:

transparency and explainability of the decision-making process (algorithm): this implies disclosing information about the system itself, its architecture, operating logic, and the data used (e.g. which factors the system takes into account when making decisions, and how);

transparency and explainability of the result (specific decision): this focuses on providing information that justifies a specific decision made by the system in relation to a specific subject or situation (e.g. why a specific decision was made in this case, and which data influenced it). Furthermore, one can focus on the timing of disclosure by distinguishing between transparency mechanisms depending on the stage at which they are implemented in the life cycle of automated decision-making systems and AI. In this sense, it is proposed to distinguish between ex ante and ex post mechanisms. *Ex ante* mechanisms are implemented prior to automated decisions and independently of specific decisions. Their purpose is to prevent risks, ensure the predictability of the system's operation and inform the public and stakeholders parties about the system's principles and possible consequences. *Ex post* mechanisms are applied after an automated decision has been made, especially if it affects individuals' rights and legitimate interests. Their purpose is to ensure accountability, enable effective appeals, correct errors and analyse the system's effectiveness for further improvement [Kabytov P.P., Nazarov N.A., 2025: 174].

As it is possible to see, ensuring the transparency of algorithms is considered important factor from technical, organisational and legal perspectives. Comprehensive regulation requires them to be consolidated at an official regulatory level.

5. Can Algorithmic Sovereignty Help?

The large-scale and diverse use of AI at state level requires clear policies to be formed in this area. Although countries have different approaches to regulating AI, there are some common challenges: misinformation, gaps in accountability, and the unchecked centralization of

power within the AI sphere. Here are the findings of one study that revealed complex contradictions between transparency, control, innovation, and trust in the management of generative AI [Badawy W., 2025]. By combining analysis of policy documents, interviews with experts, and comparative global studies, the researcher has identified a number of gaps in governance, particularly those related to undermining trust, audit complexity, and geopolitical fragmentation. The conclusion was: although generative AI may not be the root cause of problems, such as misinformation or institutional mistrust, it certainly exacerbates and accelerates them. Various surveys had showed that public trust in democratic institutions has steadily declined over the past six years, partly coinciding with the rise of AI-generated misinformation and opaque content moderation practices. Respondents attributed this decline to the following factors: the spread of fake content during elections; targeted disinformation using AI-optimised recommendation systems; and the public's lack of understanding of what content is created by humans and what is created by machines.

Although AI is not the only reason for the observed decline in trust, it works as an amplifier in an already fragile media environment. As a solution, the author of the study proposes a multi-level management structure to achieve algorithmic sovereignty. The new concept of 'algorithmic sovereignty' essentially refers to a democratic state's ability to manage the development, deployment, and impact of AI systems in accordance with its legal, cultural, and ethical norms. The concept of algorithmic sovereignty is defined not only as technological self-sufficiency, but also as the ability of a democratic society to shape the trajectory of AI development and use in ethical, responsible and transparent ways. This goes beyond traditional digital sovereignty, which focuses primarily on data localization or technological independence. Instead, it requires the following components: the right to audit complex AI models; the right to intervene in automated decisions; the institutional competence to regulate without undermining innovation.

Notably, algorithmic sovereignty is not about controlling the code itself, but rather about shaping the way in which algorithmic systems operate within public life. This includes influencing who empower and exclude, as well as ensuring transparency in their decision-making processes. Taken together, the results of the cited study show: achieving algorithmic sovereignty necessitates reconciling three contradictions— innovation versus regulation, opacity versus accountability, state control versus civil autonomy.

A robust AI governance strategy should be developed based on the multilevel governance structure, which comprises three levels.

Level one is the regulatory infrastructure. The main tasks to be solved at the first level include: the need to introduce mandatory risk classifications and audit requirements (in the EU style); to define areas of AI application that require human involvement (e.g., healthcare and law enforcement); to establish independent AI supervisory bodies with enforcement powers.

The second level of governance establishes ethical and civic standards. The tasks to be resolved include: promoting AI literacy in schools, journalism and government agencies; introducing mandatory transparent labelling of AI-generated content; encouraging the development of inclusive models to avoid exacerbating social inequality.

Level three is related to building international cooperation. This includes setting complex tasks such as: concluding and implementing multilateral agreements on AI governance focused on transparency and accountability; harmonising AI standards between countries to avoid regulatory arbitrage; funding non-commercial open-source AI research worldwide to balance corporate power.

This multi-level governance structure demonstrates how regulatory infrastructure, ethical standards and international cooperation are capable to collaborate to achieve algorithmic sovereignty. This vision requires more than legislation alone — it requires participation in oversight, digital literacy, and a rethink of global governance in the age of AI. Ultimately, algorithmic sovereignty is about protecting democratic prospects in a world is increasingly shaped by machines. The point is the invisible architectures of digital power must remain visible, contestable, and accountable to the people they affect [Badawy W., 2025]. In this sense, the multi-level model does not replace national autonomy; in sta, it strengthens it by incorporating flexibility, democratic participation and cross-border coordination into AI governance. In this sense, algorithmic sovereignty is not a return to top-down control; rather, it is a democratic renewal — a means of ensuring that AI systems support the values, rights and needs of the societies in which they operate.

Despite its obvious advantages, the model presented seems to be designed for the harmonious coexistence of different states, which would lead to the harmonious coexistence of humanity and AI. The real world, however, is more diverse and unruly, as demonstrated by the absence of

any significant international agreements on regulating and using AI. Furthermore, the significance of globalisation is becoming increasingly less noticeable in reality, and the range of universal regulators is narrowing.

6. Transparency of Algorithms — a Space where Public and Private Law Converge

Before talking about convergence of positions, it is necessary to identify the differences. The ideological basis for ensuring transparency is different in the private and public spheres. Whilst the use of algorithms in the private sphere is subject to commercial interests, users are regarded as customers, to whom consumer protection legislation can be applied. Furthermore, in a competitive commercial environment, customers always have the option of switching from one service provider to another. In this regard, customer protection has a solid foundation.

In the sphere of public relations, on the contrary, there is a state monopoly — citizens have no alternative means of obtaining public services. And the risks are even higher than in the private sector. The use of algorithms renders decisions formulaic, which makes them more widespread. In fact, the productivity and speed of AI are precisely its advertised advantages. However, this also increases the scalability of errors and their negative consequences. At the same time, the fact that they are formulaic and widespread makes it easier to detect consequences, including through the use of uniform wording. This increases the potential for correcting errors found in decisions, including 'self-correction'. Overall, it turns out that the very use of AI in the public sector creates an area of increased risk. For this reason, literature notes the transformation of the state under the influence of algorithms is neither ideologically neutral nor universally beneficial one; this raises questions of accountability, ethical design and the ideological frameworks that determine the introduction of AI into the public sphere [Nizov V., 2025: 206]. Transparency is one of the proven ways to 'tame' risks.

In fact, public and private law have long competed with each other in terms of transparency and openness of information. On the one hand, private law is interested in maintaining secrecy, establishing a regime of secrecy, confidential information, etc., but on the other hand, consumer protection dictates the need to disclose certain types of information. Public law, in turn, also encouraged the state's tendency to keep information 'to itself,' deep within the bureaucratic apparatus. However, administrative reforms have prompted the old administrative bu-

reaucracy to change, introducing a policy of openness in the activities of government agencies. Technological changes have catalysed all these processes, resulting in changes to the platform itself, the way information is presented, and how quickly it circulates. They have also expanded verification capabilities. At this stage of technological development, characterised by the active use of AI algorithms, questions about the legality and ethics of its application are coming to the fore.

Nevertheless, transparency of algorithms is equally important in both the private and public spheres, which increases the likelihood of its regulation. And transparency should not be limited solely to the internal workings of AI applications alone. Transparency implies clarity about how AI algorithms work, including the training data used. Then, it extends to ensuring transparency in the process of challenging automated decisions. Consequently, transparency requires people to know not only that they are using an AI application, but also to understand how it works and, importantly, have the means to challenge its decisions. However, human involvement and the requirement for explainability are not necessary for all AI applications. Whether or not they are required depends on the nature of the AI system and its legal implications [Kouroutakis A., 2024].

Thus, when it comes to regulating the transparency of AI algorithms, complex issues arise affecting both public and private law. To illustrate the cross-cutting importance of transparency in AI policy, it is important to look at the following related issues: the link between transparency and fairness (prohibiting discriminatory algorithms); the link between transparency and equality (bridging the digital divide and ensuring digital equality); and the link between transparency and the rule of law.

Conclusion

The use of AI in modern society is a source of challenges, reflections, predictions, and discussions. Classical law seeks to treat AI as a regulated subject, imposing requirements based on its subordination to humans. In reality, there are more risks and problems that are still unknown than those that have been made public. One of the predictions seriously analysed in science is the possibility of war between humanity and artificial intelligence. The author of this prediction concludes that information failures and problems with obligations are likely to occur in the event of a conflict between artificial intelligence and human beings. Information failures will be caused by the complexity of measuring AI capabilities,

the non-interpretability of AI systems, and differences in how AI and humans analyse information. Problems with obligations will make it difficult for AI and humans to enter into reliable transactions. In order to reduce the likelihood of war, it is proposed to improve the measurement of AI capabilities, limit the development of its capabilities, and develop AI systems similar to human ones [Goldstein S., 2025].

In the author opinion, understanding how AI algorithms work seems to be a good way for a thoughtful and responsible person to make a decision about using AI in specific situations. The main point is that people should retain the right to choose whether or not to use AI. Therefore, ensuring the transparency of AI algorithms, which is part of the overall AI governance policy, appears to be an important task for the near future.

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AI Algorithms and Trade Secrets: a Legal Exploration of Intellectual Property Rights

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Abstract

The rapid advancement of artificial intelligence has drawn significant attention to the protection of AI algorithms through intellectual property rights (IPR). Of the various forms of IPR, trade secrets have emerged as a key means of protecting proprietary artificial intelligence technologies. This study examines the legal framework for protecting artificial intelligence algorithms as trade secrets, exploring the associated complexities and challenges. Employing a qualitative research design, the paper conducts a comparative legal analysis of case studies and content analysis of relevant legal documents. Key issues identified by the researcher include the tension between trade secret protection and the need for transparency in artificial intelligence, the challenges of enforcing protection due to the technical complexity of its algorithms, and the potential ethical conflicts that arise from prioritising secrecy over public accountability. Additionally, author of the study compares trade secret protection with other forms of IPR, such as patents and copyrights, to evaluate their effectiveness in the artificial intelligence domain. The findings suggest that, while trade secrets offer significant advantages in protecting artificial intelligence algorithms, they also present challenges in ensuring transparency, ethical artificial intelligence development, and innovation. The study concludes with policy recommendations aimed at improving the legal frameworks for trade secret protection while balancing the need for public interest and innovation. The research contributes to the ongoing discourse at the intersection of artificial intelligence, law, and ethics, providing valuable insights for policymakers, legal professionals, and artificial intelligence developers.

Introduction

The rise of the artificial intelligence (hereinafter — AI) has produced a transformative impact on a wide range of sectors, and each one has experienced significant advancements in automation, efficiency and decision-making capabilities. In agriculture, AI is revolutionising the sector through precision farming, crop monitoring, predictive analytics, and supply chain optimisation, significantly improving productivity and sustainability [Taneja J. et al., 2023: 1397]. It is applied in diagnostics, development of medicines, personalised treatment, and robotic surgery. These technologies optimise patient care and improve medical outcomes by analysing vast amounts of medical data and making precise predictions. AI is transforming the finance sector by automating fraud detection, risk management, and personalised financial services. It enhances decision-making and improves the customer experience through machine learning (ML) algorithms and automated processes [Soni P., 2023: 223–232]. The integration of AI in manufacturing improves production efficiency through intelligent factories and Industry 4.0 innovations. AI is used for predictive maintenance, supply chain management, and quality control [Ruzvi A.T. et al., 2021: 825–835]. AI enhances business decision-making by automating tasks, optimising customer relations, and developing new business models. Companies are leveraging AI for competitive advantages and innovations in operations. AI is also making strides in creative sectors such as design, music, and digital content creation. Although challenges remain, AI is beginning to offer tools that can assist or even collaborate with humans in creative endeavours [Oliinuk O., 2023]. The quick advancement of AI has posed significant challenges to traditional intellectual property rights (hereinafter — IPR). The ability of AI to generate new ideas and creations autonomously raises questions about the ownership and protection of AI-generated content. This has led to the need for revised IPR

policies that address the unique challenges posed by AI technologies. The increasing complexity and capability of AI systems has highlighted the limitations of current IPR frameworks, which were designed for human creators, but not for machines. Consequently, there is a growing debate about to adapt IPR to recognise the unique contributions of AI to innovation [Qiu Y.-H. et al., 2021: 129−140].

The study primary aims to explore the role of trade secrets in protecting AI algorithms and to analyse the strengths and limitations of current IP laws regarding AI innovations. This exploration will address the following questions: what legal challenges exist in protecting AI algorithms as trade secrets? How strong are current IP laws in safeguarding AI-driven innovations? By answering these questions, the study will make a significant contribution to IP law and its adaptation to technological advancements. Moreover, it will provide insights for policymakers, legal practitioners, and AI developers.

a) Literature Review

Intellectual property rights are indispensable for fostering innovation, ensuring economic growth, protecting consumers, and preserving cultural heritage. They cover a wide range of fields, from technological inventions to artistic creations, and provide a legal framework that balances the interests of creators, consumers, and society. The evolution of AI technologies has brought about significant advancements and challenges, particularly in the context of IPR. As AI continues to expand its influence across various industries, it is crucial to adapt traditional IPR frameworks to ensure they remain relevant and effective in protecting innovations in the AI era. For instance, R. Girasa provides a general exploration of IPR and its relationship with AI, discussing how different forms of IPR, such as patents, trademarks, and trade secrets, interact with AI innovations [Girasa R., 2020: 217−254]. The study emphasises the complexities introduced by AI, particularly with regard to of disclosure and ownership, and raises essential questions about the future of IP protections in a rapidly evolving technological landscape. K. Pu delves into the protection mechanisms available for AI algorithms, suggesting that due to the unique nature of AI algorithms, particularly their ability to learn and adapt contemporary IP frameworks such as trade secrets, they offer more appropriate protection [Pu K., 2023: 44−47]. However, the study also highlights the need for adjustments to patent law to better accommodate AI technologies. C. D'Souza emphasizes the critical role of data in AI algorithms and its protection through trade secrets.

[D' Souza C., 2019]. The study explores how data-driven algorithms, integral to modern businesses, can be protected from competitors using trade secret laws. T. Aplin in her work critiques the notion of 'trade secrets' as IP. The author argues that, due to their different protection mechanisms, trade secrets should not be classified in the same category as other forms of IP, such as patents and copyrights [Aplin T., 2015]. The text also examines the EU's approach to trade secrets and its developing legal framework, with a focus on balancing business interests with public rights. In his paper, S. Gulyamov explores the legal implications of AI-generated works in terms of authorship and ownership [Gulyamov S., 2023: 217−221]. The study discusses how AI systems capable of autonomously generating creative outputs challenge traditional notions of IP law. It also proposes legal reforms to ensure fair protection innovations generated by humans and AI. Pereira Dias Nunes critically analyses the European Trade Secrets Directive, focusing on its implications for innovation. His study highlights how trade secrets protect algorithms and methodologies in data-driven industries like AI [Pereira Dias Nunes D., 2015]. However, it raises concerns about cross-border enforcement and the lack of harmonisation across EU member states.

The literature review offers an overview of the main legal and technical challenges associated with protecting AI algorithms through trade secrets and other forms of IP. Each study emphasises the evolving nature of IP law in addressing AI innovations, striking a balance between transparency, accountability, and business interests.

b) Methodology

Author of the study presented employs a qualitative research design with focusing on legal analysis and comparative case studies. Exploratory in nature, the research aims to provide a comprehensive understanding of how trade secrets as a form of IP are applied to protect AI algorithms. The study also assesses such the ethical, legal, and policy implications of such protections, offering a nuanced analysis of the existing legal frameworks and proposing potential reforms.

1. Analysis and Discussion

1.1. Definition and scope of trade secrets

Trade secrets are an important aspect of IP law. They are defined as 'confidential business information that provides a competitive edge.'

They encompass various forms of knowledge, including 'formulas, practices, processes, and designs that are not publicly known.' Market structures and the nature of innovation influence the optimal scope of trade secrets law, suggesting that protection should be tailored to industry characteristics (Franzoni L.A., Kaushik A.K, 2016: 45–53]. Examples include proprietary formulas, customer lists, and manufacturing processes are vital for maintaining competitive advantage [Grittenden W., Grittenden V., Pierpont A., 2015: 607–613]. The legal framework surrounding trade secrets varies, with some advocating for narrower protections in industries reliant on informal knowledge-sharing networks [Pedraza-Farina L.G., 2017]. Effective trade secret management involves balancing protection with the need for collaboration and innovation, particularly in technology sectors [Brant J., Lohse H., 2014]. For data to qualify as a 'trade secret,' it must fulfil the criteria such as being 'commercially valuable due to secrecy, known only to a limited group, subject to reasonable protective steps. [1]

1.2. Legal classification of AI algorithms as trade secrets

Trade secrets are capable to cover a broad range of 'digital data or digital objects,' which generally refers to information that is stored or shared electronically. This means that trade that secret protection in the digital space can apply to two main areas. Firstly, it can cover valuable information such as digital data, algorithms, or programming code that gives a business a competitive edge. Secondly, it can protect any type of trade secret, regardless of the field, provided it is stored digitally. In both cases, the aim is to safeguard sensitive information that could harm a business's competitive standing if leaked.[2] Digital objects encompass a variety of elements, including algorithm code. Each subcategory has distinct characteristics that influence its eligibility for trade secret protection. Due to their proprietary nature and the competitive advantage they offer, algorithms often hold significant commercial value and are prime candidates for trade secret protection. Fundamental to digital data processing, algorithms serve as rule-based instructions that guide the steps needed to solve specific problems or complete tasks. They are

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[1] Available at: https://www.wipo.int/web/trade-secrets (accessed: 02.10.2024)

[2] WIPO guide to trade secrets and innovation — Part VII: Trade secrets and digital objects. Available at: https://www.wipo.int/web-publications/wipo-guide-to-trade-secrets-and-innovation/en/part-vii-trade-secrets-and-digital-objects.html (accessed: 06.10.2024)

essential in converting 'raw data' into meaningful insights through applications like data analysis, machine learning, and artificial intelligence, providing the logical and computational structure for data processing and enabling the analysis, interpretation, and extraction of valuable information. As key drivers of the digital economy, algorithms facilitate 'data-driven decision-making, predictive modelling, and automation,' making them central to modern technological advancements.[3] These algorithms and models are usually regarded as highly valuable, proprietary information, and companies use trade secret protection to prevent competitors from accessing their details without the public disclosure required for patent filings. However, this creates challenges in terms of algorithmic transparency and accountability, as protected algorithms can evade scrutiny, raising concerns over fairness and discrimination [Maggiolino M., 2019]. The balance between protecting AI as trade secrets and ensuring transparency is a subject of ongoing debate, particularly within law enforcement sectors, where secret algorithms could affect a person's rights to due process [Katual S., 2019: 1183].

1.3. Challenges in Protecting AI Algorithms

Protecting AI algorithms as trade secrets raises several significant issues. For example, when it comes to transparency versus secrecy, AI algorithms play a crucial role in sectors such as law enforcement, where transparency is essential. However, trade secret laws often conceal these algorithms, raising concerns about fairness, accountability, and potential biases, since their inner workings remain opaque. In addition, the secrecy surrounding AI algorithms can have an adverse influence on the public interest, as critical decisions may be made based on opaque processes, raising questions of fairness and legality. In sectors such as criminal justice, secret algorithms can undermine due process. Moreover, protecting AI algorithms as trade secrets complicates data protection issues, primarily because AI systems frequently process personal data. Ensuring the confidentiality of both the data and the algorithms presents is a challenging task, particularly in regions with strict data protection legislation [Kardos V., 2022: 285−294]. As a result, the rise of algorithm auditing highlights the need to balance secrecy with ethical governance. Governments and regulators are increasingly demanding that algorithms meet certain transparency and fairness standards, which puts pressure on trade secret protections [Koshiyama et al., 2021].

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[3] Ibid.

2. Comparative Analysis of IP Rights across Jurisdictions

Although the term 'trade secret' is not explicitly used, WTO members and parties to the TRIPS Agreement are required to protect trade secrets under Article 39. Instead of it, the agreement refers to the protection of 'undisclosed information.' Paragraph 2 of Article 39 of the Agreement obliges member countries to implement measures to protect confidential information that holds 'commercial value' due to its secrecy and is safeguarded by reasonable efforts to maintain its confidentiality. These conditions closely align with the concept of trade secret protection.[4] As we can see below, legal frameworks for trade secret protection differ significantly across regions.

2.1. United States

US laws, such as the Defend Trade Secrets Act, offer substantial protection. Trade secret protection can conflict with the need for algorithmic transparency, particularly in areas such as law enforcement. Algorithms that are protected as trade secrets may evade scrutiny, which raises concerns about fairness and due process [Katual S., 2019: 1279]. Although trade secret laws vary from state to state in the USA, most states have approved some version of the Uniform Trade Secrets Act (UTSA), which was developed by the Uniform Law Commission (ULC). This has created consistency in trade secret protection across states. Additionally, the Defend Trade Secrets Act of 2016 (DTSA) provides trade secret owners with a federal legal pathway to sue for misappropriation in federal court. The DTSA was designed to align closely with the UTSA, which has already been implemented by nearly every state. It also extends the reach of the Economic Espionage Act of 1996, which criminalises certain types of trade secret theft in the US.[5]

2.2. European Union

At the same time, the EU Trade Secrets Directive provides harmonised regulations across member states, ensuring uniform protection and enforcement measures. Furthermore, the European Parliament has ap-

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[4] Available at: https://www.wto.org/english/docs_e/legal_e/27-trips_04d_e.htm (accessed: 08.10.2024)

[5] WIPO. Overview of national and regional trade secret system. Available at: https://www.wipo.int/documents/d/trade-secrets/docs-overview-country-sheets-usa-final.pdf (accessed: 08.10.2024)

proved and the Council has adopted 'Directive (EU) 2016/943' on the protection of trade secrets against their unauthorised acquisition, use, and disclosure, with the ultimate goal of encouraging innovation and disseminating knowledge within the EU internal market [Barfield W., Pagallo U., 2020]. Regardless of how they are depicted, Al methods can be protected as trade secrets if they meet the standards listed in the above diagram. The EU framework emphasises the need to balance trade secret protections with data protection rights, particularly the right of access to personal data and data portability [Malgieri G., 2016: 102−116].

2.3. Japan

Japan has established guidelines known as the "Social Principles" to promote the responsible development and use of AI systems. These principles focus on data privacy, security, fairness, and transparency. However, Japan lacks specific legislation addressing the unique data security risks of AI technologies.[6] Unlike patents requiring detailed information sharing, AI algorithms can be protected under trade secret law to avoid public disclosure. While patents offer time-limited protection, trade secrets can last indefinitely if the information remains confidential [Hagen S.R., 2021]. Algorithmic transparency is essential in preventing unfair or discriminatory outcomes from AI systems; however, trade secret laws can hinder this transparency [Pu K., 2023: 47].

2.4. China

The 20th National Congress of the Communist Party of China has emphasised the need to fast-track digital economy growth by integrating it more deeply with the traditional economy. This approach aims to establish globally competitive digital industry clusters. In China, trade secrets are protected under various laws instead of through a single, unified law. Article 9 of the Anti-Unfair Competition Law (AUCL) 2019 defines 'a trade secret as technical, operational, or commercial information with economic value, kept confidential by the rightful owner.' The AUCL outlines five types of trade secret infringement. The 2021 Chinese Civil Code also emphasises trade secret protection, designating trade secrets as a form of IP under Article 123. Trade secret regula-

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[6] Dialzara (2024) 'Japan's AI regulation framework: Data security impact'. *Dialzara*, 12 June. Available at: https://dialzara.com/blog/japans-ai-regulation-framework-data-security-impact/ (accessed: 24.04.2025)

tions are dispersed across multiple legal frameworks, including the Civil Code, the AUCL, labour and criminal laws, several judicial interpretations by the Supreme People's Court, and local regulations [Liang I., 2023]. The AUCL does not include specific provisions outlining exceptions to trade secret protection.[7]

The rapid evolution of the Internet of Things (IoT) technologies has introduced new privacy risks, as the integration of AI and extensive data collection can result in consumer harm and discrimination. Current regulatory frameworks are struggling to address the complexities of the IoT which has gaps in consumer protection and oversight. Conversely, the intersection of blockchain and IP protections is also essential. Blockchain-driven non-fungible tokens (NFTs) have emerged as a method of protecting the copyright of AI models during trading, offering a novel approach to ensuring ownership while avoiding traditional weaknesses such as model piracy [Fan Y., Hao G., Wu J., 2022]. The fundamental right to data protection must adapt to technological advancements to ensure that trade secret protections do not compromise consumer rights [March N., 2019: 33–52]. While trade secrets are vital for innovation, they must be balanced with the need for transparency and consumer rights in order to foster trust and safety in the rapidly evolving landscape of IoT and blockchain technology.

3. Case Law Analysis

The intersection of AI algorithms and trade secrets has become a critical issue in the legal landscape, with several key court cases shaping the framework for protecting IP in AI-driven innovations. The following analysis examines prominent cases involving AI algorithms and trade secrets.

3.1. Tesla, Inc. v. Zoox, Inc. (2019)

Tesla has accused four former employees of stealing confidential information, including trade secrets related to its AI algorithms and logistics processes, after they have joined Zoox, an autonomous car company. Tesla claims that the former employees stole proprietary information on warehouse automation and AI-driven logistics solutions [Korosec K., 2019]. The lawsuit against Tesla primarily revolves around allegations of monopolistic practices, particularly with regard to its restrictive poli-

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[7] WIPO. Available at: https://www.wipo.int/documents/d/trade-secrets/docs-overview-country-sheets-usa-final.pdf (accessed: 08.10.2024)

cies on third-party parts and services [Xu H., 2024: 1—4]. The case was settled in 2020, with Zoox agreeing to a confidential settlement that included an undisclosed monetary payment and an acknowledgement of certain trade secret violations.

3.2. Neural Magic, Inc. vs. Meta Platforms, Inc. and Aleksandar Zlateski

This case raises important issues regarding IP protection in the rapidly evolving world of AI [Tan Z.G., Wong H.A., Chan C.S.]. At the heart of this federal court dispute, were claims of misappropriation and unfair competition between two AI companies, with centring on the allegedly theft of algorithms. US District Judge Denise Casper has rejected Meta's attempt to dismiss the case before it went to trial. The court also has approved the testimony from an expert who estimated that Meta could owe up to $766 million in royalties.[8] This case highlights the substantial risks that companies face in unfair competition lawsuits, especially those involving AI. It also underscores the complex logistical, ethical, and legal issues that often arise in AI-driven litigation, particularly with regard to IP and trade secrets. Trade secret misappropriation cases can lead to considerable financial losses.[9]

3.3. Ethical considerations

Using trade secrets to protect AI algorithms has several ethical implications. When this happens, the inner workings of the algorithms remain opaque, making it difficult for stakeholders to assess how decisions are made. It is especially concerning in sectors such as law enforcement, where secret algorithms may influence critical legal outcomes, potentially infringing on constitutional rights such as due process [Katyal S., 2019: 1279]. Furthermore, protecting AI models as trade secrets is able to prevent external scrutiny, potentially allowing biased algorithms to go undetected. This lack of transparency raises ethical concerns about

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[8] Brittain B. (2023) Meta settles startup's lawsuit over artificial-intelligence trade secrets. Reuters, 9 August. Available at: https://www.reuters.com/legal/transactional/meta-settles-startups-lawsuit-over-artificial-intelligence-trade-secrets-2023-08-09/ (accessed: 01.11.2024)

[9] Bates D.R. (2024) Tech company trade secret showdown: Lessons from a significant AI related trade secret case. Available at: https://www.mitchellwilliamslaw.com/tech-company-trade-secret-showdown-lessons-from-a-significant-ai-related-trade-secret-case#:~:text=In%20the%20fast%2Dpaced%20world,a%20clean%20and%20legal%20one (accessed: 01.11.2024)

fairness and the potential for AI systems to perpetuate discrimination in areas such as hiring, law enforcement, and credit decisions. Moreover, trade secret protections can hinder accountability when AI algorithms cause harm or unintended consequences. This issue is exacerbated in industries where algorithms are used for critical decision-making without the possibility of independent audits or third-party oversight [Matulionite R., Hanif A., 2021: 75−80]. Furthermore, while trade secrets encourage innovation by protecting proprietary technology, they may conflict with the ethical principles of openness and public accountability, especially in industries where AI decisions directly affect individuals' rights and livelihoods [Hagen G.R., 2021].

3.4. Policy implications

The researcher proposes the following recommendations for adapting IP laws to protect AI-driven innovations, with particular reference to trade secrets.

Improving legal frameworks for trade secrets in AI innovations. AI algorithms, models, and training data often rely on proprietary and confidential techniques. IP legal frameworks should provide well-defined guidelines on how to protect AI-related trade secrets, acknowledging that algorithms, datasets, and AI training methodologies are eligible for trade secret protection due to their commercial value in AI development. This would also maintain data integrity and confidentiality in AI and ML systems. Furthermore, it penalises misappropriation of trade secret to deter illegal use or reverse engineering.

International harmonisation and cross-border enforcement of trade secrets is essential process. Many countries have different approaches to protecting trade secrets, trade secret safeguarding AI algorithms across borders challenging. To address this, the researcher suggests global IP collaboration to harmonise trade secret laws and ensure minimum standards of AI algorithm protection across jurisdictions. Additionally, amendments to the TRIPS Agreement are required to enhance trade secret protection mechanisms globally. Article 39 of the TRIPS Agreement could be expanded to address the protection of AI technologies.

Encouraging technology transfer (TT). In the context of AI, fostering TT while protecting trade secrets is vital for enhancing innovation internationally. To facilitate this, the researcher believes that international bodies such as the WIPO and the WTO should encourage the inclusion of TT provisions that respect trade secret protections while

promoting innovation and collaboration between developed and developing nations, as well as least developed countries. Moreover, these organisations need to create policies encouraging the safe sharing of AI technologies under strict confidentiality and licensing agreements.

Supporting small and medium enterprises (SMEs) and start-ups. Many AI-powered inventions originate from start-ups and small businesses that sometimes lack the means to protect their trade secrets. It is therefore crucial to provide these enterprises with streamlined legal procedures to enable them to easily register and enforce trade secret protections for their AI technology. Additionally, offering legal and financial support can help SMEs to navigate global trade secret laws, particularly in cross-border partnerships, ensuring that their ideas are secured.

Conclusion

Protecting AI algorithms as trade secrets presents both opportunities and challenges in the same time. Trade secrets offer robust protection without the need for public disclosure, which makes them particularly valuable for AI technologies. However, this form of protection is able to present significant challenges, particularly in sectors where transparency and accountability are paramount, such as law enforcement. The tension between keeping AI algorithms in secret and the need for transparency raises ethical and legal concerns, mainly when opaque systems make decisions that affect individuals. From a legal perspective, frameworks such as the EU Trade Secrets Directive and the US Defend Trade Secrets Act provide solid protection for AI innovations. Nevertheless, gaps in cross-border enforcement and harmonization complicate seriously international protections. Furthermore, trade secret protection can sometimes conflict with data privacy and fairness requirements, necessitating a careful balance. As AI continues to evolve rapidly, the legal landscape will need to adapt to ensure that trade secret protection encourages innovation while maintaining necessary transparency and ethical governance. International harmonisation of laws, support for SMEs, and policies that encourage technology transfer will be essential to ensure a balanced approach that promotes innovation while guarding public interests.

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Digital Platforms and Law

Platform Economy: the Essence and Relationship with Allied Categories

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Abstract

The article based on etymological and legal analysis in light of the established doctrinal stance, explores the platform economy as a category to reveal its essence in comparison with other related categories (digital economy, electronic (online) trade, platform law, platform employment). The originality of the study is that it was conducted in connection with the recently passed Federal Law of 31 July 2025 "On Specific Aspects of Platform Economy Regulation in Russia"[1].The article purports to demonstrate a multitude of theoretical and legislative interpretations revealing the specifics of digital and/or platform-based economic operations. The research included analysis of the acting law and specific legal drafts; formulation of proposals to improve the legislation, with formal logic, linguistic technical, formal legal, and systemic methods being used. The research demonstrates that legal instruments do not uniformly regulate various digital/platform relationships between a wide range of economic agents concluding on the need to harmonize the digital and platform economy-related concepts in individual regulations of varying scope in terms of parties and other categories. In view of this problem, proposals were made to improve the law from the perspective of legal form.

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[1] Federal Law No. 289-FZ On Specific Aspects of Platform Economy Regulation in Russia of 31 July 2025 // Collected Laws of Russia. 2025. No. 31. Art. 4643.

Background

As digitization is surging to cover gradually all the spheres of human life, Federal Law No. 289-FZ "On Specific Aspects of Platform Economy Regulation in Russia" (hereinafter —Platform Economy Law) was passed by the State Duma on 31 July 2025 in furtherance of the strategic focus on digital transformation of law and economy[2] to enter in force on 1 October 2026. While the Law applies to social relationships between a wide range of parties, it does not adequately agree with the acting legal provisions on digital economy, e-trade, consumer rights protection as well as other related categories.

1. The Essence of "Platform Economy" as a Category

Primarily a philosophical category, the essence means substance (content) of a thing. "Platform economy" is of composite nature reflected, in our view, in the relationship of the essence understood philosophically with the principles of legal constructs (coherence, clarity, formalization) underlying language patterns of the parties to social relationships within platform economy.

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[2] See: Presidential Decree No. 309 "On Russia's national development goals until 2030 and for the period before 2026". 07.05.2024 // Collected Laws of Russia, 2024, No. 20, Art. 2584; Federal Government Instruction No. 3684-r "On approving the Program of long-term fundamental research in Russia (2021—2030)". 31.12.2020 // Collected Laws of Russia, 2021, No. 3, Art. 609; Presidential Decree No. 203 "On the information society development strategy for Russia (2017—2030)" 09.05.2017 // Collected Laws of Russia, 2017, No. 20, Art. 2901.

Before discussing platform economy from the legal perspective, it has a sense to focus on its etymology. Economy is traditionally believed to involve a number of production stages: manufacturing, distribution, exchange and consumption of goods and services. This established understanding of economy is not subject to debate.

In its turn, the word "platform", a French borrowing literally translated as *flat form*, has a variety of meanings (elevated ground, stopping point, footwear part etc.)[3]; meanwhile, nowadays a platform is understood as an operational site, resource, production mechanism.

Etymological analysis thus implies that "platform economy" is an economy underpinned by certain sites (forms) referred to as digital in light of digitization.

As for academic definitions of platform economy, it should be noted in the first place that many researchers make no distinction between digital economy and platform economy. Thus, according to M.A. Egorova, D.A. Petrova and V.F. Popondopulo, digital/platform economy is economic activity "underpinned by information systems/platforms used by economic agents in information/telecom networks such as the Internet" [Egorova M.A., Petrov D.A., Popondopulo V.F., 2024: 2–5].

In associating platform economy with digital platforms, most authors note, for example, that platform economy is an activity "that assumes using a digital platform for product sales to consumers" [Burova A.Yu., 2023: 12] and that it amounts to "digital platform technologies" [Ayusheva I.Z., 2022: 58].

Article 2 of the recently approved The Platform Economy Law defines platform economy as "a complex of organizational and ownership relationships resulting from digital platform-mediated engagements between an unlimited range of persons for the purpose of doing business or other purposes not related to doing business". This definition is apparently centered on digital platforms.

The concept of digital platform did not exist in law for a long time. Digital platforms were tantamount to marketplaces in draft laws[4] and

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[3] Map of Russian language words and expressions. Available at: URL: https://kartaslov.ru/%D0%B7%D0%BD%D0%B0%D1%87%D0%B5%D0%BD%D0%B8%D0%B5-%D1%81%D0%BB%D0%BE%D0%B2%D0%B0/%D 0%BF%D0%BB%D0%B0%D1%82%D1%84%D0%BE%D1%80%D0%BC%D0%B5%D0%BD%D0%BD%D1%8B%D0%B9 (accessed: 11.09.2025)

[4] Draft Law No. 445923-8 On Amending the Federal Law on the Principles of State Regulation of Trade in Russia" and Articles 12 and 18 of the Federal Law

still are in science; see for example: [Gulyaeva T.B., Kocharyan K.A., Bayramova R.O., 2025: 92-101]; [Khoroshunov A.A., 2024: 233–242].

The Platform Economy Law has introduced of late the concept of digital platform defined as information system and/or website which enables technical, organizational and information engagements between a wide range of persons for sale of goods and services.

Meanwhile, the new law contains another concept — mediation platform — as a digital platform with more detailed capabilities and more specific types of engagement between parties.

Thus, platform economy means digital platform-based economic activities. However, going back to digitization, it is obvious that platform economy as a category has nothing to do with the literal meaning of such words as digitization, digital (expressed in digits, associated with technology[5]), electronic so closely associated with the ubiquitous artificial intelligence. Yet, once the legislator has introduced the concept of platform economy, one can ask with good reason why is it platform rather than digital?

All this allows to affirm that the essence of platform economy is in digital platforms as its mains tools. The above noted etymology of the words *platform* and *digital* shows that they do not carry identical meaning. Thus, the legislator would be better served by "digital/platform economy" as a composite definition.

2. Platform Economy's Relationship with Allied Categories

The regulatory framework originally knew the concept of digital economy. Under the 2017–2030 Information Society Development Strategy (hereinafter — Strategy)[6], digital economy is economic activities where the key production factor is digital data and big data processing whose analytical findings allow to sizeably raise the efficiency of different types of production, technologies, equipment, storage, sale and delivery of goods and services. The Strategy equally defines the digital

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on Consumer Rights Protection. Available at: URL: https://sozd.duma.gov.ru/bill/445923-8 (accessed: 10.09.2025)

[5] Map of Russian language words and expressions...

[6] 2017–2030 Information Society Development Strategy for Russia approved by Presidential Decree No. 203 of 09.05.2017 // Collected Laws of Russia. 2017. No. 20. Art. 2901.

economy ecosystem (partnership between businesses) as engagements between technological platforms, applied web services, government data systems, legal entities and individuals.

Later the powers have approved a number of documents in support of digital economic development. Presidential decrees, national programs, strategies etc.[7]) are undoubtedly designed "to promote a new regulatory environment for emerging relations between individuals, businesses and government in connection with the progress of digital economy". Meanwhile, these strategic documents are, in our view, declarative rather than regulatory. They do not establish any provisions on the rights and duties of digital economic agents/parties. The documents mentioned also treat digital economy in a wider sense as a digital ecosystem comprising the following parts: digital and electronic web platforms, parties and objects of these platforms; engagements between businesses and government as such.

The recent Platform Economy Law "identifies the legal foundations of platform economy in Russia and governs the relations arising between mediation platform operators, their partners, users and other persons in connection with the sale of goods/services" (Art. 1).

A comparison of the concepts digital economy and platform economy as formulated by law reveals that digital economy is understood to be wider than platform economy, this difference being the parties and content associated with the said categories.

Meanwhile, digital platforms and digital mediators have become currently used expressions as a result of surging electronic/online trade across the web. In our view, e-trade or online trade is a type or way of doing business digitally, while digital platforms are also tools for the parties engaged in electronic/digital trade and digital economy as a whole.

In view of the task of exploring the relationship between platform economy and other categories, it is noteworthy electronic/online trade is understood differently in legal literature and referred to, for example, as electronic business activities [Zharova A.K., Demyanets M.V.,

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[7] See for details: Passport of the national project Digital Economy for Russia National Program (approved by the Presidium of the Council for Strategic Development and National Projects under the President of Russia, 04.06.2019) // SPS Consultant Plus; Presidential Decree No. 204 On Russia's national objectives and strategic development targets for the period until 2024. 07.05.2018 // Collected Laws of Russia. 2018. No. 20. Art. 2817.

Elin V.M., 2014: 305], online trade [Frolov I.V., 2018: 122], online sales method [Kryukova E.S., 2023: 20−23].

There is currently no legally approved concept of electronic/online trade as confirmed by numerous pending draft laws[8]. Its authors used the category of digital platform to a varying extent. In our view, electronic/online trade means narrow economic activity focused on trade in goods. Moreover, electronic/online trade is part of both digital and platform economy as it is also underpinned by digital platforms.

It is worth noting the new Platform Economy Law has introduced the concept of digital platform owner (a person enabling the engagements between digital platform users) and mediation platform operator (provider of services underlying the engagements between mediation platform partners and users), the difference between the two apparently lying in the range (or extent) of available capabilities and powers.

Moreover, Federal Law "On Consumer Rights Protection"[9] (hereinafter−CRP Law) contains a definition of the product/service data aggregator owner as someone owning a website[10].

Notably, the CRP Law regulates, on the one hand, consumption and on the other hand, business. It appears that the product/service data aggregator owner is also website owner. Under the new Platform Economy Law of 2025, a digital platform owner is just someone who enables the engagements between platform participants while a digital platform operator is someone who provides services to enable such engagements. To certain extent, terms aggregator and operator should mean the same thing.

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[8] See, for example: Draft Law No. 310163-4 On Electronic Trade. Available at: URL: http://api.duma.gov.ru/api/transcript/310163-4 (accessed: 11.09.2025); Draft Law No. 568223-8 On State Regulation of Trading by Product Data Aggregators and on Amending the Federal Law on the Principles of State Regulation of Trade. Available at: URL: https://sozd.duma.gov.ru/bill/568223-8 // (accessed: 05.09.2025)

[9] Federal Law No. 2300-1 On Consumer Rights Protection of 07.02.1992 // Collected Laws of Russia. 1996. No. 3. Art. 140.

[10] Pursuant to the norms of the CRP Law, "product/service data aggregator owner ("aggregator owner") is an entity of any incorporation or private entrepreneur who owns computer software and/or website and/or website page in the Internet and who enables the consumer with regard of a certain product/service to simultaneously review a sales/service contract proposed by the seller/provider, enter into this contract, and make a prepayment for the product/service either by cash or bank transfer to the aggregator owner using available forms of cashless settlements...".

While the CRP Law aims to protect individual consumers (natural persons) as follows from its title and the nature of its provisions, the new Platform Economy Law has a considerably wider scope without focusing on consumers. They are apparently designated as users, a category which subsumes a wide range of persons (purchaser/customer of non-identified legal status: legal entity, natural person, private entrepreneur).

Such diversity of legal interpretations should be harmonized in view of the scope of the laws under study. In the CRP Law, it would be also reasonable to substitute digital platform owner/operator for product/service data aggregator owner based on the assumption a data aggregator is also a digital resource (platform).

Previously it was noted the legal concept of platform economy introduced by the new law which, in our view, should be subject to twofold analysis allowing to compare platform economy with allied categories. First, platform economy is "a complex of organizational and ownership relationships resulting from digital platform-mediated engagements between an unlimited range of persons", and, second, it serves "the purpose of doing business or other purposes not related to doing business".

The first aspect covers the related phenomenon of platform law. Academic literature admits the necessity to "develop and introduce platform law into the national legal system" [Kashkin C.Yu., Altukhov A.V., 2022: 35]. Author of the article also fully shares a view that while digitization drives the society towards modern lifestyle, "a multitude of sectoral regulations are amended but not always implemented in the same way, only to cause congestion and confusion in law and enforcement practices" [Altukhov A.V., Ershova I.V., Kashkin S.Yu., 2020: 20].

A.B. Didikin and A.V. Yudkin equally note that "along with high economic efficiency of platforms, the acute need in more precise individual (personalized) law has become evident" [Didikin A.B., Yudkin A.V., 2015: 23]. In light of this view, platform law, on the one hand, should effectively become an integrating branch of law while, on the other hand, there should be a specific branch based on private law rather than public law provisions.

The categories of platform economy and platform law are apparently hard to compare as they bring us all the way back to comparing the original values of law and economy against economy and law. However, it is beyond doubt that digitization processes require to theoretically and practically revisit the essence and contents of platform economy and platform law. These categories cover an unlimited range of persons at law.

Under Article 2 of the Platform Economy Law, digital platforms involve in their operations "digital platform partners" of variable legal status (legal entity, individual entrepreneur, natural person including foreign nationals or stateless persons, as well as self-employed persons).

While partners are sellers, contractors and users, particular attention should be paid to the latter category implicit in the law as those who purchase products (users as buyers) and services (users as customers). Let author of presented article to believe that this provision should comply with the basic provisions of the Civil Code of the Russian Federation[11] (hereinafter — CCR) on sale contracts and work contracts (Chapters 30 and 37 of the Code, respectively), and also special provisions of the CRP Law on natural persons as buyers/customers.

Moreover, the new Platform Economy Law regulates the relations between digital platform operators, their partners, users and "other persons" not defined or identified by the Law.

As was mentioned above, the legal concept of platform economy should be subject to twofold analysis. As for the second aspect relevant to its purpose, platform economy serves "the purpose of doing business or other purposes not related to doing business". It is commonly known that business, as defined by Article 2 of CCR, is an activity pursued with the purpose of generating a profit. One can reasonably ask what the legislator meant by adding "other purposes not related to doing business" to the concept of platform economy. Other purposes can apparently mean in this case generation of income (profit and income being different categories[12]), so it can be supposed that different organizational forms of doing business are meant (by natural persons as private entrepreneurs, self-employed persons, workers etc.).

Therefore it is necessary to view as reasonable a focus on regulation of private rights and interests of natural persons acting in different capacity on digital platforms. In fact, the well-being of each individuals affects both his or her family and society as a whole. This brings to platform employment—a phenomenon probably meant by the legislator in "other purposes not related to doing business".

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[11] Civil Code of the Russian Federation (Part 1) No. 51-FZ of 30.11.1994 // Collected Laws of Russia, 1994, No. 32, Art. 3301; Civil Code of Russia (Part 2) of 26.01.1996, No. 14-FZ // Collected Laws of Russia, 1996, No. 5, Art. 410.

[12] See Art. 247, 248 of the Tax Code of Russia (Part 1), No. 146-FZ of 31.07.1998 // Collected Laws of Russia, 1998, No. 31, Art. 3824.

As digital platform partners, natural persons (sellers, contractors) engage in business activities in various forms of incorporation (private entrepreneurs, self-employed persons, workers). Under the logic of Federal Law No. 565-FZ On Public Employment of 12.12.2023[13] (hereinafter— Employment Law), all these persons are undoubtedly deemed to be "employed".

Despite legislative efforts in this regard, there is no yet legal definition of platform employment. As a matter of fact, Draft Law No. 275599-8 on public employment[14], while being drafted, defined platform employment as "activities by persons (platform workers) to personally engage in contracted work and/or services to be organized via information systems (digital labor platforms) which enable the engagements between workers, customers and operators of digital labor platforms via the Internet". However, the Employment Law, as it was passed in 2023, did not include this definition.

Supposedly, the legislator gave up this idea at that time for lack of effective regulatory framework of digital and/or platform nature. The Platform Economy Law of 2025 probably provides this framework now. It includes the provisions on details of engagements between platform operators and natural persons, their partners. These provisions govern civil law relations between the parties, such as the procedure for statutory contracts to be performed in person without engaging third parties, specifying working hours or similar labor law conditions. In other words, the Platform Economy Law does not contain provisions regulating platform workers and platform employment.

Meanwhile, it is no secret that digital platforms have workers whose work is regulated by labor law. Apparently, its "mixed" nature sometimes defies the traditional understanding of work. However, there are views in legal literature that platform employment should be associated with labor, not business. In particular, M. Kuzina argues on examples of court rulings that platform workers "are those who earn their living by engaging in contracted work and services through network aggregators" and that this activity essentially amounts to work [Kuzina M., 2021: 18].

Also, O.V. Chesalina observes the attributes of employment relationships in low-skilled services provided via platforms [Chesalina O.V., 2021: 58]. That platform employment hides the employment function is confirmed also by S.Yu. Golovina and A.V. Serova who view "plat-

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[13] Federal Law No. 565-FZ of 12.12.2023 On Public Employment in Russia // Collected Laws of Russia, 2023, No. 51, Art. 9138.

[14] Draft Law No. 275599-8 On Public Employment in Russia; for details see: Available at: URL: https://sozd.duma.gov.ru/bill/275599-8 (accessed: 16.08.2025)

form employment" and "dependent employment" as atypical forms of employment to be covered by labor law [Golovina S.Yu., Serova A.V., 2022: 65]. This issue is still subject of debate in academic community; see for example [Ponomareva K.A., 2025: 102−124]; [Shesteryakova I.V., Shesteryakov I.A., 2025: 54−67], with common approach yet to be found. Clearly, digital platforms allow individuals to engage in gainful activities in different capacity (such as worker, self-employed person or private entrepreneur). However, the new Platform Economy Law contains provisions only on gainful activities of natural persons under statutory contracts. In other words, platform workers are left out. Of course, one can put these relationships within the scope of the Labor Code of the Russian Federation (hereinafter — LCR)[15] as containing the provisions on remote employment relationships (Chapter 49.1 of LCR). But remote employment is not the same thing as digital platform work/employment due to a number of factors (subject and nature of work, regularity etc.).

Meanwhile, Draft Law No. 858157-8 Labor Code of Russia[16], submitted to the State Duma of the Federal Assembly in March 2025, does list atypical forms of employment including platform, informal, remote and freelance (Article 556 of the Draft). This Draft defines platform employment as "using online (digital) platforms to mediate between service providers/contractors and consumers/clients".

Because of it there are reasons to say the definition mentioned contains the terms that do not agree with the terminology established by the acting law, in particular, "online platform" and "client". The detailed analysis of the Draft "Labor Code of Russia", important even in the context of platform employment and meriting a special scientific focus, is outside the current study.

Thus, all categories related to platform economy can be referred to as trends and/or parts of digital economy in a wider sense.

Conclusion

Platform economy is gainful activities on digital platforms. As follows from the etymological analysis of this category in connection with digitization, platform economy has nothing to do with the literal mean-

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[15] Labor Code of Russia, No. 197-FZ of 30.12.2001 // Collected Laws of Russia. 2002. No. 1 (Part 1). Art. 3.

[16] Draft Law No. 858157-8 Labor Code of Russia. Available at: URL: https://sozd.duma.gov.ru/bill/858157-8 (accessed: 12.09.2025)

ing of words such as digitization, digital or electronic closely associated with ubiquitous artificial intelligence. Meanwhile, the legislator has introduced the concept of platform economy.

Digital platforms are at the heart of platform economy as its main tools.

Etymology of the words platform and digital allows, however, to assert that they do not carry identical meaning. Thus, such economy could be called with good reason digital/platform economy.

The relationship between platform economy and allied categories reveals the following:

Digital economy has predated platform economy in the legal framework. Regulations governing digital economy now, mostly strategic and declarative ones, treat it in a wider sense as a digital ecosystem of digital and electronic web platforms, parties and objects thereof, and, essentially, as the interaction of businesses and government.

However, platform economy is a whole complex of relationships between mediation digital platform operators, their partners, users and other persons in connection with the sale of products and provision of services. A comparison of these categories reveals that digital economy is still understood as wider than platform economy.

Digital platforms, digital mediators have become current expressions due to the surge of electronic/online trade in the Internet. Electronic/online trade is a business narrowly focused on trading in goods. In fact, electronic/online trade is part of both digital and platform economy since it is based on digital platforms;

Platform Economy Law identifies the parties to platform economy such as digital platform owner and digital platform operator, digital platform users (the same as consumers/customers). In this regard, it would be only logical to harmonize also the CRP Law provisions on product/service data aggregator. This proposal relies on the fact that a data aggregator is also a digital resource or platform.

Platform law is longing to emerge as a separate (comprehensive) branch of law or legal relationships. The categories of platform economy and platform law are hard to compare as they bring us all the way back to comparing the original values of law and economy against economy and law. Meanwhile, digitization processes require to theoretically and practically revisit the essence and contents of platform economy and

platform law as these categories cover an unlimited range of persons at law in the digital environment.

Platform employment and platform economy are inextricably linked since the latter creates an environment for "doing business or other purposes including not related to doing business" (Article 2 of the Platform Economy Law). Apparently, another purpose — income generation — can also take place, so different forms of gainful activities are meant, with natural persons, for instance, acting as private entrepreneurs, self-employed persons, workers. The Platform Economy Law has also left out platform workers. Theoretically, platform workers can be put within the scope of the LCR but one should take into account that in practical terms its acting provisions on remote work and digital platform work appear to be two different types of employment.

The legislator's attempts to put platform employment within the scope of labor law via Draft Law No. 858157-8 Labor Code of Russia submitted to the State Duma in March 2025 had no success. It means the initiative to classify platform work as an atypical form of employment and the proposed definition of platform employment do not agree with the terminology used by the law in force. It would be fair for the Platform Economy Law to include natural persons in platform employment among the covered parties.

Taking the above into account holistically, all of the analyzed categories can be referred to as trends and/or parts of digital economy in a wider sense of the term. It thus could be argued the Platform Economy Law should describe in more detail how the private rights of individuals to pursue various forms of platform-related gainful activities (including work) are implemented.

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Comparative Study of Approaches to Legal Regulating of Digital Platform Employment in Russia and China

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Abstract

The article provides a comparative legal analysis of the emerging approaches to regulating platform employment in Russia and China, a dynamically developing segment of labour relations. The author notes the rapid growth in the number of platform workers in both countries and identifies similar economic sectors where this form of employment is most common. The primary focus is on legal initiatives aimed at regulating the status of this category of workers. The Russian legislator's approach, embodied in Federal Law No. 289-FZ, is critically assessed. This law creates a quasi-civil law model that systematically excludes the application of labour law norms, leaving partner-performers without key social and labour guarantees. The CIS Model Law project is presented as a more progressive alternative, offering a functional approach and the possibility of recognizing employment relationships based on an analysis of the worker's actual economic dependence. The Chinese model is characterized as a gradual adaptation of labour guarantees to the digital environment using "soft law" instruments. The introduction of differentiated statuses, including "incomplete labour relations", and the enhanced role of trade unions and state control, including through platform tax reporting, are highlighted. The conclusion states that, despite the differences, neither country has resolved the fundamental problem of algorithmic management, which creates an extra-legal technological order. The study highlights the global challenge of adapting traditional legal frameworks to the disruptive nature of the digital economy, advocating a paradigm shift in regulatory thinking to effectively protect workers' rights. As a prospective solution, a transition

to a state digital platform is proposed, one that integrates legal norms into algorithmic systems to ensure automated compliance with labour legislation.

Keywords

platform economy; digital platforms; platform employment; algorithmic management; quasi-civil law model; soft law.

Introduction

The sphere of employment constitutes a dynamic phenomenon. The rapid advancement of digital technologies capable of processing vast arrays of big data in real time has paved the way for the development of information systems that aggregate data on various services and their providers. The interaction between these information systems, which have evolved into digital platforms, and the service providers who utilize these platforms to seek assignments, perform tasks, and receive remuneration, has given rise to a novel form of employment: digital platform employment. The scope of digital platform employment is steadily increasing, as evidenced by statistical indicators in Russia and China, countries where an increasing proportion of the workforce is engaged in such employment.

According to estimates based on Rosstat data, the number of workers employed through digital platforms in Russia increased from 3.5 million persons in 2022 to 4.96 million in 2023[1]. Expert assessments indicate this figure reached 7 million people by the beginning of 2024, with projections indicating growth to 10 million by 2026. According to data from the Ministry of Information Industry, the number of individuals

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[1] Rosstat data. 2023. Available at: https://rosstat.gov.ru/compendium/document/13265 (accessed: 06.11.2025)

employed through digital platforms in China rose from 50 million in 2015 to 84 million in 2020. By 2024, this figure had exceeded 200 million [Wang T., Li S., Gao D., 2024: 541−564].

The primary sectors for the application of digital platform employment in both countries are: food delivery services (Russia: Yandex.Food, DeliveryClub, Dodo Pizza; China: Meituan, Ele.Me); postal and courier services (Russia: SDEK, City Express, Boxberry; China: EMS, Shunfeng, Yunda, Zhongtong, Shentong, Yuantong); taxi services (Russia: Yandex.Taxi, Vezyot, Citimobil, Taksovichkof; China: Didi, Gaode, T3, Caocao); freight transportation services (Russia: Roolz, Vezyot Vsem, Cargomart, Moy Gruz, Perevozka 24; China: Yunmanman, Huolala); micro-task platforms (Russia: Avito, Profi.ru; China: ZhuBajie, 58 Tongcheng). The platformisation of employment is also spreading increasingly to professional activities such as those of psychologists (e.g. platforms Alter.ru, Yasno, Grani and Zigmund.Online) and tutors (platforms repetit.ru, Vash Repetitor, Foxford, Preply, 5-LEGKO).

The scale of employment on individual digital platforms is comparable to size of the workforce in major industrial sectors. For example, 170,000 drivers were registered with the Russian platform Yandex.Taxi[2] in 2020. By 2023, the conformed need to recruit additional employees reached 72,000, highlighting the growth dynamics of the sector[3]. In 2017, the Chinese platform Didi provided employment for 21.1 million people, surpassing the workforce metrics of many industrial enterprises[4]. In the Russian Federation, Delivery Club engaged over 150,000 platform couriers by 2021[5]. According to estimates fulfilled by O.V. Sinyavskaya, approximately 1.7 million inhabitants of Russia considered fulfilling platform orders as their primary form of employment [Sinyavskaya O.V.,

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[2] Yandex.Taxi has launched a car loan program for drivers, 2020. Available at: https://www.vedomosti.ru/business/articles/2020/10/01/841894-yandekstaksi-zapustilo (accessed: 06.11.2025)

[3] Yandex.Taxi will spend over 4 billion rubles on driver recruitment in December, 2023. Available at: https://www.vedomosti.ru/business/news/2023/12/08/1010128-yandeks-taksi-potratit (accessed: 06.11.2025)

[4] DiDi completes 7.43b rides in 2017, 2018. Available at: https://global.chinadaily.com.cn/a/201801/09/WS5a541c98a31008cf16da5e76.html (accessed: 06.11.2025)

[5] Delivery has revealed the number of couriers during the pandemic for the first time, 2021. Available at: https://www.vedomosti.ru/business/news/2021/11/12/895634-delivery-club-vpervie-raskril-chislo-kurerov-za-vremya-pandemii (accessed: 06.11.2025)

Biryukova S.S. et al., 2022]. Financial reports from Chinese companies demonstrate the significance of platform employment for household income: in 2020, 9.5 million Meituan users generated 27.7 million orders daily, while 16% of delivery personnel in China received over 90% of their family income through platforms, 22.3% of drivers received more than half, and for 43% of micro-task performers, this field was their sole source of earnings[6]. Evidently, the leading digital platforms in Russia and China are no longer mere order aggregators; they have evolved into independent quasi-infrastructures.

The socio-demographic structure of digital platform employment in Russia is predominantly male (57.7%). According to data from 2023, individuals under the age of 35 make up 52% of those employed on digital platforms in the Russian Federation (with 19% being under 25 and 33% being between 25 and 35 years old). The majority of platform workers in Russia (37.8%) hold a higher education degree, while 4.1% have a basic general education, 17.8% have a secondary general education, and 16.1% have a secondary vocational education [Sinyavskaya O.V., 2024]. In China, 73% of platform workers are male, and 90% are between the ages of 18 and 40; the majority have a secondary or higher education[7], with 19.1% being university graduates[8].

As of 2024, the average monthly income for individuals engaged in platform work in Russia was 21.3 thousand roubles. For those for whom platform employment is their primary occupation, the average income was 48.8 thousand roubles per month. For those regularly supplementing their income through platforms, it was 18.2 thousand roubles. For those working on an occasional basis, the average income 14.5 thousand roubles per month [Sinyavskaya O.V., 2024]. In China, platform drivers earned an average of 7,623 yuan per month in 2025[9]. As of 2024, full-time couriers working for the Meituan platform in large cities could earn

[6] Meituan. Financial Report. 2021. Available at: http://media-meituan.today-ir.com/20210419080000317739722495_tc.pdf (accessed: 06.11.2025)

[7] China Labor Bulletin. The Platform Economy, 2023. Available at: https://clb.org.hk/en/content/platform-economy (accessed: 06.11.2025)

[8] China's gig workers becoming new normal, but «inevitable trend» comes with a burden, 2023. Available at: https://www.scmp.com/economy/economic-indicators/article/3269601/chinas-gig-workers-becoming-new-normal-inevitable-trend-comesburden (accessed: 01.10.2025)

[9] Jiang J. Inside China's 7.48 million ride-hailing drivers, 2025. Available at: https://www.beijingscroll.com/p/inside-chinas-748-million-ride-hailing (accessed: 06.11.2025)

up to 11,000 yuan per month, compared to 7,350 yuan per month for those working irregular hours[10].

Researchers from HSE University have revealed that the average working week for platform workers in the Russian Federation is around 10 hours (including time spent searching for orders and clients on the platforms). For those for whom platform employment is their main job, the average working week is 28.9 hours (with 38% working over 40 hours per week). For those who work on platforms irregularly (in addition to their primary employment), the average working week is 11.3 hours, and for those who work on platforms occasionally, it is 4.7 hours. T. Jin notes that digital platform workers in China work an average of 6.4 days per week and 9.8 hours per day, which is significantly more than the standards set out in Chinese labour legislation [Jin T., 2024: 1201].

The legal status of digital platform workers in Russia is primarily formalised through their registration as professional income tax payers (i.e., self-employed individuals). Workers also engage with platforms on the basis of civil law contracts (22%), or as individual entrepreneurs (16%) [Sinyavskaya O.V., 2024]. As of 2020, only 8% of workers on Chinese digital platforms were in employment relationship with the platform. Often these workers provide technical or organisational support for the platforms [Zhou I., 2020]. The majority of platform workers in China are engaged through various flexible digital cooperation models with platforms, involving agency schemes ("special delivery riders") and crowdsourcing ("crowdsourced riders"). These schemes do not foresee the conclusion of employment or civil law contracts [Wang Q., Chen Y., Yang Y., 2023: 149−171].

Taking into account the aforementioned statistical indicators, many legal scholars in Russia [Zueva K.A., 2024: 72−78]; [Savenko N.E., 2024: 26−41]; [Kabolova D.A., 2025: 13−15] and China [Chen B., Liu T., Guo L., Xie Z., 2020: 1246−1260]; [Zhang G., 2021: 87−92]; [Tu W., Wang W., 2021: 27−41]; [Fan W., 2022: 28−33]; [Li J., 2024] note that the development of the platform economy faces challenges in the regulatory framework concerning the legal status of platform workers, which leads to worker vulnerability and the need for labour law reform. As T. Wang and F. Cooke have noted, when an economy is driven

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[10] Meituan riders out-earn the average worker in the capital city Beijing, data from food delivery giant shows, 2024. Available at: https://www.scmp.com/tech/big-tech/article/3279304/chinas-food-delivery-giant-meituan-says-its-riders-out-earn-average-worker-beijing (accessed: 06.11.2025)

primarily by consumer demand with a strong utilitarian focus on cost/ profit, efficiency, and convenience, the welfare of workers and society can be undermined. This necessitates regulatory intervention to avoid systemic collapse in the pursuit of economic growth [Wang T., Cooke F., 2021: 560]. K. Chang and C. Zheng add that under this new employment model the legal relationship between workers and platforms requires further definition, and the fundamental rights and interests of workers lack effective legal protection [Chang K., Zheng X., 2019: 81]. According to K.L. Tomashevski and M.Kh. Khasenov, the increasing role of digital employment platforms in the global labour market and national economies necessitates adequate legal regulation of the working conditions for platform workers [Tomashevski K.L., Khasenov M.Kh., 2025: 336].

Unsurprisingly, there has been an increase in regulatory activity surrounding digital platform employment in both Russia and China in recent years. Distinct approaches to the legal regulation of platform work are gradually emerging. Studying these approaches is essential for identifying risky and inadequate forms of regulation, and for developing optimal technical and legal mechanisms for organising work processes within an increasingly algorithmic labour sphere.

1. Approaches to Regulating Digital Platform Employment in Russia

In Russia, the initial attempt to integrate the issues of digital platform work into the legal framework was undertaken in the Draft of Federal Law No. 275599-8 "On Employment in the Russian Federation" of 11 January 2023. Its first version of the draft law proposed the introduction of a new form of employment: platform-mediated employment. This concept was defined as the activity of citizens (platform workers) involving the personal performance of work and/or provision of services which is based on agreements concluded and is organized through the use of information systems (digital employment platforms) that facilitate interaction between platform workers, customers, and operators of digital employment platforms via the Internet. The regulation of platform-mediated employment was intended to be governed by a special federal law. However, these provisions were omitted from the final version of the approved draft law.

In March 2024, it was announced that a working group comprising activists from the expert community, businesses and representatives of the Ministry of Labour and Social Protection was drafting a law to regu-

late platform-mediated employment (hereinafter — the Draft Law on Platform Employment) [11], planned for submission to the State Duma before the end of the spring 2025 session.

According to this Draft Law, the relationship between a digital platform and a worker is not recognised as an employment relationship, but rather as a civil law contract regulated by the Civil Code. The framework envisages the conclusion of a civil law contract stipulating the use of the digital platform. The regulation will apply only to information systems included in a register of digital platforms, and enrolment will be voluntary. This register will be maintained by the Federal Tax Service. To be included on this list, a digital platform must exchange data with the tax authorities. The draft law will not extend to micro-task aggregators or relationships associated with the hiring or provision of real estate.

The provisions of the Draft Law on Platform Employment were primarily designed to regulate the relationship between digital platforms and workers providing taxi services, food delivery, freight transportation, and postal and courier services. The draft law required platforms to establish service quality standards, monitor worker licensing, inform workers of the terms of their engagement and act as their tax agent. If a platform violates workers' rights, it will be removed from the register and the relationship will be recognised as an employment relationship. The platform would have the right to establish mandatory work requirements, impose penalties on workers for improper order fulfilment, take measures in the event of a worker refusing an order after accepting it, maintain worker ratings and determine the amount and frequency of payments to workers, including through the use of algorithms.

The Draft Law on Platform Employment also establishes the following rights for digital platform workers: to accept and fulfil orders on different digital platforms; to independently determine the place and time for accepting and fulfilling an order after familiarizing themselves with its conditions (except for cases where the worker has already committed to a specific time slot for order fulfilment); and to form public associations on a voluntary basis. The draft law also proposes dispute resolution through a self-regulatory organisation, the Council of Digital Employment Platforms.

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[11] Authorities have resumed discussions on regulating the employment of couriers and taxi drivers, 2024. Available at: https://www.vedomosti.ru/economics/articles/2024/03/28/1028432-vlasti-vozobnovili-obsuzhdenie-regulirovaniya-zanyatosti-kurerov-i-taksistov (accessed: 06.11.2025)

It should be noted that the Draft Law on Platform Employment was never formally submitted to the State Duma of the Federal Assembly of the Russian Federation. Instead of it, on July 31, 2025 the Federal Law No. 289-FZ "On Certain Issues of Regulating the Platform Economy in the Russian Federation"[12] (hereinafter — the Law on the Platform Economy) was passed. Articles 15−17 of this law aim to regulate the interaction between digital platforms and a specifically designated entity, namely the partner-performer. These articles establish a new model for the relationship between a digital platform and a partner-performer that is neither purely an employment law relationship nor a civil law relationship in the traditional sense. However, as indicated in Article 15 of the Law on the Platform Economy, when interacting with a partner-performer, the digital platform is entitled to operate within the framework of civil law relations.

A fundamental principle of this model is its attempt to distance itself from labour law. For example, the prohibition on engaging third parties (Clause 5, Article 15 of the Law on the Platform Economy) formally aligns with the civil law nature of a contract for work or paid services. However, in the context of platform employment, this stimulates rather than confirms the civil law character of such relations, since personal performance is also a characteristic of a labour function. Clause 1, Article 15 of the Law on the Platform Economy asserts the absence of a work schedule, but this ignores direct algorithmic management. Systems of ratings, dynamic pricing, and priority order distribution effectively create a schedule, measure, and intensity of labour, indicating the existence of an extra-legal, technological routine.

The freedom to refuse an order, as set out in Clauses 2 and 16 of Article 15 of the Law on the Platform Economy, is illusory one, when the operator imposes penalties for refusal during a 'voluntarily selected period', set out in Clauses 2 and 17.2 of Article 16, and implements rating reductions. This establishes a system of economic and algorithmic coercion that is analogous to an employer's disciplinary authority.

The codification of rights and obligations in Articles 16 and 17 of the Law on the Platform Economy reveals an imbalance in the system typical of economic dependence and subordination. This imbalance is not offset by the protective provisions of the labour law. For example, the

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[12] Federal Law No. 289-FZ "On Certain Issues of Regulating the Platform Economy in the Russian Federation", July 31, 2025. Available at: https://www.consultant.ru/document/cons_doc_LAW_511088/ (accessed: 06.11.2025)

rights granted to operators under Article 17.2 are inherently managerial in nature: determining remuneration and its payment (Clause 2, Article 17.2 of the Law on the Platform Economy) is similar to an employer establishing a wage system; assessing performance and maintaining a rating (Clause 3) serves the functions of disciplinary control and performance evaluation; and applying influence-based measures, including access restriction (Clause 5), is similar to a disciplinary sanction in the form of suspension from work.

The rights listed in Article 16 of the Law on the Platform Economy, such as the right to receive information and the right to work on different platforms, do not make up for the lack of fundamental labour rights, such as the right to fair working conditions, the right to rest, the right to protection against arbitrary dismissal, and the right to collective bargaining. Furthermore, the operator's lack of obligation to provide annual paid leave (Clause 5, Article 15 of the Law on the Platform Economy) directly violates imperative norms of international and Russian labour law. Clauses 9, Article 17.1 and 6, Article 17.2 of the Law, providing incentives for the voluntary social insurance, representing a model of optional, rather than mandatory social protection. This contradicts the principle of shared responsibility between labour relations subjects and the state in the sphere of social security.

Thus, instead of adapting the legal regulation of labour relations to new realities, the legislator is creating a legal fiction through the norms of the Law on the Platform Economy that allows relations of de facto personal, economic and organisational subordination to be disguised as civil-law relations. In other words, the fundamental issue with this approach to the legal regulation of digital platform employment is that it creates a quasi-civil-law model which systematically precludes the application of labour law norms. However, applying this approach does not mean that the relationship between the digital platform and the partner-performer cannot be reclassified as an employment relationship in the presence of indicators of an employment relationship as specified in Article 15 of the Russian Labour Code. The Law on Platform Economy is scheduled to enter into force on 1 October 2026. Until then, the legislator has the opportunity to revise its provisions, which could result in the erosion of fundamental labour law principles, such as protection from economic dependence and guaranteed minimum social protections.

While examining approaches to regulating digital platform employment in Russia, it is also necessary to consider the work of the Inter-

parliamentary Assembly of the Commonwealth of Independent States ('CIS') on this issue. The development of the Model Law "On Platform Employment" is included in the CIS prospective plan for model law-making for 2023−2025. A working group to draft the model law "On Platform Employment" was set up by Resolution No. 59 of the Council of the CIS Interparliamentary Assembly on 16 November, 2023. The group comprises representatives of the parliaments and relevant ministries and agencies of the CIS member states, as well as representatives of expert organisations. Since its formation, the working group has convened on 12 October 5 April 2024, and 13 February 2025. As a result of the working group's legislative activities, a draft of the CIS Model Law "On Platform Employment" (hereinafter — the Model Law) has been formulated.

The most significant achievement of the Model Law is its rejection of the rigid association of platform employment to a civil law construct. Article 5.3 explicitly states that relationships may be formalised by an 'employment contract, civil-law contract, and/or another type of contract.' This differs fundamentally from the approach of the Federal Law on the Platform Economy, which creates artificial barriers to qualifying relationships as employment relationships. In contrast, the Model Law is based on the principle of that the actual substance of the relationship takes precedence over its formal documentation.

Article 11.2 of the Model Law provides a non-exhaustive list of indicators evidencing the existence of an employment relationship. This list includes classical indicators, such as performing work according to instructions and under supervision, personal performance and a defined schedule, as well as indicators specific to the platform economy, such as performing work in the interests of another person as the primary source of income. This creates a legal basis for tackling disguised employment relationships and is a powerful tool for safeguarding the rights of digital platform workers as 'dependent self-employed' individuals. The direct prohibition enshrined in Article 11.1 of the Model Law, coupled with the operator's right to prove the civil-law nature of the relationship in court (Article 11.3), equalises the parties in the evidentiary process and deprives operators of a monopoly on the legal characterisation of the contract.

The Model Law establishes a special status for digital platform workers. Its Article 8.1.9 guarantees these workers access to the social guarantees set out in national legislation, including state social insurance.

Although it requires specification in the national legislation of CIS countries, the explicit reference to the right to rest (Article 8.1.3 of the Model Law) is an important declaration absent from purely civil-law models. Article 9.3.5 obliges the operator to ensure 'prior human control' over key automated decisions, such as blocking, imposing penalties and processing payments.

The Model Law aims to strike a fairer balance between operators and digital platform workers. The extensive list of operator obligations (Article 9.3 of the Model Law) aims to reduce informational and economic asymmetry. These obligations include ensuring stable platform operation, non-discriminatory access, informing workers about platform operating principles, and ensuring the withdrawal of remuneration. Furthermore, unlike the Federal Law on the Platform Economy, the Model Law (Article 9.2.11) contains a provision that allows operators to fulfil orders through third parties.

The inclusion of a dedicated article (Article 12 of the Model Law) on social partnership establishes a basis for tripartite dialogue involving the state, operators and workers. Furthermore, Articles 1.2.8 and 8.1.8 of the Model Law enshrine the right of digital platform workers to form trade unions and engage in collective bargaining.

It is clear, the Draft CIS Model Law 'On Platform Employment' proposes a functional approach to regulating digital platform employment. Within this framework, the mixed nature of platform work is recognised; labour law guarantees are extended to workers who are effectively dependent on the digital platform; and collective bargaining regulations in the platform economy are promoted.

2. Approaches to Regulating Digital Platform Employment

On 16 July 2021, the Chinese Ministry of Human Resources and Social Security has issued the 'Guiding Opinions on Safeguarding the Labour Rights and Interests of Workers in New Forms of Employment' (hereinafter referred to as the 'Guiding Opinions'). This document aims to provide clear recommendations and principles for 'supporting and standardizing the development of new forms of employment, effectively protecting the labour rights and interests of workers in new forms of employment, and promoting the healthy and sustainable development of the platform economy.' It is important to note that the authors of the

Guiding Opinions explicitly state that they are not intended to hinder the development of new forms of employment, new business models or new types of activity. However, labour rights must not be sacrificed for the sake of economic development and job creation. For the first time, the Guiding Opinions clearly stipulate that digital platforms must fulfil their obligations to protect the lawful rights and interests of their workers. Implementation of the Guiding Opinions took the form of a pilot project involving seven of China's largest digital platforms: CaoCao Travel, Meituan, Ele.me, Dada, Shansong, Lalamove and GoGoVan.

The most notable innovations of the Guiding Opinions are as follows:

1. Categorisation of Digital Platform Workers:

a) Employees employed under labour contracts covered by Chinese labour legislation, primarily, the Labour Law of the People's Republic of China" (1994) and the Labour Contract Law of the People's Republic of China" (2007).

b) Workers in 'incomplete labour relationships', who have greater autonomy (for example, deciding when to log into the system and accept orders), but who are still subject to platform algorithms, disciplinary rules, and management. Chinese scholars note that the term 'incomplete labour relationship' was introduced to describe workers who exist in a state balance between autonomy and platform control. To prevent the abuse of this status, the Ministry has developed model agreement templates for platforms to use when engaging workers. Furthermore, a national digital platform for labour contract registration has been launched to create a centralised database of signed labour contracts [Dun L., Yuan G., 2022: 24].

c) Individuals using digital platforms for entrepreneurial activities or self-employment. In this context, the Guiding Opinions require digital platforms to refrain from substituting labour contracts by forcing workers to register as self-employed. As K. Huang and Y. Sun point out, specific documents on this issue have been adopted in certain Chinese provinces. For example, Hebei Province stipulates that enterprises must not compel or induce workers to register as self-employed in order to evade their labour obligations [Huang K., Sun Y., 2024].

2. Key rights for digital platform workers:

a) Remuneration standards: platforms are strongly encouraged to ensure compensation is not lower than the local minimum wage and that payments are made in full and in a timely manner, without deductions or unjustified delays;

b) Remuneration increases: to establish mechanisms for reasonable wage growth and the gradual improvement of wage levels;

c) Rest time: to improve systems for breaks and rest periods;

d) Premium pay for work on days off (to provide reasonable compensation, exceeding standard rates, for work on public holidays;

e) Occupational safety: to comply with national standards and to minimise occupational accidents and professional risks;

f) Social security: to ensure access to basic pension and medical insurance;

g) Algorithmic oversight: to regulate algorithms governing platform access, order distribution, piece rates, pay structure, working hours, as well as incentives/penalties;

h) Complaint review mechanisms: to establish reliable channels for handling worker complaints and to ensure timely responses to them.

It is important that the Guiding Opinions address relevant state and local authorities in establishing the aforementioned rights, encouraging them to implement these rights in their practices. However, the Guiding Opinions do not impose direct, binding obligations on digital platforms to comply with these rights.

The Guiding Opinions require courts and arbitration bodies at all levels to characterise the relationship between digital platforms and workers based on factual evidence and to pay less attention to formal contractual arrangements when other factual information about the established relationship is available. Furthermore, the Guiding Opinions instruct trade unions, mediation organisations, legal aid bodies and other specialised public organisations to provide consultation and legal assistance to digital platform workers regarding their labour rights.

However, as Chinese experts noted in early 2024, the Guiding Opinions still do not make it possible to definitively determine when a relationship between a platform and a worker constitutes an employment relationship. This complicates protection for workers in new forms of employment, even though the provisions on rights protection are fully based on labour law norms. [13] Chinese scholars also consider the Guiding Opinions to be weak in their insufficient attention to the problem of algorithmic management of workers' personal information and labour processes using big data systems. According to Y. Tian, platform rules

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[13] Wu Q. Strengthen the protection of workers' rights and interests in new forms of employment. Available at: http://www.rmlt.com.cn/2024/0117/693280.shtml (accessed: 06.11.2025)

and algorithmic management often place excessive emphasis on efficiency at the expense of the fundamental rights and interests of platform workers due to insufficient worker participation [Tian Y., 2022: 135].

On February 23, 2024 the Chinese Ministry of Human Resources and Social Security has published the 'Guidelines for Protecting the Rights and Interests of Workers in New Forms of Employment'[14] (hereinafter — the Guidelines). The scope of the Guidelines covers individuals who accept work tasks (e.g., delivery, rides, transportation, and home services) issued by digital platforms online, who provide services to digital platforms under internet contracts according to platform requirements, and who receive remuneration for their labour. The Guidelines do not apply to individuals who are fully engaged in independent entrepreneurial activity, even if this is based on digital platforms.

The website of the Chinese Ministry of Human Resources and Social Security notes that the Guidelines serve as a reference for workers in new forms of employment to protect their labour rights and interests in accordance with the law. They are also intended to help state administrative bodies, courts, trade unions, and digital platform representative organisations to improve and optimise their services for these workers.

The Guidelines set out a method for calculating working and rest time for workers in new forms of employment, taking into account its specific characteristics. It is specified that working time should be determined based on the total time spent by the platform worker fulfilling all orders, considering factors such as the worker's need to wait for orders online, preparation for service, and attending to physiological needs. Enterprises should determine the maximum consecutive task fulfilment time and the maximum daily working time for workers through consultations with trade unions or representatives of the newly employed workers. Once the maximum working duration has been reached, the system should issue a rest reminder and suspend order allocation for a set period to ensure that workers have the necessary rest time and to prevent overwork.

The Guidelines clarify that workers in new forms of employment who do not fully meet the conditions for establishing an employment relationship under the PRC 'Labour Contract Law', but whose labour

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[14] The MOHRSS Explains the Guidelines for the Protection of Employees' Rights and Interests in the New Employment Pattern. Guidelines on Protecting the Rights and Interests of Employees in New Forms of Employment. Available at: http://www.mohrss.gov.cn/xxgk2020/fdzdgknr/zcjd/zcjdwz/202402/t20240223_513877.html (accessed: 06.11.2025)

is managed by the enterprise, are subject to hourly minimum wage standard established by the local people's authorities in the location where they perform their work. Enterprises must pay workers in new forms of employment a higher wage rate for work on public holidays than for regular working hours, and these workers must be paid their wages in full and on time. Rest periods and the application of minimum wage standards for eligible workers must comply with current labour legislation.

According to the Guidelines, digital platforms must develop and revise work rules and regulations by openly soliciting opinions from workers and trade unions or other worker representatives. These rules must be notified to workers at least seven days before their implementation. Digital platforms must consistently and truthfully disclose the content of the rules in clear, understandable language in prominent locations such as within applications. This ensures that workers can conveniently view the full content at any time, and provides a feedback channel through which they can express their opinions and suggestions. As Z. Xie notes, granting workers the right to equal consultations and promoting worker organisation to conduct such consultations with platforms on issues such as labour remuneration, working hours, rest and leave, safety and health, insurance and benefits are important means of protecting their lawful rights and interests [Xie Z., 2022: 122].

Trade unions are must actively engage workers in new forms of employment, monitor enterprises' compliance with their employment obligations, facilitate the establishment of regular communication and consultation mechanisms on digital platforms, provide legal assistance to workers in new forms of employment, etc.

The Guidelines set out methods for protecting lawful rights and interests, encourage local authorities to set up labour dispute mediation committees and clarify how to resolve conflicts and disputes. When safeguarding their labour rights and interests, workers in new forms of employment should express their demands reasonably and lawfully, refraining from illegal or overly confrontational actions. They may protect their lawful rights and interests through the following lawful channels:

filing a complaint with the digital platform or with the specialised dispute resolution bodies that it has set up;

seeking support and assistance from their own trade union organisation or the local one;

appling for mediation with the people's mediation committees or with the various professional labour dispute mediation organisations at all levels;

submitting the case to the labour and personnel dispute arbitration institution at the place of work, provided that the case falls within the scope of labour dispute arbitration;

filing a complaint with the labour security inspection authority;

initiating a lawsuit in a people's court with the relevant jurisdiction in accordance with the provisions of the Civil Procedure Law.

On 19 May 2025 the All-China Federation of Trade Unions, the Supreme People's Court, the Supreme People's Procuratorate, the Ministry of Justice of China, the Ministry of Human Resources and Social Security of China, the All-China Federation of Industry and Commerce, the China Enterprise Confederation, and the China Association of Enterprises have published jointly the 'Guiding Principles on the Joint Protection of the Lawful Rights and Interests of Workers'[15] (hereinafter — the Guiding Principles). The Guiding Principles set out 11 key tasks for the labour sphere and clarify cooperation mechanisms and specific responsibilities of various departments in protecting workers' lawful rights and interests.

Article 10 of the Guiding Principles stipulates that the issuing institutions and state bodies must promote regular consultations between platform companies and workers in new forms of employment and improve consultation and coordination mechanisms concerning workers' rights and interests, namely:

promote the establishment of consultation mechanisms such as collective consultations, consultation and coordination meetings, and consultation forums between platform companies and their partner employers, trade unions, and representatives of workers in new forms of employment;

promote the standardisation of platform companies' systems, rules, and algorithms to facilitate the development of industry labour standards that correspond to the characteristics of platform employment and promote the high-quality development of platform companies;

improve the social insurance system for workers in new forms of employment to promote solutions for protection against occupational injuries and safeguard the lawful rights and interests of these workers;

provide assistance and support to platform companies in establishing and improving channels through which workers in new forms of em-

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[15] The MOHRSS. Guiding Principles on the Joint Protection of the Lawful Rights and Interests of Workers. Available at: https://www.shui5.cn/article/a0/52474.html (accessed: 06.11.2025)

ployment can express their demands; improve the mechanism for filing complaints and providing legal protection for workers whose rights and interests have been infringed.

The Guiding Principles establish a 'one-stop shop' model that integrates consultation, mediation, and arbitration functions within a unified interdepartmental space for platform employment. This reflects the trend towards the procedural integration of labour rights protection. It is fundamental that they mandate the annual monitoring of working conditions on platforms involving trade union bodies and business entities, thereby creating a basis for the preventive identification of systemic violations. Overall, the document reflects the evolution of the Chinese labour law model towards a combination of traditional guarantees and the digital adaptation of legal remedies for platform workers.

On June 20, 2025 the State Council of China has published Decree No. 810 under the title "Rules on the Provision of Tax Information by Internet Platform Enterprises"[16], which introduces reporting obligations for digital platforms. This measure is aimed to enhance transparency and strengthen tax control in the digital economy, including platform-based employment. On June 26, 2025 the State Taxation Administration of the PRC has issued two explanatory documents (Notices No. 15[17] and No. 16[18]), detailing the procedures for fulfilling these requirements. According to these documents, a key element of the regulation is the introduction of a mandatory requirement for digital platforms to submit detailed quarterly reports to the tax authorities, containing the personal and financial data of both legal entity sellers and individual platform workers. This requirement applies to both Chinese digital platforms and foreign digital platforms operating within China.

In the context of labour law, these innovations establish a mechanism for indirect control over the legal relationships between the platform and

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[16] The State Council of China. Rules on the Provision of Tax Information by Internet Platform Enterprises. Available at: https://fgk.chinatax.gov.cn/zcfgk/c100010/c5241238/content.html (accessed: 06.11.2025)

[17] Announcement of the State Taxation Administration on Matters Concerning the Submission of Tax-Related Information by Internet Platform Enterprises, State Taxation Administration Announcement No. 15 of 2025. Available at: https://fgk.chinatax.gov.cn/zcfgk/c100012/c5241477/content.html (accessed: 06.11.2025)

[18] Announcement of the State Taxation Administration on Several Matters Concerning Internet Platform Enterprises handling, withholding and filing Declarations for Employees on their Platforms, State Taxation Administration Announcement No. 16 of 2025. Available at: https://fgk.chinatax.gov.cn/zcfgk/c100012/c5241472/content.html (accessed: 06.11.2025)

the performer, given the frequent absence of direct employment contracts, as previously discussed in the section on the stance of Chinese courts. In practice, platform operators are assigned the functions of tax agents, with the obligation to withhold taxes from the income of individuals performing labour activities on digital platforms. The obligation to disclose personal and financial data of platform workers is intended to minimise the shadow sector and formalise labour relations within the platform economy. This information facilitates interagency cooperation between tax authorities and the State Administration for Market Regulation of the PRC, enabling monitoring of tax compliance and adherence to labour legislation.

Conclusions

Up-to-date Russia and China have merely outlined the initial legal contours for the future regulation of employment on digital platforms.

The Draft Law on platform employment, which is proposed for passing in Russia, aims to formalise flexible practices that have emerged in the platform labour market. Meanwhile, the Federal Law 'On Certain Issues of Regulating the Platform Economy in the Russian Federation', which has already been approved but is not yet in force, contains only framework provisions for the interaction between a digital platform and a partner-performer. These provisions are applicable when their relationship cannot be classified as an employment relationship. Consequently, the issue concerning the scope of labour law and social guarantees for platform workers, whose activities may fall within the remit of labour legislation by their legal nature, remains unresolved. By contrast, the Draft of CIS Model Law 'On Platform Employment' represents a significantly more progressive and balanced legal instrument. Rather than imposing a single, inherently limited civil law form upon them, it enables the differentiation of the legal status of digital platform workers based on the actual degree of their economic dependence and subordination.

In China, the regulation of digital platform employment is based on the application of 'soft law', as expressed in ministerial documents such as the 'Guiding Opinions on Safeguarding the Labour Rights and Interests of Workers in New Forms of Employment' (2021), the 'Guidelines for Protecting the Rights and Interests of Workers in New Forms of Employment' (2024), and the 'Guiding Principles on the Joint Protection of the Lawful Rights and Interests of Workers' (2025). In terms of their legal force, these three documents do not constitute normative acts and

are essentially instruments of 'soft law'. Nevertheless, they are intended to influence judicial decisions in disputes concerning digital platform employment and contribute significantly to laying the groundwork for future normative regulation in this area. Furthermore, since mid-2025 China has been making efforts to formalize the status of digital platform workers and enhance the transparency of their income by obliging digital platforms to submit reports containing performers' personal and financial data to the tax authorities.

Unlike the Russian approach, which establishes a distinct quasi-civil law regime that systemically precludes the application of labour law norms by formally distancing of the relationship between the platform and the partner-performer, the Chinese approach gradually adapts labour guarantees to the digital environment using instruments of 'soft law' and a functional analysis of de facto relationships of economic dependence. While the Russian legislator creates a rigid formal model that artificially limits the scope of labour law, the Chinese regulator uses flexible approach/standards and differentiated statuses to extends key labour guarantees to workers in the 'grey zone' between autonomy and control. However, neither approach ensures the comprehensive regulation of employment in the platform economy, as both fail to resolve the fundamental issue of algorithmic labour management. In this system, rating mechanisms, dynamic pricing, priority order distribution, and other digital tools create an extra-legal technological order cannot be fully formalized within the framework of routine legal models.

The lag in legislation in both Russia and China compared to the operational practices of digital platforms is paradoxical, yet it creates an opportunity to avoid hyper-regulation by outdated norms. According to J. Cohen, the existing regulatory toolkit is poorly adapted for scrutinising algorithmic models and methods, and the techniques for machine learning and artificial intelligence on which platforms increasingly rely are even less amenable to explanation and oversight [Cohen J., 2017: 144]. In other words, the unsuitability of traditional regulation for analysing digital platform algorithms means that classical scrutiny of the reasonableness of decisions is not possible, creating a gap between legal norms and algorithmic practices.

One possible solution to this problem is the establishment of an adequate legal framework for digital platform employment. This would involve integrating state regulatory mechanisms into digital ecosystem architecture by creating nationwide digital platforms that function as

unified spaces for interaction among the various stakeholders in the labour and employment sphere (the state, workers, employers, trade unions, customers, and AI developers).

A key element of the proposed model is the implementation of legal norms into a state algorithmic system to ensure automated compliance with employment legislation. For this system to operate, there must be bilateral transparency in algorithmic processes, meaning that platform algorithms must be accountable to state supervisory bodies and their compliance with legal standards must be verifiable; automated decisions must also be guaranteed to be explainable. Implementing such a system would transform the state's role from that of a passive regulator to an active participant in the platform economy. The state would be capable of establishing norms and ensuring their enforcement through technological means.

Therefore, the transition to a nationwide digital platform in the labour and employment sphere is not merely a technical modernisation, but a regulatory paradigm shift. Integrating law with algorithms is the only way to bridge the gap between the dynamic digital reality and outdated legal mechanisms, thereby ensuring the protection of workers' rights within the platform economy.

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Jurisprudence in the Digital Age

Virtual and Augmented Reality in Jurisprudence and Justice: Issues, Prospects and Import

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Abstract

The current stage of social development in Russia is characterized by the emergence of long-term reference points, with regulation playing a crucial role in the process. It delimits and guides the use of high-technology products and services in the socio-economic sphere, governmental and judiciary system. This has brought about the perception of benefits and underlying risks of digital technologies, a problem equally vital for individuals, business community and public law institutions. The article is focused on the aspects of integrating specialized software into the national system of law and order for creating virtual (VR) and augmented (AR) reality. It provides evidence for the author' view that the said software is able to improve technological culture in Russia through visualization of real world objects while providing new opportunities to optimize different sectors such as justice system, public services and education. Based on analysis of the acting law and author's own findings, the article contains proposals to develop field-specific software and to improve level of legal system in general. A special focus is made on consolidating governance and coordination mechanisms for the judiciary system and society as a requirement for seamless implementation of promising digital technologies.

Background

The study is predicated by the author's conviction — evolution applies not only to biological species, but also to thinking and cognition. Rapid changes taking place in the world at present time underscore the evolutionary nature of transformation of scientific ideas, methodological approaches, as well as strategies of individual research. This process is begging to develop multi-option approaches to problem solving across sectors which, in their turn, are predictably subject to transformation from statics to dynamics.

This premise holds equally true for software development in its entirety as it can possess different qualities. For example, previously predominant linear models and interfaces are giving way to 3D solutions suggestive of a paradigm change in software development. A more detailed analysis of this trend will be given across the article. In author's view, time has come for 3D-enabled information technologies (IT) to transform different swathes of socioeconomic relations including public agencies and judiciary system.

A modern nation is progressing on a variety of planes in transforming both socio-economic, domestic and foreign policy relations between stakeholders as for the choice of ways they engage between themselves. This process is facilitated by the explosive development and use of diversified information and communication technologies (hereinafter — ICT), multimedia systems, information services and other similar software enabling diverse communicative engagements between stakeholders in accomplishing different tasks to reach the required objectives. This is the first aspect of the issue to be discussed.

Another aspect is academic community is largely focused on the study of the best international practices of introducing technological products/services in public/municipal governance and judiciary system [Stepanov O.A., Pechegin D.A., Diakonova M.O., 2021: 4–23]. However, this process is fraught with a number of difficulties. According to A.V. Minbaleev's just remark, modern software becomes increasingly sophisticated, with foreign technologies in use capable of both *direct* and *indirect* impact on functional application and role [Minbaleev A.V., 2025: 10−13]. In sharing this view, the author would like to stress that

the use of high-tech systems results in both positive and negative factors (risks, threats) are hard to identify at the stage of development and implementation and may expand across all spheres of social relations. Moreover, improper or negative applying of ICT will give rise to legal relationships complicated by technical and technological aspects.

These issues are especially manifested in criminal law sphere as reflected in a recent study by V.V. Baranov, who provides evidence for a need to account for specific features of cyber-crime and to develop mechanisms to fight the emerging hybrid threats in the context of ubiquitous digitization. The author shares the forensic researcher's findings on the need to accelerate development of technological devices and related software at the national level [Baranov V.V., 2025: 109–120, 122], and to enhance the technological edge of law enforcement agencies tasked with criminal prosecution for action against the emerging threats.

The aspects mentioned above should be considered holistically and causally as modern society is able to achieve progress in terms of safeguarding the interests of an unlimited range of stakeholders and improving technological sovereignty only on the basis of centralized governance and streamlined approaches balancing private and public interests.

1. National Law and Order: from Linear to 3D Software

As was noted previously, software is also undergoing evolutionary change. This is why a brief analysis of its development is pertinent: in developing a digital product, one has to take into account causal relationships covering various aspects and factors that emerge in society. These include historic cultural, sociological and economic factors, personnel and professional aspects, political and legal aspects, as well as governance and oversight aspects that, underpinned by direct and indirect linkages, enable the development of a modern national society and law and order. It is purposeful to discuss some of them in detail.

Thus, the following may be distinguished from the perspective of historical and cultural development of software in a national state. A product, service and even whole sector are able to emerge and develop in a static period as followed by that of dynamism. This is *de facto* noticeable in the development of digital, information and communication technologies and related services and devices in contemporary Russia.

Such devices were in the making back in the Soviet time in the early 1960s, with special hardware and software developed for the purpose

[Vengerov A.B., 1975: 88−97]; [Vengerov A.B., 1983: 21−28]. However, progress in this sector was reversed in the context of drastic socio-economic, political and legal changes took place in period since late 1980-s till 2000-s. The emerging institutional inertia caused systemic backwardness manifested not only in technology (software and hardware development), but also in legal regulation and in public mind are not adapted to correct and reasonable use of such technologies. This should be taken into account since, as regards digitization, mediatization and informatization of social relations across the board, our society is not as advanced as social fabric a number of other countries. Another challenge is deficit of specialists with adequate skills to ensure data security in operating technological services and software [Tereschenko L.K., 2025: 18−23].

As for sociological aspect of the issue under scrutiny, IT technologies normally are developing under the same laws and principles as society in progressively evolving from simpler to more complex forms following the linear pattern. Linear development is a sociological term defining a type of social dynamism characterized by gradual, progressive and evolutionary development of society and the emerging relations, with consistent upward movement from regress to progress as the model's key criteria [Goncharov V.N., Kolosova O.Yu., 2025: 33−36]. The same pattern characterizes the software currently used in the governmental and judiciary system. This form of IT progress assumes software development and evolution under the top-down principle. The underlying trend is manifested by consistent elaboration of tasks and development of specialized information and communication technologies. While previous IT technologies were largely focused on data fusion, collection and processing, the current stage assumes reconstruction of 3D images from available information and data.

The development of 3D technologies including 3D modelling or variational software is faced not only with issues of technical and technological parameters of such IT technologies, but also with a need to simultaneously rely on a number of things: skilled staff, economic foundation, state support and centralized approach to developing this kind of software, as well as regulation and oversight.

In this regard, the role and import of governance in the area under study should be also pointed out.

The surge of digital services, technical and technological devices entails not only positive, but also negative trends. While methods,

techniques, instruments and technologies of social relations changing, human nature remains fundamentally the same one, with each doing matched by wrongdoing, something that calls for a need to consolidate the role of governance and predictive decisions in the area under study.

IT technologies provide an extremely wide range of opportunities applicable to practically all social relations across the board, including public and municipal governance, as well as the national judiciary system.

Public and municipal government and judiciary system have a scope of competence affecting interests of an unlimited range of stakeholders, that is, of society and national state as a whole. Governance is exercised by public/municipal agencies represented by specific officers and their staff who in accordance with the established hierarchy will adopt and translate into reality political, legal or governance decisions that shape the implementation of social relationships within a delimited range of issues. Any decision being made will entail not only a change of form or method of implementing social relations, but also implications which occur within long or short term. Due to the importance of decisions being made for society, as was pointed out previously, there is a need to predictively analyze these decisions in introducing and using IT technologies in the said domains since negative implications are capable to affect the interests of an unlimited range of stakeholders in future.

Purposes and objectives, including the so-called governance decisions, have a special relevance for the development of IT technologies, as Yu.A. Tikhomirov writes [Tikhomirov Yu.A., 2021: 5–18]. Let me believe that governance decisions to be made at the state level determine not only the types, but also implementation fields of IT technologies. Correctly formulated purposes and objectives are crucial at the stage of elaborating governance decisions. It is them that underpin the terms of reference defining the architecture and functional capabilities of a technological product to be developed.

Thus, the Ministry of Justice of the Russian Federation has announced on its site on 3.06.2025: a number of draft laws are in the making to support the implementation of a new information system "Universal state register of writs of execution" in the national law and order[1] which, once implemented, was to streamline interagency cooperation and legal enforcement procedures through an ability to build up the nec-

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[1] Ministry of Justice official website. Available at: URL: http: // www.minjust. gov.ru. (accessed: 20.08.2025)

essary stock of data supporting the relevant relationships. At the same time, this is expected to expedite the process of enforced collection if the software complex meets the required level of security and confidentiality; the regulatory amendments will also allow to put in place an integrated system of related provisions to remove not only legal gaps, but also overregulation.

It is also worth noting the link of such governance decisions with the pursuit of technological sovereignty and the emerging vector to implement social relations depending on the particular sphere or area of application, with adaptation of the underlying regulation to follow.

The explosive progress of the area under study demanding not only efficient governance, but also regulation tends to produce *ad hoc* projects which fail to meet the requirements of effectiveness, feasibility and balance, as well as adaptiveness and quality from the perspective of predictive implementation over short and long term. One example is the draft Machine-Readable Law Development Framework[2] which, despite its potential, does not agree with the principle of "balancing private and public interests". In particular, there are doubts with regard to the proposal on algorithmically generated rulings[3] since "law is not simply a mass of regulations but something altogether different", as noted by researchers in this field [Kovler A.I., Semilyutina N.G., 2024: 5−16]. They also stress that adequate understanding of the essence of law requires legal art: "knowledge of regulations is not tantamount of understanding them as such and the essence of law; adequate understanding and enforcement require years of experience, specific *thinking*, intuition, imagination, ability to deal with legal concepts etc."

In sharing this argument, the author would underline its special importance in the context of mounting informatization, mediatization and digitization of legal profession, something fraught with the risk of degrading the fundamental nature of jurisprudence. Its essential features are not technical application of provisions but a special type of thinking, perception and interpretation of information on the basis of available knowledge, robust theoretical foundation shaped not only by studies at legal departments, but also through independent learning, acquisition

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[2] Machine-Readable Law Development Framework. Approved by the Russian Federation Governmental Commission for digital development and the use of digital technologies to improve the living standards and business climate, protocol No. 31 of 15 September 2021 // SPS Consultant Plus.

[3] Ibid.

of skills and experience in the process of advanced vocational training and/or retraining.

Building and improving skills and knowledge is a natural requirement in any profession including legal one. Far from being static, the legal system, as well as legislation, evolve and change, with new facets and aspects to be not only learned and understood, but also mastered for practical work. To sum up the above, neither of the so-called algorithms are able to provide a practical replacement for a jurist in any field. In my opinion, the focus should be on developing IT technologies capable of expanding professional capabilities rather than on functionally replacing specific trades. I believe that specialized, narrowly focused software is crucial for the national law and order at the current stage.

Public governance in this area should target not only the assessment of direct implications, but also long-term foresight of the effect of underlying decisions since an environment prejudicial for the rights, freedoms and legitimate interests of an indefinite range of stakeholders will not only generate social tension, but catalyze massive negative processes similar to those which already occurred in the national history.

However, despite all the promises and potentials of different hi-tech products and services, the highest value to be kept in mind is "man, his rights and freedoms, with the state under a duty to recognize, observe and protect human and civic rights and freedoms", as explicitly provided for by Article 2 of the Russian Federation Constitution. As applied to this study, the same idea is stressed in Presidential Decree No. 490 "On developing artificial intelligence in Russia" of 10.10.2019[4]. In particular, as noted in Section V "AI development purposes and main objectives", sub-section "Creating a comprehensive system for regulating social relations associated with AI development and use, and ensuring secure use of the said technologies", "AI development and use is underpinned by humanistic approach, with the supreme value to be attached to human rights and freedoms in developing and regulating AI technologies". The text provides for a need to recognize and respect human autonomy and free will: "AI regulation should not depreciate human right of choice and human intelligence as a value in its own right and systemic factor of modern civilization".

Regulation of hi-tech products and services should evolve towards defining their functional purposes including those of specialized and

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[4] Presidential Decree No. 490 "On developing artificial intelligence in Russia" of 10.10.2019 (as amended 15.02.2024) (part of the National AI Development Strategy for the period until 2030) // Collected Laws of Russia, 2019. No. 41. Art. 5700.

field-specific software (software packages) in view of the assumption that "information technologies are developed and operated to benefit people and society, not to replace them".

Implementation of such technologies also crucially depends on where they are implemented and how they are regulated in terms of accreditation, licensing, certification as high-tech products, as well as affiliation of companies for technical and technological support of public governance and judiciary system. While these technologies are increasingly used, still a balanced approach is to be found. Quality of software, skills of those involved in software development are crucial because these factors determine not only the national technological sovereignty, but also security of information and data of an unlimited range of stakeholders, and at times the country as a whole.

Another important factor is functional application of technologies for public and municipal governance in general and the judiciary system in particular. A core advantage of IT technologies is that their optimal, correct and balanced use allows to streamline production processes and targets instead of to make the performance of particular functions more complicated and constrained.

The author believes that, apart from the above, the relevant, structured legal regulation is crucial for the development of specialized 3D software.

2. Virtual and Augmented Reality as Next Generation Software and Hardware Complex

As was pointed out above, software development is gaining momentum, with diverse digital and information technologies improving and evolving. One example is recent explosive progress and implementation of software which allows to create 3D virtual and augmented reality. While federal legislation does not define these categories, their technological parameters can still be found in the Roadmap for the development of virtual and augmented reality as a cross-cutting digital technology[5]. It says, in particular, virtual reality (VR) is a comprehensive immersive technology implementable via specialized devices (virtual

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[5] Roadmap for the development of virtual and augmented reality as a cross-cutting digital technology // SPS Consultant Plus. While the document was not published officially, the text follows is on the official website. Available at: https: // digital.gov.ru as of 14.10.2019 (accessed: 11.12.2024)

reality headsets) which enable full immersion into the digital environment, respond to user actions in a natural way, and construct a new artificial world accessible to human senses: vision, hearing, touch etc. Moreover, the user can interact with a 3D environment, manipulate things or perform specific tasks. In its simplest form, virtual reality include 360-degree images or video. The technology strives to achieve full immersion into virtual reality until the user is no longer able to differentiate between visualizations and real life.

Augmented reality (AR) is a technology which enables real-time integration of information into real things in the form of text, computer graphics, audio and other representations. It is implemented by using special hardware such as heads-up displays, glasses or head-mounted displays (HMD), or other forms of projecting graphics for human use (for example, smartphones or projection video mapping).

The above technologies are most frequently associated with multimedia and gaming industry, but these categories, while mentioned in Federal Law No. 330-FZ "On Developing Creative Industries in Russia" of 08.08.2024[6], are neither defined nor expounded. Meanwhile, they are consistently referred to in regulations of different level[7].

In particular, as follows from Instruction No. 3719-r of 20.12.2021[8], the Federal Government envisages a need to develop augmented and virtual reality technologies at the installation and commissioning stage to improve technological parameters in aviation. In other words, these

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[6] Federal Law No. 330-FZ "On Developing Creative Industries in Russia" of 08.08.2024 // Rossiyskaya Gazeta. 16.08.2024. No. 182.

[7] Ministry of Education Order No. 441 "On approving the federal state education standard for secondary vocational training in the development of computer games, augmented and virtual reality" of 25.06.2024 (registered by the Ministry of Justice, No. 78924 of 25.07.2024) // SPS Consultant Plus; Federal Government Instruction No. 3363-r "On Russia's transportation strategies for the period until 2030 as forecasted for the period until 2035" of 27. 11.2021 (as amended 06.11.2024) // Collected Laws of Russia, 13.12.2021. No. 50 (Part IV), Art. 8613; Federal Government Instruction No. 1315r "On approving the 2030 Technological Development Framework" of 20.05.2023 (as amended 21.09.2024) (part of the 2030 Technological Development Framework) // Collected Laws of Russia. 29.05.2023. No. 22. Art. 3964, and many other departmental instruments and bylaws.

[8] Federal Government Instruction No. 3719-r "On approving the data modelling roadmap for capital construction/design, and promoting the use of energy-efficient and environmentally friendly materials including to be produced in Russia" of 20.12.2021 (as amended 16.01.2024) // Collected Laws of Russia. 03.01.2022. No. 1 (Part IV). Art. 262.

are digital simulators which allow not only to train a particular sector's staff but also build relevant databases on real-life infrastructure facilities[9]. In this connection, it is also worth noting the 2025–2030 Standardization Plan for Advanced Manufacturing Technologies (No. 1, 2 and 3 as amended)[10] which identifies two sectors (education and textile industry) of likely implementation of VR/AR technologies. In my view, the implementation potential and capabilities of this kind of software are much wider as confirmed by scholars of the modern legal doctrine [Lazarev V.V., 2023: 5–19]; [Zaloilo M.V., 2024: 30–48] and sectoral studies [Kurbanov R.A., Balanyuk L.L., 2023: 116–129]; [Vaypan V.A., 2024: 10–17]; [Khavanova I.A., 2024: 78–93]; [Savchenko E.A., 2019: 104–114].

Of capital importance for the subject under discussion is Federal Government Resolution No. 207 "On amending the list of R&D developments to be reported for tax purposes as miscellaneous costs at 1.5 of those actually incurred pursuant to paragraph 7, Article 262 of the Tax Code (Part Two)" of 18.02.2022[11], a bylaw specifying the provisions regulating this kind of software across various production sectors.

The said software package is a form/kind of digital simulator enabling interaction with constructed virtual reality where physical things of the real world are represented in 3D virtual space. That is, this software is also used in production sectors such as energy and mining [Basalaeva E.V., Ilyushina M.N., Smirnov V.V., 2023: 10–20]; [Basalaeva E.V., Ilyushina M.N., Smirnov V.V., 2024: 7–15], medicine [Yudina M., 2015: 46–49], transport security. An example of early implementation of virtual reality technologies is the software package developed for the Ministry of Interior of the Russian Federation to train novices in basic driving skills. It was designed to create an environment approximating a big city with official rules downplayed and to train novices to behave with calm and feel comfortable in the congested urban context without

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[9] Board of the Eurasian Economic Commission Decision No. 125 "On ToR to develop the Eurasian Economic Union's integrated information system" of 06.12.2022 // EAEU official website. Available at: URL: http://www.eaeunion. org/ (accessed: 18.05.2024)

[10] 2025–2030 Standardization Plan for Advanced Manufacturing Technologies (No. 1, 2, 3 as amended) (approved by the Federal Agency for Technical Regulation, Ministry of Trade) // SPS Consultant Plus.

[11] Federal Government Resolution No. 207 "On amending the list of R&D developments to be reported for tax purposes as miscellaneous costs at 1.5 of those actually incurred pursuant to paragraph 7, Article 262 of the Tax Code (Part Two)" of 18.02.2022 // Collected Laws of Russia. 07.03.2022. No. 10. Art. 1487.

exposing themselves and other users to high risk [Sychev E.A., Nezhibetskaya I.E., Andrukhov V.A., 2010: 303−308]. This kind of software is just beginning to gain ground since, being structurally sophisticated, it does not only require different applications packaged into a single functional set, but also quality hardware (servers, PCs, memory cards etc.).

Moreover, development of such software in government and judiciary system is predicated by the aforesaid factors, of which the most crucial is stronger role of centralized governance for promoting digital technologies in the national law and order. In practical terms, this could be achieved by establishing an overall structured regulatory framework since the stock of regulations at different levels is only growing at this stage. This point is discussed below.

3. A Brief Analysis of Software Regulation in Russia

As was noted previously, the development of different software depends on a number of factors including an updatable regulatory framework. To be efficient and comprehensive one, regulation of the area in question should be streamlined since the currently accumulated stock of legal instruments creates imbalance. Therefore, because technological development is manifold and includes a variety of solutions related to jurisdictions and technologies, it is the contents of software that should be the point of discussion.

Digital technologies evolve from standalone applications for specific devices or hardware to specialized software systems, representing a software/hardware complex integrated into an interrelated whole. The latter includes, in particular, global connectivity via the Internet, and databases relevant to the purpose of a particular software package. Functionally, such software is designed to address sectoral and multidisciplinary tasks requiring special knowledge in specific areas of social relations, particularly in the field of governance or public/municipal functions, including judiciary system, administration of justice and related functional areas.

This term, while not reflected directly in the national legislation, is defined by GOST R 51904-2002 "Russian Federation standard. Embedded system software. General requirements to development/documentation" as a "system consisting of software and possible computer hardware for its execution"[12]. The same document defines software as

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[12] GOST R 51904-2002 "Russian Federation standard. Embedded system software. General requirements to development and documentation" (approved

"a complex of computer programs and documents required to run these programs". Indeed, the document is crucial for the given sector as providing a detailed and logical description of the underlying terminology in terms of both technology and content.

Meanwhile, Article 1261 of the Civil Code of Russia (hereinafter— CCR) defines the ECM software as "an objectively represented set of data and commands designed to run computing machines and other computing devices for achieving a specific outcome including what is preparatory to computer software development, and audiovisual representations generated by software"[13].

The procedure and rules for state regulation of domestic software to be used in computers and databases are established by Article 12.1, Federal Law No. 149-FZ "On Information, Information Technologies and Data Security" of 27.07. 2006[14]. From the perspective of consistency with the above regulations it makes sense to discuss Federal Government Resolution No. 325 "On approving extra requirements to computer and database software listed in the register of domestic software, and on amending the rules for building and maintaining the integrated register of domestic computer and database software" of 23.03.2017[15]. The document provides a broader definition of software by identifying office software as "a set of interrelated software products in line with classification of computer and database software under the Russian law".

I believe it reasonable to discuss the contents of the term ECM which, as a synonym of computer, is a hardware capable of performing multiple arithmetic and logical operations based on the given software and data, a universal programmable digital processor of various data[16].

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and imposed by Federal Agency for Technical Regulation. Resolution No. 247-st of 25.06.2002). Moscow, 2005.

[13] Civil Code of Russian Federation (Part Four) No. 230-FZ. 18.12.2006 (as amended 23.07.2025) // Rossiyskaya Gazeta. 22.12.2006. No. 289.

[14] Federal Law No. 149-FZ "On Information, Information Technologies and Data Security" of 27.07. 2006 (as amended 24.06.2025 and imposed 01.09.2025) // Ibid. 29.07.2006. No. 165.

[15] Federal Government Resolution No. 325 "On approving extra requirements to computer and database software listed in the register of domestic software, and on amending the rules for building and maintaining the universal register of domestic computer and database software" of 23.03.2017 // Collected Laws of Russia. 2017. No. 14. Art. 2062.

[16] See for details: GOST R 52653-2006 "Russian Federation standard. Information and communication technologies in education. Terms and definitions» (approved and

In my opinion, this is not quite exact. The term electronic computing machine was introduced into the national legislation during the Soviet time to reflect progress in the development of such devices. According to GOST 15.971-90 "Data processing systems. Terms and definitions", ECM is a "computer with the core functional devices relying on electronic components"[17]. ECM was and is a narrowly focused device required to perform specific operations based on software matching relevant criteria. Today such devices and underlying software are no longer widespread: in most cases, personal computers ("PC") are used. Identifying ECMs with computers at this stage of technological progress is not quite right, in my view, not only because the former is associated with 1960-1990s — a specific stage in the development of computing equipment and national history — but also in light of the actual technical parameters such as multi-tasking, data processing speed, available memory etc.

Based on the above, I believe the term ECM is currently obsolete.

This brief analysis of terminology used in this regulatory area is necessary for a number of reasons. Firstly, there is no uniform regulatory interpretation of technical devices, with obsolete terms and concepts still used. Secondly, this area is overregulated. Thirdly, the technological leap of the last several decades is not accounted for in the regulation. This is why uniform regulation for consistency of both effective federal legislation and structural bylaws and local legal instruments including program and strategic documents should become a priority.

4. Technologically Sophisticated Software as a Basis for the Development of 3D Software for Judiciary System and Administration of Justice

The role of narrowly focused software as a technological tool — defined as IT solutions and complexes designed to address a strictly delimited range of tasks in combination with appropriate hardware —until now is underestimated in the national legal system. By their legal nature, these products constitute intellectual outputs produced by experts and companies, something defining their special status as things at law.

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imposed by Federal Agency for Technical Regulation Order No. 419-st of 27.12. 2006). Moscow, 2007.

[17] GOST 15971-90 "USSR state standard. Data processing systems. Terms and definitions" Approved and imposed by USSR Committee for Standards order No. 2698 of 26.10.1990. Moscow, 1991.

Hi-tech products are complex, manifold and packaged solutions since they involve multiple software, but not a single application: in other words, they are a technologically sophisticated (multiple) software package for addressing specific tasks.

While the national legislation does not define the said term, a similar term — "technologically sophisticated product" — may be found in paragraph 4.1, Article 4, Federal Law No. 2300-1 "On Consumer Rights Protection" of 07.02.1992 (as amended 07.07.2025)[18], as well as in other regulations[19].

Hi-tech products serve a production or productive task or function rather than retrenchment of skilled or employed workforce; for details see: [Chikanova L.A., 2022: 70−84].

The potential of this kind of technologies (field-specific and specialized) is yet to unfold, as evidenced, in particular, by their widespread introduction and use.

For example, A.A. Yashin points out to possible use of virtual reality as an instrument in criminal investigation [Yashin A.A., 2022: 23−26]. It is a valid point as visualization and 3D imaging of the scene of crime are able not only facilitate the perception of what happened via a detailed 3D image, but also enable the exchange of information and communication between investigators, prosecutors and judges. These software packages will not only expand the spectrum of forensic techniques and tools, but also promote interagency cooperation between the parties involved to investigate and adjudicate criminal cases. Visualizing physical things and locations as 3D virtual reality also allows to accommodate a particular territory further on. Thus, where a street section, crossroads or other urban territory is not covered by surveillance cameras or has blind spots, only to regularly become a scene of crime as qualified by the Criminal Code of Russia, visualizing such locations in 3D and reconstructing the past events can provide justification for installation of cameras with an optimal viewing angle.

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[18] Federal Law No. 2300-1 "On Consumer Rights Protection" of 07.02.1992 (as amended 07.07.2025) // Rossiyskaya Gazeta. 16.01.1996. No. 8.

[19] The author believes it is important to note in this regard Federal Government Resolution No. 1867 "On computer software originating from Russia or other EAEU countries pre-installed in specific types of technologically sophisticated products and on possibility to use search engines originating from Russia or other EAEU countries without additional settings" of 18.11.2020 (as amended 26.08.2023) // Ibid. 26.11.2020. No. 267.

I would thus suggest to tap the capabilities provided by individual, narrowly focused and specialized technologically sophisticated software, including software packages, for use in jurisprudence in general and judiciary system in particular, as well as in related fields and realms. In terms of functional purpose, such software should support intellectual efforts of jurists and experts instead of algorithmization of their work across the board. With technologies used as auxiliary tools rather than replacement, this approach allows highly intellectual professional work to remain relevant.

This issue directly concerns national justice since the value of justice and its administration (legal proceedings) primarily lies in the fact that a ruling will not only bring an illusion of justice, but in specific categories of cases will provide a basis for new rights and obligations of the parties to emerge. This will implement in its turn two basic functions of justice vis-à-vis violation of rights, freedoms and legitimate interests, particularly, law enforcement, that is, protection of a certain right, freedom or interest manifested in a court ruling or statement redressing an injustice; and also dispositive function implementable by stating a need to restore violated rights, freedoms and legitimate interests of the parties by passing the final ruling based on the regulatory framework to enforce a certain course of action or to enable an event to occur etc.

The current trend to simplify legal proceedings by algorithmizing and technologizing undermines the fact that state power under Article 10 of the Russian Federation Constitution includes three independent branches: legislative, executive and judiciary, while under Article 11 state power is exercised by the President of Russia, twin-chamber Federal Assembly, Government of Russia, and federal courts. Under part 1, Article 118 of the Constitution, justice in Russia is administered only by court.

One should be cautious of governance decisions likely to negate/undermine the authority of public or judiciary power through introduction of IT technologies. Associating judiciary power and administration of justice with a robotic judge or mechanic proceedings will degrade this kind of government activities to a template or blanket process. Judiciary activities in general and trial in particular should be focused at establishing the actual circumstances and identifying merits of the case for an objective, comprehensive ruling rather than perform mechanic compilation not only in decision-making, but also in analyzing submissions. Even standard and homogeneous case categories should be handled

through analysis of submissions as circumstances not identifiable initially can be established later. Thus, analysis of judiciary practices reveals a category of civil cases where evidence is claimed to be falsified through the use of technologies[20]. To establish these circumstances, one should not only open criminal proceedings, but also conduct expert examinations to see whether documents being submitted are genuine. Overall, this will complicate the trial and create a period of legal uncertainty for the parties involved.

The author believes that the focus on introducing AI technologies to simplify certain procedures does not encourage the development of narrowly specialized or field-specific software packages for public/municipal and judiciary use.

It is also worth noting the research to develop "generative language models" [Zyrianova I.N., Chernavsky A.S., 2024: 144–152] allowing digital services to not only perform tasks by applying natural language to seek information or draft texts under preset parameters, but also to engage in dialogs with concerned party based on coded parameters, respond to questions, run searches and generate synthetized[21] text, that is, to perform a specialized information and communicative function to draft documents for use in the judiciary system.

Of interest in this context software packages are technologically subservient to the judiciary system and administration of justice such as specialized speech recognition software to transform speech into machine-readable text (audio-to-text/synthetized machine-readable text transcription). Audio minutes currently used at national courts (taking court session minutes by audio recording) are not that helpful to facilitate trial. Judge assistants have to manually transcribe minutes by listening and typing. This organizational, technical aspect of judiciary activities will require a comprehensive approach including both judiciary and public policy-making. Judiciary policies should focus on developing trial improvement proposals based on the balance of the interests of all parties and strict compliance with the Constitution and federal law. In their turn, public policies are primarily called upon to support the development and introduction of appropriate software. The core requirement

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[20] For detail see, for example: Moscow City Court appellate ruling of 20.12.2021, case No. 33-45565/2021 // SPS Consultant Plus; Moscow City Court appellate ruling of 18.08.2022, case No. 33-16547/2022 // SPS Consultant Plus.

[21] In this context, synthetized means artificially generated through the use of IT technologies and parameters set for the purpose by the concerned (human) party.

here is involvement of affiliated institutions to achieve technological sovereignty, prevent leakage of crucial software services and maintain an adequate level of protection and confidentiality of information being processed.

The development of IT technologies in government and judiciary system should rely on a comprehensive approach including short and long-term governance decisions, a pool of narrowly focused or specialized IT technologies for governmental and judiciary system, as well as interoperability at judiciary and government agencies implementing digital decisions in the field.

5. Data Modelling Technologies in the Judiciary System and Related Areas

3D software is a specialized product allowing to visualize real-world things (existing, past or future) as three-dimensional models. In most cases, such software is used in multimedia, gaming industry, machine-building to create technically and technologically sophisticated objects such as long-distance pipelines, as well as in architecture, design etc.

Narrowly focused and specialized, this software constitutes data modelling technology (DMT) of distinctly field-specific, complex, manifold nature mostly used in individual economic sectors, particularly, in construction where it is now relatively widespread. This term is not defined by federal law, but Article 57.5 of the Urban Development Code of Russia (UDC) contains the term data model[22]. The terms and conditions of implementation are detailed in Federal Government Resolution No. 331 "On cases in which a developer, technical customer or anyone arranging or responsible for investment project feasibility study and/or operation of a capital construction project should make and maintain a relevant data model"[23] of 05.03.2021, and in a number of other regulations describing the use of such information technologies[24].

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[22] Urban Development Code of Russia, No. 190-FZ of 29.12.2004 (as amended 31.07.2025) // Rossiyskaya Gazeta. 30.12.2004. No. 290.

[23] Collected Laws of Russia. 15.03.2021. No. 11. Art. 1823.

[24] The Government of the Russian Federation Resolution No. 614 "On approving the rules to construct and maintain a data model of capital investment projects; information, documents and materials to be included into the project data model and submitted electronically; and requirements to electronic document formats" 17.05.2024 // Collected Laws of Russia. 20.05.2024. No. 21, Art. 2781 (entering in force date: 01.09.2024); General Expert Review Board Order No. 200 "On approv-

DMT is analogous of Building Information Modelling ("BIM"), proprietary architectural design software capable of integrating design/ engineering solutions and also applicable wherever physical object visualization helps optimize complex production processes. As a matter of difference from other products, this software allows not only to build a database of necessary data, information and details, but also exchange them with project parties, add other data and run 3D visualizations taking into account equivalent data of space and time (past, present and future). It is the technology of so-called virtual and augmented reality [Ruzakova O.A., Grin E.S., 2020: 502—523]. Such software allows to build up the necessary information and data, and produce 3D visualizations in various fields. Such IT technologies do not only perform a communicative function, but also allow to control and manage the available data in real time, add data if necessary, run visual data-based forecasts, and identify the required dynamics by changing the visualized real world objects.

Also it is possible to use software in other areas subject to public regulation such as disaster management, as well as to identify the cause of fires, structure failures and similar events. These IT technologies are able to generate technical and technological data required for a particular branch allowing to perform 3D visualizations of objects, locations and territories and also to add images of real world objects for analysis of likely situations and events.

In addition, the potential of this software may be useful for forensic purposes in complicated cases requiring technical reviews, and in derivative cases. DMT may be used in the sphere of sophisticated engineering reviews, for example, in analyzing traffic accidents as part of the ensuing litigation. This approach is valuable, because most traffic accidents will generate a whole number of claims: recovery of damage, compensation of physical and moral harm (health impairment or death, as the case may be), and insurance coverage. This is why circumstances are subject

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ing the methodological guidelines on data for data models of field surface facilities: required elements and attributes" of 23.08.2021 // SPS Consultant Plus; "Methodological guidelines on data models of capital investment projects to be provided to the General Expert Review Board for state due diligence of project documents and assessment of data model of capital investment project" (part of the Requirements to the project document sections "Capital investment project budget" and "Construction budget") (approved by the General Expert Review Board)". This is a provisional document governing construction of new capital investment projects and not taking into account extra requirements to DM for reconstructed capital investment projects. The document was not published // SPS Consultant Plus.

to multiple reviews not only by judiciary authorities (police or prosecutors), but also courts and other affected parties including insurers.

In water damage claims, 3D models could help visualize the past event and plumbing system failure, thus simplifying the resulting analysis. In this case, a 3D model of the building reflecting engineering, technical and other data is able to demonstrate vividly what caused water to flood the apartment.

This software can be also harnessed to address other cases such as property-related claims — building quality, land plot borders and other similar claims. This aspect, in particular, is discussed in academic periodicals from the perspective of notarial implementation of such software [Maiboroda V.A., 2015: 41−44]. It involves claims arising from defects in building, repairs etc.

Thus, DMT may be useful in case of complicated, manifold litigation which requires expertise (technical, building, construction/technical engineering etc.) and especially in multi-faceted conflicts calling for expertise of various kind. These are case categories of a derivative nature, with a legally meaningful event giving rise to a range of related proceedings. These IT technologies are capable to produce 3D models of past events and, apart from communicative function, facilitate detailed perception of the past events, and help remove defects not only in buildings and facilities but also at accident-prone locations (through installation of more surveillance cameras, traffic lights etc.). However, each situation should be treated on a case-by-case basis taking into account the available information and specific features of the area and territory.

The author shares a view presented in academic literature that implementing IT technologies of this kind requires a focus on "specialized, certified software or rather software packages to be developed with a view to specific needs related to all procedures relevant to traffic accident investigation (collecting information and drafting necessary documents)" [Agafonov A.S., Vasyukov B.F., 2025: 62−72].

Such software is able to be helpful for forensic purposes, since it enables reconstruction of past events, to be used in the future in investigation and legal proceedings, as pointed out by forensic researchers [Stepanenko D.A., Mitrofanova A.A., 2023: 16−22]; [Churikova A.Yu., 2024: 50−56]; [Shutova A.S., 2024: 36−40], technical experts [Sedov D.V., Dumnov S.N., 2018: 20−24], as well as practicians [Skobelin S.Yu., Kuznetsov V.V., 2018: 35−38].

Thus, DMT may be employed with success by government and judiciary agencies to reconstruct events and circumstances important for solution of legal conflicts. This software essentially serves to visualize physical objects and situations as 3D virtual models. A key feature of DMT is high hardware and infrastructure requirements, with the need for considerable funds and specialist teams as the major problem of implementation.

It is also worth noting use of DMT still is not adequately regulated due to technical sophistication and narrow focus of this software. Moreover, regulation is fragmented and concentrated mostly in bylaws.

Implementation is further hampered by DMT's structural sophistication and a lack of concerted effort to overcome problems under scrutiny. Meanwhile, I believe that implementation could start off at the Interior Ministry, Justice Ministry and their affiliates since it is judiciary operations that DMT holds particular promise for.

With adequate funding and affiliate companies to be created, DMT could be developed for state expertise agencies. Affiliation is necessary for companies and individuals involved in relevant R&D to prevent information and data leakage. The author also believes that such IT technologies should be confidential and used only by authorized personnel to prevent decoding and other malevolent manipulation of data and information, in particular, to avoid falsification.

Conclusion

Implementation and progress of technologically sophisticated software require, first, more specific regulation (in my view, at the level of Federal Government Resolution); second, a centralized approach based on governance decisions to promote the use of such technologies in the domestic legal system; third, R&D relying not only on technical talent, but also on those possessing other expertise; fourth, a stronger governance focus on this area (involving the affiliated staff) since technological sovereignty assumes, among other things, multi-disciplinary R&D; and, fifth, stronger supervision and control over such developments since the relevant information and data concern an unlimited range of stakeholders, with any leakage likely to result in decoding of IT technologies.

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Modelling in the Digital Age: Foreign Countries Experience

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Abstract

The author analyzes modelling as a method of research inadequately developed in domestic legal studies yet widespread in the United Kingdom and the United States for that purpose. It proves a considerable heuristic potential of modelling for legal science in the context of digital change, with legal regulation based on predicting and assessing the implications and risks of rule-making as a substitute for reactive approach. It is pointed out a legal system analysis can be well-served not only by realistic models based on empirical data, but also by abstract semantic models employing the idealization method and deliberate distortion of simulated system's qualities. The article identifies core methodological issues to be addressed for an adequate choice of models relevant to the specific research objective. It analyzes the typology of scientific models proposed by R. Frigg and S. Hartmann based on the target object's representation type and justifies its applicability to legal studies for analysis of constraints of specific legal system models and their construction principles. The essential types of scientific models and their conceptual features are showcased by key papers of modern British and American legal science, with a focus on those widespread in analytical jurisprudence for building comprehensive theory of law and order. These include analogical models (H. Hart, R. Dworkin) designed to analyze the essential qualities of the legal system; idealized models (J. Austin, H. Kelsen) disregarding exogenous social factors that obstruct an analysis of law, and toy models (J. Bentham, L. Fuller) which use deliberately false system assumptions and exaggerate its specific qualities to analyze theoretic foundations. It is noted that modelling is crucial for analytical philosophy to identify essential qualities of law and reveal the internal logic of normative systems. While for each model type under study the article identifies methodological constraints inherent in interpretation of findings, it is concluded that such constraints should be treated with care and that methodological design is crucial for theoretic studies of law.

Keywords

modelling; methodology; jurisprudence; tradition; legal philosophy; ideal theories.

Background: the role of modelling in the digital age

As contemporary society enters the postindustrial stage, a fast and ubiquitous progress of digital technologies entails global changes in human life across the board. Such transformation requires proactive improvement in the legal system — an adaptation to change which will allow to maintain efficient and equitable regulation in a new context. Regulation in the digital age should not only be adaptive to, but also guide the technological and social change since law is not only subject to digitization via the progress of e-government and LegalTech, but is also an organizing source as it defines social environment more or less favourable for technological development. Consistent rule-making in the digital age requires flexible legal policies, with the government to harness foresight methods and analysis of risks and implications for different regulatory models.

This makes the case for modelling as a academic method possessing major heuristic potential. It is a tool widely used by the research community not only in statistics or natural sciences, but also in sociology, economics and political science. As a crucial mediator for extrapolating objects from the reality to theoretical plane [Morrison M., Morgan M.S., 2000: 10], modelling allows to simplify and structure data arrays that researchers have to handle, something that facilitates forecasting of complex systems including law. Constructing explanatory and forecasting models offers a major potential not only for addressing practical legal problems (such as organizing legal compliance at corporations) or assessing the fruits of specific legal institutions (for instance, as part of the functional comparative legal analysis), but can be instrumental for fundamental legal studies, too. Such methods are vital for legal policy design and transition to evidence-based lawmaking becoming a worldwide reference for development of jurisprudence which is key

in the context of AI progress and a need to identify ethical standards for innovations [Shaoxue J., 2023: 93–94].

However, the modelling methodology, almost never analyzed in the Russian legal doctrine before, remains "terra incognita for jurists". As a result of low adaptiveness of jurisprudence and a sufficient degree of reluctance by the domestic legal community to adopt novel effective methods of other sciences, it has to be recognized that "jurisprudence does not rank high among core vectors of information society development" [Bondarchuk I.V. et al., 2022: 30]. Whereas specific disciplines (forensics, criminology, legal compliance etc.) have a wealth of modelling experience, the legal doctrine has achieved no major outcome regarding the development and use of comprehensive models for analysis of the national legal system.

A change in this situation has come around very recently in the wake of major multidisciplinary research projects. Thus, joint efforts by Russian students of law, social scientists and philosophers to come up with a model of interactions of the ethical and legal regulation systems resulted in ethicality index of law designed to streamline legal regulation in the light of basic moral grounds shared by people [Vinogradov V.A., Larichev A.A., 2022: 4–23]; [Vinogradov V.A., Larichev A.A., 2023: 12–28]. Such multidisciplinary studies primarily purport to build realistic models based on empirical data: in the domestic legal doctrine, modelling is associated with transition from abstract descriptive categories to "models including numerical values related to empirical data" [Salygin E.N., 2013: 12, 18], or with translation of the described social relations to formal language of mathematics [Prigon M.N., 2021: 46–47].

However, elsewhere in science modelling is not always seen as an attempt to represent an object of research as realistically as possible based on available data. Experts in scientific methodology note that construction and analysis of abstract semantic models can also be heuristically useful, even if the researcher does not strive to represent real empirical data but deliberately resorts to idealization for theoretical purpose to come up with a model that "exaggerates" the real relations [Gibbard A., Varian H.R., 1978: 673]; [Ismael J., 2016: 11–31]. These conclusions also hold true for jurisprudence: building large language models and transition to big data analysis are but one possible vector of change for the legal doctrine in the digital age. Ideal models are no less useful.

Implementing in the doctrine of ideal models not specifically aimed at precise forecasting requires theoretical understanding of modelling as

a scientific method. Today's British and American legal doctrines have a wealth of relevant experience of resorting to abstract modelling. Classical legal theories proposed by British and American jurists rely on conceptual models of a different type. The underlying methodology merits special analysis from the perspective of modern theories of scientific modelling: examples from the British and American legal doctrines vividly demonstrate both the purposes and applicability constraints of this method. Studies of theoretical academic experience of the United Kingdom and the United States are able both to improve the understanding of the methodological style of modern jurisprudence in the countries mentioned and to help to develop a legal methodology appropriated in the context of digital change.

The article is an attempt to identify common patterns of resorting to models in legal doctrine, to design principles of different types of models, and to discover methodological constraints for correct interpretation of findings. The first part of the work describes the overall purpose of modelling as a method of knowledge, discusses core design issues in constructing models, and also analyzes the typology of scientific models proposed by the Swiss philosopher R. Frigg and German philosopher S. Hartmann as applied to the modern British and American doctrines. In the second part author discusses specific model types exemplified by classical cases from natural and social sciences, as well as from legal theory and policies of regulating the digital environment. The third part provides an assessment of methodological constraints in interpretation of findings of different types of models, with common features of ideal models identified in analytical philosophy of law along with their potential for jurisprudence in the digital age.

1. Modelling as a Scientific Method

Modelling is a way of getting knowledge about the object of study widely used in science at large. This is why the word *model* means in different sciences dissimilar objects while modelling methods and operating principles largely differ. To find out whether modelling holds a promise for jurisprudence as a method, one needs to understand in the first place what methodological qualities share different model types in science.

What different modelling cases have in common is the central idea behind the applied method of knowledge, and the underlying cogni-

tive function. Models will substitute dummies or analogs (physical and theoretical) for real world objects whose qualities, once explored, allow to arrive at scientifically meaningful findings on the objects themselves. As researcher J. Rothenberg put it, modelling may be defined in the widest sense as "effective use of anything in lieu of anything for any cognitive purpose" [Rothenberg J., 1989: 75]. An explicit example of such operation is well-known graphical modelling which provides a view on the object based on the study of layout and serves to "identify an optimal structure of things, add new elements, linkages, associations, remove specific fragments and directly observe the outcome of these changes"; the heuristic potential of this method for jurisprudence, including its relevance for "understand AI language and logic", has long been advocated by renowned legal theorists [Isakov V.B., 2022: 51].

The general description of modelling as a scientific method was famously proposed by the Soviet jurist and cyber specialist V.A. Levansky: "A model is a holistic system of representations of essential features and parameters of another system defined as the original; embodied in physical structures or information aggregates (graphical, statistical, mathematical etc.); detached from the environment in line with the researcher's purposes, objectives and potential; capable of generating new knowledge on the original system or its environment as a result of common laws applicable to different aspects of reality" [Levansky V.A., 1986: 20].

Based on V.A. Levansky's definition, three consecutive stages in the process of modelling appears:

formulating the objective of research and choosing (or constructing) a relevant model;

working with the model, generating conclusions;

interpreting the findings, extrapolating the knowledge about the model to the original object of research.

Each of these stages gives rise to a number of interrelated theoretical issues to be addressed prior to research, not in the process of interpretation of findings. What types of model are adequate to the formulated research objective and what are their underlying principles? How do different model types conceptually differ and what drives the choice of a model type for specific research? What methods exist to analyze models of the chosen type and what cognitive functions do they pursue? How to extrapolate model findings on real objects, what risks will this entail and what are the methodological constraints to minimize these risks?

The importance of theoretic reflection on such issues already at the research design stage could be illustrated by Legal Tech. Over the last few years, law firms and government agencies have been increasingly busy working on various models to analyze legal practices and forecast litigation outcomes [Kosov M.E., 2019: 19–29], with the Legal Tech market annually offering new and diverging products where the choice of solution depends on what a particular model should explain. Thus, the model can forecast a likely court ruling in the particular case, factors affecting the likelihood of positive outcome for the plaintiff, general trend of legal practice in this kind of disputes or, for example, the prospects of getting the case to the Supreme Court and reversing the already established interpretation of the given provision. Each of these objectives will require standalone data models relying on different principles (linear or logistic regression, decision tree, clustering etc.). Appropriate models should have different accuracy and completeness, as well as different tolerance to type I (false positives) and type II errors (false negatives). Some models should be open to detailed interpretation of identified correlations while others can be designed as a "black box" if capable of promptly generating approximate answers with minimum input data. Effective use of different models and correct interpretation of findings require to understand clearly the basic principles of their operation and the constraints to extrapolate outputs. Importantly, the model's "78 percent of success" will mean in one case to what extent the legal practice is uniform, while in another the likelihood of the specific claim being satisfied, which is not the same thing.

Meanwhile, it is worth noting that the Russian legal philosophy, faced with theoretical questions on modelling principles, will unduly narrow the set of model types useful for theoretical studies by putting forward strict requirements to model representativeness. Thus, E.N. Salygin as a key requirement to the choice of model relevant to the purpose of research argues for "adequacy to the original ([model] should precisely reflect the qualities to be studied)" [Salygin E.N., 2013: 13]. V.S. Pletnikov argues along similar lines that a model for jurisprudence "should closely enough follow the essential qualities of the object, process or phenomenon of the politico-legal environment under study" [Pletnikov V.S., 2016: 130]. Meanwhile, the desire to represent the modelled system as exactly as possible will often cause algorithmic bias, with the model reproducing prejudice and discrimination existing in the given system [Kharitonova Yu.S., Savina V.S. et al., 2021: 488–515]. In its most acute form this problem manifests in models used by the judicial system to assess the probability of relapse or to identify adequate penalty.

Moreover, it has been proved in other fields of research that modelling as a scientific method does not necessarily require representativeness and forecasting accuracy: on the contrary, the purpose of research will often lead to the object's deliberate simplification and schematization. Natural and social sciences have a long record of successful use of idealized models, with specific properties of the studied system deliberately left out. Importantly, such models will disregard the object's parameters not only as insignificant variables to be left out without major loss for representativeness. In leaving out the system's crucial qualities and relying on knowingly invalid assumptions, the said models often do not even pretend to reflect the reality. In exaggerating rather than accurately reflecting the reality, they purport not to approximate real-world data but to deliberately single out specific properties to shed light on previously blurred aspects of reality [Gibbard A., Varian H.R., 1978: 676]. Examples of such models in legal theory will be discussed below.

Since different purposes of research require different kinds of models and insightful decisions on tolerable (or even necessary) extent of idealization, a robust typology of scientific models provides a useful reference for the choice of research design. Such typology should reflect the purpose of modelling for different cases, identify the relevant principles of model construction and interpretation of findings as well as the related model applicability constraints. In the context of transition to information society, reliance on a robust model classification allows jurisprudence to adequately adopt the methodological experience of allied disciplines for its own research objectives.

What types of scientific models could be usefully distinguished for successful research design? In an article on modelling, philosophers R. Frigg and S. Hartmann have noted a considerable scholar interest to have a classification of modelling methods, something that brought about "overwhelming abundance" of the relevant approaches in academic literature[1] [Frigg R., Hartmann S., 2024]. To bring this diversity under control, R. Frigg and S. Hartmann propose their own general classification depending on how the target object is represented by way of modelling; their typology, which appears valid, is adopted in this article to analyze models used in the legal doctrine: scale models; analogical models; ide-

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[1] According to Frigg and Hartmann, different fields of science offer phenomenological, computational, explanatory, depleted, test, idealized, theoretical, scale, heuristic, caricature, didactic, fantasy, minimal, toy, imaginary, mathematical, mechanistic, iconic, formal, analogical, instrumental, development models etc.

alized models; toy models; minimal models;phenomenological models; exploratory models; models of data.

Scale models assume life-size mockups of the explored system; analogical models — study of the object's target attributes by analogy with a simpler system; idealized, toy and minimal models employ object idealization (to a variable extent and with diverging purposes); phenomenological models involve only externally observable qualities leaving out any of the system's hidden internal mechanisms; exploratory models assume tentative data aggregation to test primary hypotheses as a starting point for more accurate models to follow; models of data rely on raw data approximation by reduction and trimming through statistical techniques. The authors caveat, however, that the said model types are not mutually exclusive, with mixed and derivative options combining different modelling approaches possible under the same research project [Frigg R., Hartmann S., 2024].

All model types identified by Frigg and Hartmann appeared to be applicable to legal studies and have a record of relevant successful use in the United Kingdom and the United States. Though "modelling" is not a recurrent term with students of law, they often use methodological techniques that fit the Frigg-Hartmann model classification. This is especially true for advocates of Law and Economics [Priest J.L., 2024: 14, 24][2] who for decades would not only borrow analytical models from institutional economics and game theory for legal studies (from toy models of the prisoner's dilemma down to mathematic-based econometric models of data) but would also develop their own toolbox of optimal sanction models, legal fee assessment models etc. [Becker G.S., 1968: 169–217]; [Posner R., 1993: 211–215]. Law and Economics rely on utilitarian tradition with a focus on comparing implications of different regulatory regimes: assessment of the effect of regulatory reform necessarily requires widespread predictive modelling.

The American Law and Economics tradition reveals many types of models (down to scale models), with practically identical downscale or upscale copies of real-world objects of interest. Suitable cases include various versions of sandboxes for studies of economic efficiency of law: regulatory sandboxes, zones of special legal regimes, experimental regulations etc. Thus, a regulatory autonomy to test a new regime in specific

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[2] Law and economics is a methodology of legal analysis predominant in the modern American legal philosophy, with Ronald Coase, Guido Calabresi and Richard Posner among its intellectual founders .

territories will allow to simulate the proposed changes to the general relationships of law and order. The choice of a scale model follows the general scientific logic: "small" territory should generally reproduce the terms of "larger" law and order to minimize the risks of experiment while allowing to assess the expected response to regulatory reform as a whole.

The established British and American methodological tradition of building realistic legal models for a faithful representation of objects or statistical analysis of big data on legal relationships was relatively well explored by the Russian academic community as exemplified by the studies of the HSE Institute of National and Comparative Legal Studies[3] or the EUSP Institute of Enforcement[4]. Meanwhile, academic literature did not systematically analyze the use of idealization-based models in legal philosophy undervalued from the perspective of their theoretical potential.

The models inadequately assessed in terms of methodology cover idealized, toy and minimal models of the Frigg-Hartmann typology to be viewed as a family of idealization-based abstract models different in the extent of their reality/ideality, number of subsumed variables and real-world focus. This is why the term ideal model[5] further refers to any model relying on idealization (similar to ideal gas and ideal conductor models in physics, as well as "ideal theories" in modern political philosophy).

While idealized models are widespread in British and U.S. jurisprudence, this experience is normally not regarded from the perspective of methodological parameters of modelling. The article will further analyze some of the model types proposed by Frigg and Hartmann and widely used in classical works of the legal doctrine in the United Kingdom and the United States. The said models will be characterized in terms of their approach to representing the target object, illustrated by characteristic examples of other sciences, and analyzed as a method typical of the style of reasoning [Flek L., 1999: 162] predominant in jurisprudence of both countries under scrutiny. Analyzing why idealized models were used in classical works of the British and American legal

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[3] Available at: URL: ilr.hse.ru/research (accessed: 25.02.2025)

[4] Available at: URL: enforce.spb.ru/projects (accessed: 25.02.2025)

[5] It is importantly, "ideal theories" in this sense do not fit into the category proposed by V.S. Pletnikov to distinguish models as ideal, realistic and due [Pletnikov V.S., 2016: 126].

doctrine will allow to understand where they can be harnessed for legal studies of digital change.

2. Idealized Models in the British and American Jurisprudence

2.1. Analogical models

Analogical models of the Frigg-Hartmann typology refer to scientific models that single out one similarity between qualities or properties of objects relevant for the purpose of study to come up with explanatory analogy. Traditionally used in natural sciences and social sciences[6], analogical models have become widespread in computer science in the digital age as exemplified by ant colony optimization (ACO), a technique based on ant behavior (pheromone marking of the best ways from ant colony to food sources) used to address problems related to routing, load distribution across networks etc.

In the British and American jurisprudence, abstract analogical legal models are harnessed primarily to elucidate complicated social aspects of a phenomenon through the lens of structurally similar practices. Thus, legal pluralism theories showcase widespread use of forum shopping models which explain how one makes a choice of jurisdiction in the context of multiple regulatory regimes based on analogy with market relations [von Benda-Beckmann K., 1981: 137−159]. Meanwhile, it is the classical British and American legal doctrine where analogical modelling has a special role to play, with authors harnessing analogical models as a crucial way to identify and demonstrate the essential qualities of law and distinguish between legal and extra-legal phenomena.

Thus, H. Hart, one of the founders of modern neopositivism, used analogical modelling of the legal system in his book *The Concept of Law* assimilating it to a game of chess. It is not just an illustrative situational example: this analogy is evoked by Hart throughout the text to elucidate what he believes to be the key quality of law, its normativity. The analytical model of chess is used to identify and showcase the differences crucial for his legal system theory: pure and borderline cases of social

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[6] Thus, statistical mechanics uses a mathematical model of ideal billiard balls to describe chaotic movement of gas particles; sociology — evolutionary models of social institutions, macroeconomics — analogical models of financial systems based on operating principles of hydrodynamic systems.

practice; primary and secondary rules; external and internal views on regulatory system; external compliance and true enforcement — and to demonstrate the inherent aspect of rules as different from customs [Hart H.L.A., 2007: 12, 39, 63, 93, 142–143], with the relevance of chess as a model for analysis of legal systems spurring an independent debate in modern legal literature [Marmor A., 2006: 347–376]; [Macedo R.P., 2016: 293–324].

It is true, the dispute on regulatory nature of law as its essential quality was not confined to the analogy proposed by Hart: instead of challenging it, the critics of neopositivism would come up with alternative analogical models, such as that of chain novel which underpins the theory of law as integrity proposed by Dworkin, a critic of legal positivism [Dworkin R., 2020: 309–314]. This model illustrates the interpretative nature of judicial practices that cannot be confined to either technical enforcement of rules or free rule-making of judges. Since after judges, according to R. Dworkin, play the role of both authors and critics in the legal family of common law, he finds appropriate the analogy of chain novel where each new author must carry on with the story in line with the logic and style of the previous chapters: a judge is free to interpret but is bound by the principle of integrity. Dworkin uses this analogical model to reveal the points crucial for his legal theory: differences between rules and principles, nature of judicial discretion and the idea of law as integrity.

The role of analogical models in jurisprudence is not confined to abstract theoretical description of legal systems as such, something typical of classical legal doctrines. In the digital age, such models can be extremely useful for dealing with practical problems of rule-making such as digital law policies. It is the choice of baseline analogy behind the fundamental property of the modelled object that will drive to a large extent further institutional and normative design of regulation. For example, the model of information as asset will focus the attention on legitimate powers of information owners, with the underlying logic driving the improvement of copyright or exclusive right protection mechanisms, while that of information as resource will stress the role of information as a necessary good, raw material for new digital products, to promote public interest and protect free use of information for the development of science and arts. Similarly, there are different models of AI as a tool and as a subject, or models of digital platforms as a publisher and as an infrastructure: they assume different distribution of liability and define the crucial theoretical differences which affect the regulation of a whole sector.

In the legal doctrine, modelling is not limited to cases of analogical models of law and order serving to demonstrate one essential feature of the legal system: many authors will resort to idealized models of this or another type which claim to provide a more comprehensive picture than a simple analogy but which leave out specific factors of social life as obstructing the analysis. It has a sense to discuss approaches to idealization in legal modelling.

2.2. Idealized models

Idealized models will deliberately simplify the object of research for better insight since modelling will leave out what is irrelevant for the purpose of study but only complicates the analysis. In idealized modelling, the key methodological techniques are: (a) selecting the object's attributes insignificant for the purpose of study which can be disregarded without harm to descriptive faithfulness (the model as a limited yet faithful reflection of reality), or even (b) deliberately distorting the description with knowingly false assumptions to simplify the model[7]. Such models traditionally used in natural and social sciences[8] have been extended to computer science in the context of digitization: in particular, abstract machines widely used to analyze electronic computers will often rely on assumptions which rule out the possibility or feasibility of producing such machines in real life.

In the British legal doctrine, idealized models are crucial for analysis of both the legal system as a whole and its individual parts. Thus, the British philosopher and jurist J. Austin, founder of analytical jurisprudence, used idealized modelling to expound his "command theory of law" that defined the key premises of classical legal positivism. Austin explained the concept of "command" at the heart of his theory via desire of the sovereign, threatened harm (sanction) and the likelihood of such harm (obligation) while artificially leaving out the aspects of law deemed secondary and "blurring" the legal side of subordination re-

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[7] Frigg and Hartmann refer to such modelling as, respectively, Aristotelian and Galilean idealizations.

[8] For example, the model of physical point (ideal pendulum) is widely used in mechanics to avoid the impact of friction. In microeconomics, baseline models of perfect competition leave out the impact of marketing as a factor devoid of principal importance for analysis of pricing, and baseline rational agent models assume as true knowingly false facts (such as fully informed individuals) for the purpose of simplification.

lationships [Austin J., 2022: 92−93]. While Austin's command model does not unambiguously give a full picture of legal relations, it allows, by simplifying the system down to the sovereign, command and sanction, to reveal with more clarity the conceptual boundary between law and morals. A major value of idealized theories is that they are controllable, that is, consistently de-idealizable by adding new properties (left out previously when constructing the model).

The "pure theory of law" elaborated by H. Kelsen, Austrian philosopher and jurist who has emigrated to the United States in 1940, is another case of idealized modelling. His rule-based theory of positive law provides response to "absolutely unexacting mixture" of jurisprudence with psychology and sociology explained by their close link with law. Kelsen proposed to keep the legal theory clear of allied disciplines by sorting out economic, social, psychological and other factors. Leaving efficient enforcement (a focus of economic analysis of law), social and political determinants of judicial interpretation of rules (crucial for legal realism or critical legal studies) or ethical requirements to rule-making out of the idealized model of law and order does not mean neglecting their reality or value: Kelsen only notes that these factors "blur the essence of legal science" [Kelsen H., 2015: 10]. Just like the ideal pendulum model in physics will leave friction out to reveal oscillation action in a system, the Kelsen model strives to clarify the logical structure of rule-based order by disregarding empirical factors and real operation of law in society.

2.3. Toy and minimal models

Frigg and Hartmann associate toy models with a radical approach to idealized modelling. Extremely simplified and detached from reality, these models do not pretend to be significantly predictive or empirically adequate. They largely and intentionally distort the core parameters of the system under study to produce an extreme case grossly exaggerating the quality in question and allowing to assess its place in the general descriptive theory. The limit of such modelling are minimal models — those devoid of any similarity with heterogeneous systems they describe yet successfully explaining the general logic of the studied phenomena. Indeed, models of this kind are used in natural and social sciences [Batterman R.W., Rice C.C.[9], 2014: 357−358], but jurisprudence also offers some examples of radical scientific idealization.

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[9] One example of minimal models proposed by these American philosophers is the Navier-Stokes equation which, while reflecting neither structure nor micro-

The utmost degree of idealization with the described relationships simplified and grossly exaggerated down to toy models is fairly frequent in what constitutes the British and American legal doctrine. Thus, the panopticon—an ideal prison of circular design proposed by famous British philosopher and jurist, Jeremy Bentham, where a single guard can observe a multitude of inmates [Bentham J., 1995] — can be also considered a toy model. While the panopticon design had nothing to do with real penitentiary institutions, it was Bentham's grotesque project that put the idea of total control (transparency of social reality for the authority and invisibility of this authority to those under control) at the forefront of social studies. The modern French philosopher, Michel Foucault, used Bentham's model in his analysis of disciplinary authority phenomenon manifested in a variety of social institutions: from prisons and psychiatric asylums to factories, schools and hospitals [Foucault M., 1999: 292].

L. Fuller, American legal philosopher, resorted to exaggerated modelling to advocate his natural law theory in a debate with the neopositivist H. Hart. For demonstrating hidden qualities of law — a bare minimum of "internal morality" in law as core desiderata[10] of any rule-making — Fuller has proposed a caricature model of a failed legal system in a story about a king named Rex[11] [Fuller L.L., 2019: 47—53]. The good-hearted king attempts to give good laws to his subjects but in doing so inevitably makes eight cardinal mistakes[12] causing law and order to crumble. In Fuller's model, the legal system defects are grossly exaggerated (for example, the laws to be approved were known only to the king and his scribe) to more clearly reveal the procedural moral requirements essential for the rule of law. While not striving to realistically portray any historical tyranny that ever existed, the author demonstrated what was crucial for operation of a legal system but was not visible unless exaggerated.

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physics of real liquid flow, is successfully used to simulate liquid flow in pipeline construction or ship designing. Other examples of such models include models of evolutionary biology (Fischer sex correlation model, Lotka-Volterra predator-prey model), as well as the lemon market model (used car market) in economic theory.

[10] Desirable things (Latin).

[11] In the Russian text of L. Fuller's book, "king Rex" was translated as "korol Karol" to convey the word play.

[12] (1) inability to make the rules, only to result in ad hoc procedures, (2) absence of publicly promulgated laws, (3) retroactive laws, (4) unclear laws, (5) contradictory laws, (6) laws impossible to comply with, (7) frequent change of laws, (8) inconsistence between statutory laws and their enforcement practices.

3. Idealization Purposes and Constraints in Models

All of the characterized above types of models, while different in the proposed purpose of study, serve a number of common cognitive functions. Modelling allows to reveal the regularities of the real world and to draw scientifically meaningful conclusions from the study of abstract theoretical models. But how to extrapolate the resulting analytical conclusions to the system under study? Why are Hart's chess analogy or Dworkin's chain novel analogy crucial for understanding of the legal system's core features? How did Kelsen's disregard of economic and psychological factors in the analysis of the rule of law or Fuller's exaggerated portrayal of law and order as King Rex affect the conclusions on real legal relations? Let's discuss what is required to interpret analytical findings produced by different types of models, and to validly extrapolate them to the system in question.

As for scale models representing real physical objects, the question is in the principles of experimenting. With modelling to maintain all core parameters intact, theoretical constraints on interpretation of findings relate primarily to likely "scale effects", non-linear relationships between the real object and its downsized copy. Just like one cannot simply multiply a mock-up water drag by 100 times to arrive at what a real ship should be, so the conclusions on how a regulatory sandbox in a special economic zone will change social behavior cannot be directly extrapolated to law and order in general.

To minimize the risk of potential bias in regulatory experiments, one needs to carefully observe the basic scaling principles. The downsized experimental zone should at least roughly follow the conditions of the larger law and order: represent the population across economic and social aspects and exhibit no major cultural or national specifics. Inseparability from the social system under study is especially a problem in case of regulatory sandboxes: whereas physical models create a new object, experimental study of law and order will make a model out of its own part. The logical part-to-whole relationship will complicate already non-linear linkages between the object and its model, only to considerably constrain the interpretation of findings.

As for analogical models, the core methodological difficulty concerns the limits of model applicability and logically valid way to operate them. It should be clear that selecting only one attribute of the system under study as a criterion for analogy underlying the model will impose size-

able constraints on extrapolation of conclusions to the object in question. A metaphorically expressed analogy should not overreach: while Hart used a game of chess for a model discussing the nature of rules behind social practices, it does not necessarily follow that the system under study should exhibit a logical match of figures, chessboard or notation for moves: these elements are not covered by the original analogy and therefore are not used in analyzing the model.

Another major constraint concerns the choice of target parameter behind the analogy built into the model: meaningful conclusions about the studied system in general can be drawn from model analysis to the extent that the chosen feature is essential and expresses the nature of the object in question. Thus, integrity of law is not for Dworkin just another feature expanding the idea of a rule-based social system; it is an essential quality of law limiting constructive interpretation of rules. Finally, analogical models are descriptive: they strive to realistically describe the target system (albeit in one aspect used as criteria for analogy) and are therefore vulnerable to empirical criticism. If an empirical study of judicial authority finds that judges have more freedom to interpret rulings as precedents build up and not the other way round [Lindquist S.A., Cross F.B., 2005: 1156–1206], the chain novel model will lose its analytical attractiveness and may be ousted by other models of judicial authority [Dahl M., 2024: 861–898].

Ideal models (from the least idealized to radically minimal ones) also raise a number of major construction and interpretation problems concerning theoretical constraints. First of all, how much realistic should such models be? Should they approximate or, on the contrary, depart from real-world parameters as much as possible? How will unrealistic assumptions impact model interpretation and should models become more complicated (with previously disregarded parameters added) as the underlying theory evolves?

Explanatory power of idealized models comes under major criticism, with some authors insisting that more realistic models, all other things being equal, will invariably better explain the system under study [Friedman M., 1974]. Such stance assumes the predictive function to be the model's main asset: the better it describes the real system's behavior, the more effective it is. Meanwhile, scientific progress means consistent movement from simpler to more sophisticated models via their deidealization, with the latter covering an ever increasing number of the

studied system's qualities[13]. The progress of computational models of data reflects roughly the same logic. These models are constructed by computing — through statistical analysis of big data with reliance on algorithms and neural networks — rather than analytically. Here progress in modelling comes from higher predictive power, with growing computing power allowing to analyze more data and to gradually expand the model to cover the system itself.

But the apology of sophistication and predictive power of scientific models is by far not the only approach to idealization as modelling technique. There is an alternative view on idealization as a method which assumes that idealized models help to explain the world not only in spite of but also thanks to their simplicity and improbability. As Batterman and Rice argue relying on examples of working minimal models, "a simple enumeration of properties shared by the model and real systems will misjudge what makes the model explanatory" [Batterman R.W., Rice C.C., 2014: 350]: explanatory power comes from other parameters than the extent of the model's similarity with the target system.

Newton's ideal pendulum model does not pretend to accurately describe the real pendulum motion but is theoretically necessary to substantiate the universal theory of gravitation [Ismael J., 2016: 14–15]. The ideal pendulum is supposed to illustrate the role of gravitation in mechanics, hence the wind drag and friction (of extreme importance for more realistic models) are exogenous in Newton's model. Despite its practical inapplicability, this idealized model plays a major theoretical role (as a crucial step towards the planetary motion theory) and an equally crucial explanatory role (as an especially pure, vivid illustration of gravitational impact on mass motion).

Models like Newton's ideal pendulum deliberately miss the reality: it is not a concession to technical constraints and lower computational complexity but an attempt to analyze the underlying principles of a theory by disregarding exogenous factors important for a realistic model but often too expansive and blurring those of interest. With King Rex as a model, L. Fuller strives to demonstrate internal moral requirements

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[13] In a similar way, macroeconomic analysis improves by moving from simple models to those based on fewer assumptions: for instance, from IS-LM to IS-LM-BP. The former was designed to describe closed economies and therefore lacks precision in the context of globalization and extensive international trade. For applicability to open economies, this model was later expanded to IS-LM-BP by absorbing the linkages between domestic markets and exchange rate into the analysis.

inherent in any (even the most primitive) legal system by virtue of the purpose of law itself instead of to propose a realistic scenario of the legal system collapse in the Third Reich. Recognizing the importance of such ideal models for evolution of legal theory and adequate scientific description of the legal system in the context of social and technological change is vital for multi-pronged adaptation of jurisprudence to the trends of digital age and for consistence with the realities of information society.

Conclusion

Modelling, endowed with a considerable heuristic potential for jurisprudence as scientific method, remains inadequately elaborated in the Russian legal doctrine. Unlike natural, social and computer sciences where modelling has long established itself as a key method of research, the Russian legal doctrine is only starting to systematically adopt it for analysis of law and should effectively absorb the best international practices. Moreover, the adaptation of experience of constructing realistic models has already brought some success, with progressive methods of big data analysis more widespread and big language models evolving to suit the needs of fundamental studies of law and order. However, the domestic legal doctrine does not systematically analyze the best international practices of constructing ideal models in jurisprudence.

The analysis of classical papers of the British and American legal doctrines provided in this study allows to affirm extensive potential of conceptual modelling and deliberate idealization for jurisprudence. Analogical models (along the lines of those by Hart and Dworkin) help identify structural features of law and order and specific legal institutions. Idealized models (like those conceived by Austin and Kelsen) allow to clear legal research of factors that are exogenous to theory and that obstruct the analysis of the system itself. Toy (caricature) models (similar to those elaborated by Bentham or Fuller) allow to vividly demonstrate the crucial properties of legal relationships and reveal the importance of the legal system's specific features for the general theory of law. Harnessing and improving the said models, researching their underlying principles and perfecting them with new models hold promise for jurisprudence in Russia and allows to upgrade domestic methodology in line with higher requirements to science in the digital age.

All modelling types analyzed in this article are directly applicable to address specific problems of legal practice and develop systemic legal

policies for efficient and fair regulation in the context of digital change. Developing doctrinal models of personal data protection or e-government principles necessarily requires to model human behavior and assess the effects of regulatory impact on society. Unless the principles of constructing such models and interpreting their findings are subject to analysis, the adequacy of the underlying theoretical hypotheses for anticipatory regulation of social relationships cannot be assured. Insights from the British and American legal doctrines allow to conclude on heuristic value of not only realistic models for a faithful description and foresight, but also ideal models allowing to reveal the system's key principles and functions, and identifying major links between its parts.

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Reviews

Key Issues in the Intellectual Property Court's Presidium Rulings

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Abstract

The comment reviews key positions in the rulings of the Presidium of the Russian Intellectual Property Court (IPC) issued in the period from November, 2024 to June, 2025. The Chamber hears cassation appeals against the decisions of the IPC first instance and deals primarily, but not only, with matters of registration and validity of industrial property rights. Therefore, the regular review covers predominantly substantive requirements for patent and trademark protection, as well as procedural issues both in the administrative adjudicating mechanism at the Patent Office (Rospatent) and at the IPC itself. The current review encompasses a variety of questions related to trademark law, patent law and various procedural matters.

Keywords

trademarks; cancellation for lack of use; unfair competition; patent; grace period; pharmaceuticals; industrial application; inventive step.

I. Trademarks and Other Distinctive Signs

A. Validity

1. Sculptures in the Trademark

IPC Presidium Resolution of 28 March 2025 in Case No. SIP-217/2024

The heiress of the sculptor of 'Worker Man and Kolkhoz Woman' filed an objection with Rospatent under Subpara 1, Para 9, Article 1483 of the Russian Federation Civil Code (hereinafter — the Civil Code) opposing the granting of protection to trademarks that feature an image of the sculpture.

While Rospatent has recognized the applicant as an interested party, since she had inherited all the exclusive rights of the author V.I. Mukhina-Zamkova, it has rejected her objection, establishing the city of Moscow owns the sculpture: in 1950, the author created a plaster sculpture commissioned by the Mosfilm studio for use as its logo. This image is identical to the original sculpture, so it is unclear which sculpture is used in the trademarks.

Accordingly, in Rospatent's opinion, no consent from the sculptor's heiress was required for the registration of the disputed trademarks.

Rospatent has concluded also there was no risk of confusion between the trademarks and the image of the sculpture, because, among other things, the sculpture image is not perceived as a distinctive element of the disputed trademarks.

The Intellectual Rights Court has overturned Rospatent's decision and referred the objection for reconsideration on the following grounds.

In 1950, the law permitted the transfer of only certain rights rather than the entire copyright. The sculptor transferred to Mosfilm the right to use the sculpture as the Mosfilm logo, but retained the right to use the work in other ways.

The IPC has noted a contradiction in the position of Rospatent, which has recognized the applicant as having an interest in filing an

objection, since she had inherited the copyright, but at the same time concluded there was no need to obtain her consent for trademark registration.

Under Subpara 1, Para 9 of Art. 1483 of the Civil Code, only the copyright holders and their heirs have the right to file an objection.

Rospatent's assertions that image of the sculpture is not perceived as a distinctive element are inconsistent with the presumption arising from the very fact of registration of the disputed trademarks without disclaiming this image. In a situation like this, it is assumed all protected elements of the trademark perform an identifying function.

The IPC recalled that, when in the presence of an earlier protected work, the following circumstances have to be assessed in order to conclude that a trademark does not comply with Subpara 1, Para 9, Article 1483:

the work must simply be protected by copyright: in this respect, the provision is aimed at protecting the copyright in the 'earlier' work;

the trademark must be identical to the work or there must be a likelihood of confusion with that work;

there must be no consent from the rightholder of the opposing work to register the trademark.

2. Pennames in the Trademark

IPC Presidium Resolution of 24 March 2025 in Case No. SIP-726/2024

Consent to use a pseudonym in the name of a non-profit organization does not imply consent to register a trade mark that includes such a pseudonym.

Rospatent has dismissed the objection filed by the heir (spouse) of Elizaveta Petrovna Glinka under Subpara 2, Para 9, Art. 1483 of the Civil Code against the registration of the pseudonym "Doctor Lisa" as a service mark for a broad list of services in the name of a public organization.

Stating the spouse had previously approved the use of the pseudonym in the name of the public organization and that the objection was not intended to protect the reputation of E.P. Glinka, Rospatent did not recognize her spouse as a person interested in filing an objection.

The IPC has overturned Rospatent's decision and invalidated the legal protection granted to the disputed service mark.

The court disagreed with Rospatent's conclusion that the heir had no interest in filing an objection.

The IPC noted that the objector's interest in this case was based solely on the fact that he was the heir of a well-known person who had used this pseudonym, and that the request for consent to register the service mark was aimed at protecting his property interest (ruling of the RF Constitutional Court of 28 January, 2016 No. 123-O).

The IPC acknowledged question of whether consent was or was not given is one that is decided not at the stage of assessing the person's interest, but at the stage of considering the objection on its merits. Thus the arguments in Rospatent's cassation appeal were based on a misunderstanding of the circumstances relevant to filing an objection and of those necessary for allowing one based on the results of its consideration on the merits.

Regarding the merits of the dispute, both Rospatent and the rightholder acknowledged that the service mark reproduced E.P. Glinka's pseudonym and that no specific consent had been obtained for its registration; however, they considered that such consent was implied by the consent to use the pseudonym in the name of a public organisation.

At the same time, a public organization's name and a disputed service mark are different objects; the conditions for granting them legal protection differ; they have different legal status and scope of legal protection; and they are governed by different rules of civil law. The name of a public organization is not a distinctive sign protected under the rules of Part Four of the Civil Code.

The heir's consent to register a pseudonym as a service mark is a transaction that intermediates the granting of the right to register a sign in respect of a specific list of goods and services.

In the absence of the heir's direct expression of wish to register the disputed service mark, Rospatent did not confirm that the heir's will included consent for the public organization to use the disputed sign as a service mark in relation to a wide range of services, some of which are not directly related to the organization's charitable activities (e.g., 'targeted marketing; organization of exhibitions for commercial or advertising purposes,' etc.).

The public organization retained the right to use the pseudonym 'Doctor Lisa' in its name and to conduct activities under this name.

This decision provides, to a certain extent, a balance between this organisation's rights and the heir's right to use the pseudonym.

The fact that a public organization carries out its statutory activities, which were previously carried out under the leadership of Elizaveta Glinka, and that Elizaveta Glinka became famous in connection with the activities of this organization, does not grant this organization any authority in relation to the pseudonym of its former leader.

3. Intended Use of Goods and Services

IPC Presidium Resolution of 18 June 2025 in Case No. СИП-434/2024

The assessment of whether a sign indicates a purpose of use must be made in relation to each goods and services item claimed. Rospatent cannot limit itself to an abstract statement that the sign indicates the intended purpose of the goods; it must specify the intended purpose in the decision.

The sole fact that a sign is descriptive for some goods does not mean that it is false or misleading for all others.

Rospatent has rejected the registration of the designation 'Spetskabel' as a trademark on the basis of Para 1 and 3 of Art. 1483 of the Civil Code, since in relation to some of the goods and services filed, it indicates the intended purpose, and for the rest, it may mislead consumers as to the properties and intended purpose of the goods and services. Following the applicant's objection, Rospatent has decided to partially register the disputed sign for certain services but refused to register the trademark for the remaining goods and services.

The first instance court has invalidated the decision regarding the rejection and ordered Rospatent to re-examine the objection. The IPC Presidium upheld the first instance court's conclusions.

The first instance court agreed with the semantic meaning of the sign ("special-purpose cable") identified by Rospatent but concluded that it had assessed the disputed sign for its compliance with Subpara 3, Para 1, Art. 1483 of the Civil Code without taking into account the perception of this sign by the target group of consumers of the goods and services specified in the application.

When considering cases that challenge Rospatent decisions made on the basis of Para. 1 of Art. 1483, the court takes into account any existing or potential associative links that consumers may have regarding the disputed sign, based on the evidence available in the case materials.

Para 2.5 of Guidelines No. 12[1] states signs consisting only of elements characterising goods, including those indicating their type, quality, quantity, property, purpose, value, as well as the time, place and method of their production or sale, cannot be registered as trademarks. Signs consisting solely of elements characterizing the goods, are not granted legal protection, and manufacturers are not granted the exclusive right to use them because any person may need to use signs that characterize the goods in civil transactions.

Para 2.5.5 of Guideline No. 12 states: "The term 'intended use of goods' refers to the area of application of goods, their functions, consumer group, etc. The following elements may indicate the intended use of goods: 'for children and expectant mothers', 'for women', 'for boys', etc."

The IPC proceeded from the assumption that the association characterizing goods and services should be direct and require no interpretation. In this case, it is only reasonable to assume this particular sign may be used by different persons in relation to specific goods or services and, consequently, it must be free from the rights of specific persons.

At the same time, Rospatent's decision fails to provide a specific analysis of how the target consumer group perceives the claimed sign in relation to the disputed goods and services. Rospatent limited itself to an abstract statement that the sign would be perceived as indicating the intended purpose of the goods and services.

Unlike the examples given in Guideline No. 12, where, regardless of the type of goods or services, the sign always indicates a clear purpose that does not require additional justification ("for boys"), in the case at hand, the court was unable to determine what specific purpose Rospatent had in mind for the disputed goods and services.

Only by knowing the associative link suggested by Rospatent in relation to the claimed sign, one can verify whether it is reasonable to assume its existence among consumers of the disputed goods and services, and whether it is direct or requires interpretation.

Para 4.1.2 of Guideline No. 12 states: the same sign may be considered descriptive in relation to some goods, false in relation to others, and

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[1] The Guidelines for the implementation of administrative procedures and actions within the framework of the provision of public services for the state registration of trademarks, service marks, collective marks, and the issuance of certificates for trademarks, service marks, collective marks, and their duplicates, approved by order No. 12 the of Federal State Budgetary Institution "Institute for Industrial Property". 20 January 2020.

fanciful in relation to still others: a presumed false association of a sign with specific goods and services that lacks credibility in itself gives the sign a fanciful character. Such signs may be registered.

With regard to the provisions of Subpara 1, Para 3 of Art. 1483, Rospatent's decision also contained abstract wording. In drawing conclusions about whether the disputed sign could mislead consumers regarding some of the claimed goods and services (and whether it was false regarding others), Rospatent did not specify what would mislead consumers about the type or purpose of each of the listed goods and services, nor why consumers would perceive the suggested associations as plausible.

Rospatent's conclusions cannot be verified in the absence of such an indication.

The first instance court has found that, with regard to some of the goods and services, Rospatent had identified grounds for refusing registration that differed from the grounds on which the refusal to register had been based during the examination of the designated sign (applying Para 1, Art. 1483 instead of Para 3) and had not brought these grounds to the applicant's attention. In its cassation appeal, Rospatent has referred to the fact that, both at the examination stage and at the stage of consideration of the objection, it had applied the provisions of Sub 3, Para 1 and Subpara 1, Para 3, Art. 1483, and therefore no new grounds had been identified.

The Presidium has rejected this argument on the grounds that the provisions of Subpara 3, Para 1 and Subpara 1, Para 3, Art. 1483 do not establish a single, collectively applicable basis for refusing to register a trademark. Just because a sign is descriptive for some goods does not mean that it is false or misleading for all others; for certain goods, it may be fanciful and not covered by any of the above provisions. In fact, Rospatent determines separately for each product and service item whether or not legal protection can be granted to a trademark.

B. Cancellation for Lack of Use

4. Use under Control of the Rightholder

IPC Presidium Resolution of 26 December 2024 in Case No. SIP-64/2024

Even if a contract for the supply of goods bearing a trademark is concluded abroad, if it indicates the buyer's intention to use the trademark in

Russia, it may prove the use of the trademark in Russia under the right-holder's control.

The usual condition of trade in certain goods, which does not constitute a temporary obstacle, cannot be recognised as a valid reason for a trademark not being used.

A company has filed a claim with the IPC for cancelling the legal protection of a trademark in relation to goods in ICGS Class 34 (snus; cigarettes; mouthpiece cigarettes; tobacco; tobacco products) due to its lack of use.

The first instance court upheld the claim in full. The IPC Presidium has overturned the decision regarding the early termination of protection for goods classified as 'Tobacco; tobacco products' and remanded the case, noting the following.

1. With regard to tobacco and tobacco products, the rightholder submitted a supply agreement between themselves and a Russian organisation, as well as universal transfer documents confirming the sale of these goods in Russia. These documents indicate this Russian entity as the seller.

The first instance court has concluded the documents did not confirm the fact that the trademark was used under the control of the rightholder.

The Presidium of the Court has noted that the rightholder's control may differ in cases where the trademark is used by another person for the production of goods (e.g. control of product quality, production and sales volumes) and in cases where the original goods are imported and subsequently sold. In the latter case, there is no need for additional quality control and monitoring of production volumes. At the same time, the intention of the rightholder must be to use the trademark within the Russian Federation.

Although the supply contract provides for the supply of goods to a Russian entity abroad, it contains conditions on the need for the quality of goods supplied under it to comply with the standards and other regulatory documentation of the Russian Federation, on the mandatory marking with tax stamps, the requirements for which are established in accordance with the domestic legislation, and on the presentation of information for consumers in Russian.

Thus, according to the IPC Presidium, the court of first instance's conclusion that the use of the disputed trademark by a Russian entity

under the rightholder's control was unproven was premature, as it was made without a full assessment of the available evidence in light of the aforementioned legal position.

2. The rightholder pointed out that the reason for not using the trademark in relation to the product 'snus' was the seizure of this product supplied to the Russian Federation.

The IPC Presidium has agreed with the first instance court that the existence of a valid reason for non-use had not been proven.

In accordance with Subpara 2, Para 3, Article 1486 of the Civil Code, evidence submitted by the rightholder demonstrating that the trademark was not used due to circumstances beyond their control may be taken into account when deciding on the cancellation of legal protection of the trademark due to lack of use.

The IPC Presidium has noted that temporary circumstances preventing the rightholder from carrying out normal activities, in a situation where there are reasonable grounds to believe that these activities will resume, are a valid reason for non-use of a trademark. On the one hand, such a situation protects the interests of the rightholder, for whom the three-year period provided for by law and international treaties is objectively insufficient to ensure normal use of the trademark. On the other hand, it protects the interests of society as a whole in cases where legal protection is provided only for trademarks that will objectively be able to fulfil the function of indicating the origin of specific goods once the temporary obstacles have been removed.

At the same time, the seizure of the goods 'snus' in this case is not a temporary reason preventing the use of the disputed trademark in this part. According to Para 8, Art. 19 of Federal Law No. 15-FZ of 23 February 2013 'On the Protection of Citizens' Health from the Effects of Environmental Tobacco Smoke, the Consequences of Tobacco Consumption or the Consumption of Nicotine-Containing Products,' the wholesale and retail trade in naswar, chewing tobacco (snus), edible nicotine-containing products, and nicotine-containing products intended for chewing, sucking, and sniffing.

Thus, snus is harmful to human health and is expressly prohibited from sale under current legislation. Such an obstacle to the use of the disputed trademark for the individualisation of snus is permanent rather than temporary. There are no grounds for believing that this ban will be lifted.

Moreover, the legislator only broadens the scope of the ban. Article 19 of Federal Law No. 456-FZ of 30 December 2015 'On the Protection of Citizens' Health from the Effects of Environmental Tobacco Smoke, the Consequences of Tobacco Consumption or the Consumption of Nicotine-Containing Products,' was supplemented by Part 8; it stipulates the wholesale and retail trade in naswar and chewing tobacco (snus) is prohibited. On 1 March 2025, Para 4.1, Part 1, Art. 6 of Federal Law No. 203-FZ of 13 June 2023 'On State Regulation of the Production of and Trade in Tobacco Products, Tobacco Goods, Nicotine-Containing Products and Raw Materials for Their Production' have came into force. This clause prohibits the production of naswar and chewing tobacco (snus) in the Russian Federation. Accordingly, it is not reasonable to consider restrictions on marketing goods such as 'snus' to be temporary.

In other words, the ban on selling the aforementioned goods in the Russia is a normal practice for the circulation of tobacco products, but not a temporary obstacle that could be considered grounds for not using the trademark.

5. Valid Reasons for not Using a Trademark, and Export Restrictions

IPC Presidium Resolution of 01 November 2024 in Case No. SIP-1161/2023

The validity of reasons for not using the trademark, particularly due to export restrictions, is assessed separately for each disputed product. If a goods item is broad in its scope, consideration is given to which goods covered by this item have been supplied to the Russian Federation, and whether restrictions have been imposed on any of them.

The Company filed a lawsuit seeking revocation for lack of use of the legal protection of a trademark that was registered, among other things, for meat.

The first instance court has satisfied the claim, and the IPC Presidium upheld the court's ruling. The court has noted, in particular:

1. The plaintiff's interest in cancelling a trademark's protection for lack of use shall be considered on the date of submission. At the same time, evidence that appears later can be taken into consideration — if it confirms the interest on the date stated.

2. The rightholder must prove that the trademark was used in relation to the goods in question, which the court has determined to be of

interest to the plaintiff. According to the general rule, similar goods are not taken into consideration, except in the case of widely known trademarks (Para 166 of Supreme Court Resolution No. 10[2]). If the rightholder presents evidence the trademark is not used in relation to all of the disputed goods, and if proof is presented that the trademark is widely known in relation to the goods that the court has determined to be of interest to the plaintiff, the court must assess whether any of the disputed goods are similar to those in relation to which the court has determined that the trademark is widely known.

3. When assessing the validity of reasons for lack of use, it should be borne in mind that if the government of the relevant country has imposed a ban on the export of a certain sub-type of goods, this does not justify such non-use for other sub-types of this type of goods that the rightholder supplied before the restrictions were introduced and, hence, for which it could use the trademark. If a trademark is registered for a broad category (in this case, 'meat'), this does not mean the rightholder is obliged to use the trademark for all types of goods in that category (beef, pork, etc.). If the rightholder exclusively produces and sells beef under its trademark, it cannot be forced to produce and sell other types of meat during the period of product restrictions, as this would violate the expectations of consumers who associate a specific product with a specific sign. The rightholder gets to decide which products to market under its trademark, making sure the quality of goods meets consumers' expectations. Consequently, if trade restrictions are imposed on the very goods that the rightholder has introduced, this constitutes a valid reason for not using the disputed trademark in relation to those product categories under which the relevant goods are classified.

4. Submitting a document to the court that has been drafted in a 0.5 mm font (equivalent to 1.4 typographic points), when it could have been drafted and printed in any font, is considered an abuse of procedural law.

6. Use of Independent Products rather than Components

IPC Presidium Resolution of 12 February 2025 in Case No. SIP-334/2024

The company has filed a claim with the IPC against a Swedish company (hereinafter — the rightholder) for early termination of legal pro-

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[2] Ruling of the RF Supreme Court's Plenum of 23 April 2019 No. 10 "On the Application of Part Four of the RF Civil Code."

tection of its trademarks containing the word "Ericsson" on the grounds that the company did not use these designations for "heating, cooling and ventilation devices" in ICGS Class 11.

The IPC has satisfied the claim; the IPC Presidium upheld the decision of the court of first instance.

The rightholder had to present to the court evidence, that it used the disputed trademarks or allowed the use by other persons under its control in the period from 18 January 2021 to 17 January 2024 specifically in relation to the product category of ICGS Class 11, 'heating, cooling and ventilation devices.'

The first instance court has classified the goods for which the company presented evidence as goods not belonging to ICGS Class 11.

The court also has noted that the company had not confirmed that the goods listed in the documents it had submitted were independent products, rather than merely components of telecommunications equipment divided into several parts for subsequent assembly and use on the market. In other words, the rightholder failed to prove that the parts of base stations and digital modules containing, e.g., fans/ventilation elements could be used independently as products designed to cool a room or circulate air in it.

Moreover, the court has noted that the company did not refer to, neither proved that its goods were products for multiple purposes. In such cases, it is permissible to classify a single product under two separate product categories that are not related as 'general vs specific' or are not different forms of the same product.

In rejecting the cassation appeal, the IPC Presidium has emphasised: the disputed trademarks were registered not only for ICGS Class 11, but also for a large number of goods in ICGS Class 9, which were not the subject of the dispute and in that regard trademark protection was not cancelled.

As for the existence or absence of valid reasons for not using the trademark in relation to the disputed goods, which would allow the period of evidence to be 'shifted', in the present case, there was no need to assess them, since the company had not proved that it had used the disputed trademarks to distinguish the goods in ICGS Class 11 between 18 January 2021 and 25 February 2022, or in general during the three-year period preceding the restrictions to which it referred. Therefore the IPC Presidium did not assess whether any valid reasons for not using the disputed trademark existed or not.

The IPC Presidium also has rejected the argument in the cassation appeal that there were grounds for applying the provisions of Articles 54 and 55 of the Convention on Legal Assistance and Legal Relations in Civil, Family and Criminal Matters, concluded in Chisinau on 7 October 2002 ('the Chisinau Convention'). In the Company's view, the first instance court failed to consider that a judicial authority in Kazakhstan had established the use of relevant goods bearing the disputed signs within Kazakhstan borders, and this fact was relevant to the case in view of the regional principle of exhaustion of rights in the Eurasian economic union (EAEU).

The IPC Presidium has noted that, in fact, the company insisted on the prejudicial nature of the conclusions and circumstances set out in the decisions of the foreign court. The Court has explained that the aforementioned provisions of the Chisinau Convention either do not apply to this case, or they establish a procedure for recognising and enforcing certain decisions in accordance with the requested party's legislation.

At the same time, it does not follow from the provisions of Article 69 of the Russian Federation Commercial Procedural Code that the circumstances established in judicial acts of foreign courts do not need to be proven, i.e. there were no grounds for changing the burden of proof.

Regarding the application of the principle of exhaustion, the IPC Presidium has noted its legal significance in determining whether or not the use of a trademark requires the consent of the rightholder, typically when considering a dispute over alleged infringement of an exclusive trademark right. However, the use of a particular trademark in cancellation proceedings must be established in a different way — without applying the principle of exhaustion. As the IPC Presidium emphasised, Russian lawmakers clearly proceed from the assumption that in order to maintain legal protection of a trademark in the Russian Federation, the trademark must be used exclusively within its borders.

C. Unfair Competition

7. Good Cat, Bad Cat…

IPC Presidium Resolution of 21 April 2025 in Case No. СИП-532/2023

Information from the trademark register is not the only factor that matters when considering cases of unfair competition. The actual use of the distinctive sign by the defendant (including in a different form and in

relation to related goods and services) also plays a role, as it reveals the true purpose of registering the trademark.

The Belyi Kot (White Cat) company filed a lawsuit against the Druzhnyi Belyi Kot (Friendly White Cat) company, seeking a declaration that the acquisition and use of three trademarks were an abuse of rights and an act of unfair competition.

Initially, the claim was dismissed, but as a result of the partial reversal of the first instance court's decision, the Belyi Kot's claims were partially upheld upon reconsideration. The defendant's actions in acquiring and using two trademarks in relation to some of the goods were declared as acts of unfair competition that were contrary to the provisions of Article 14.4 of the Law on Protection of Competition, Article 10.bis of the Paris Convention and Article 10 of the RF Civil Code.

Once again disagreeing with the decision, the plaintiff appealed to the IPC Presidium, which partially overturned the decision.

Regarding the part of the decision in which the court refused to declare the defendant's actions as unfair competition, the IPC Presidium has noted that the court had incorrectly applied the methodology for determining the boundaries of an antitrust violation. As a result, all the disputed services in ICGS Class 35 and some of the disputed goods fell outside the product boundaries of the market.

In conducting its business of manufacturing cleaning and housekeeping products, the plaintiff had long used its own trademark incorporating the word element 'White Cat', as well as a trade name with the distinctive part 'White Cat'.

The defendant is the plaintiff's former distributor, who became its competitor in the market for cleaning and housekeeping products. Taking the established circumstances into account, the first instance court has ruled out the possibility of the defendant's choice of signs subsequently registered as trademarks being an accidental coincidence. The court also noted that after registering the signs, the defendant continued to operate in the market for cleaning and housekeeping goods and services and has began to position itself as the official and sole owner of the brand.

The court of cassation drew attention to the fact that it is incorrect to compare the items of goods in the list of the plaintiff's trademark registration (the company 'White Cat') with the goods and services items specified for the defendant's trademarks (the company 'Friendly White

Cat'); the activities carried out by the plaintiff under the name 'White Cat' should be compared with the goods and services for which the defendant's disputed trademarks are registered, including taking into account the activities for which these are used.

Unlike disputes considered by Rospatent, where only the specific disputed sign in the application or trademark and the list of goods and services as stated in the application or trademark are relevant, cases of unfair competition also consider the defendant's actual use of the distinctive signs (including in a different form and in relation to related goods and services), because this reveals the true purpose of acquiring exclusive rights to the trademark.

In other words, one must consider the purposes for which the defendant chose to register its sign for a specific goods or services category. The purpose may be apparent from the actual use of the sign.

Overall, the IPC Presidium has stated that the scope of an infringement grounded in the Law on Protection of Competition should be determined with by taking into account the extent (including in terms of goods) to which the alleged infringer can gain an advantage over the aggrieved party in the course of its business activities, and the extent (including in terms of goods) to which the alleged infringer's actions may result in losses for the aggrieved party or damage its business reputation.

II. Patents

A. Validity

8. Crystalline Lattices

IPC Presidium Resolution of 17 December 2024 in Case No. SIP-1013/2023
When examining the inventive step of a new crystalline form, Rospatent must assess whether, in a specific case, such a form exhibits useful properties that are unexpected for an expert, that it demonstrates an effect (technical result) that is unexpected for the said expert, whether its discovery was a routine operation or whether it was aimed at solving a specific technical problem.

Two patent applications for groups of inventions described in the claims as crystalline polymorphs of compounds have been filed with Rospatent.

Rospatent has established that the compounds described in the formula were known from the prior art. The proposed compound differs from that known from the opposing source in that it is presented in crystalline form with specific parameters of its crystal lattice. For an expert in this field of technology it is obvious stability of the crystalline form indicated as a technical result refers to properties that cannot be considered unexpected, since it is known from the prior art that the forms of compounds — crystals, hydrates and solvates — are obtained precisely to improve or modify properties such as stability, purity, solubility, etc. Thus, information about the stability achieved by the proposed crystalline polymorph of the compound clearly follows from the prior art.

Following an assessment of both applications, Rospatent has decided not to grant patents for the groups of inventions due to their failure to meet the patentability requirement of an inventive step.

Furthermore, Rospatent has dismissed the company's objection to these decisions to refuse to grant patents.

The first instance court has invalidated Rospatent's decisions and ordered Rospatent to reconsider the company's objections. The court took into account the expert's explanation that there is no established method for obtaining specific polymorphs that are useful in practical terms, and therefore the task in question may not be obvious to an expert. The court considered Rospatent's conclusions regarding the obviousness of identifying new crystalline forms of polymorphs by changing the parameters of their production, as well as the obviousness of these forms having improved stability properties, to be unfounded, since, from an expert's point of view, the production of specific polymorphs, and the fact that these polymorphs will necessarily have improved stability, is not obvious.

Supporting the conclusions of the first instance court, the IPC Presidium has stated that, compared to the substance disclosed in the prior art, the distinctive feature of the inventions according to the independent claim in the applications is the specific crystalline form of this substance.

The IPC Presidium pointed out that the Civil Code does not establish a specific, solely possible methodology for verifying an invention's compliance with the inventive step requirement. However, a possible option for the methodology for verifying the inventive step of an invention, provided for in Para 76 of Rules No. 316, involves a specific algorithm of actions:

to identify the closest prior art to the invention (step 1);

to identify the features that distinguish the claimed invention, as characterised in the independent claim, from the closest prior art (distinguishing features) (step 2);

to identify solutions from the prior art that have features coinciding with the distinctive features of the claimed invention (step 3);

to analyse the prior art to confirm the known influence of features coinciding with the distinctive features of the claimed invention on the technical result specified by the applicant (step 4).

This methodology is not the only one possible.

Given the specific nature of substance polymorphism precluding use of standard methodology for assessing the inventive step of new crystalline forms of a known substance, applying this methodology when considering a patent application for a crystalline form of a substance will always mean that the latter meets the inventive step condition for patentability, since if the claimed crystalline form is new, it is impossible to find a crystal in the prior art that has the same peak arrangement on the powder X-ray diffractogram. Therefore, the verification will be completed in step 3.

At the same time, this approach does not correspond to the essence of patent law. The reason is that different polymorphic modifications of the same pharmaceutical substance do not necessarily demonstrate different pharmacological activity. Therefore, searching for a specific crystalline form is not necessarily related to solving a specific technical problem. It may, for example, be motivated solely by the desire to obtain a patent dependent on the patent for the substance itself.

While searching through various polymorphic crystalline forms of a substance may be a routine task for a specialist in pharmaceuticals, if the search for a specific polymorphic crystalline form is aimed at solving a specific technical problem, then its decisive new form should be recognised as possessing an inventive step, if it is not obvious to an expert from the prior art.

The Presidium has noted that, although all crystalline forms of a single substance may have different properties, it is impossible to predict which as-yet-unknown crystalline form will have relevant parameters. It can only be asserted that, if a new form is found, its properties will differ from those of the known form in some way. Individual differences (or their combination) may be unexpected.

The IPC Presidium has noted verification of the new crystalline form for compliance with the condition of inventive step includes analysing, among other things:

whether the polymorphism of a specific substance (rather than polymorphism in general as a phenomenon) is known (or obvious to an expert);

whether the methods, including standard methods, for obtaining a specific crystalline form of a specific substance are known (or obvious to an expert);

whether a specific change is unexpected (an unexpected effect / technical result) for an expert in physical and chemical properties compared to known forms of a specific substance.

Thus, the mere obtaining of a new crystalline form of a known polymorphic substance by standard methods, or the study of its properties and demonstration of differences in its properties from other known crystalline forms or from the amorphous form, does not constitute an invention that meets the 'inventive step' condition for patentability, if the properties described in the corresponding application do not disclose an effect (technical result) that is unexpected for an expert and allows the new crystalline form to be used in a way that the known crystalline forms of the same substance could not.

In such a situation, when examining the inventive step of a new crystalline form, Rospatent must assess whether, in a specific case, such a form demonstrates useful properties that are unexpected for an expert, whether it demonstrates an unexpected effect (technical result), whether its discovery was a routine operation or whether it was aimed at solving a specific technical problem.

9. Industrial Application of a Pharmaceutical Composition under a Eurasian Patent

IPC Presidium Resolution of 09 December 2024 in Case No. SIP-863/2023

For demonstrating industrial applicability of a pharmaceutical composition under a Eurasian patent, its therapeutic efficacy must be confirmed. While activity on cells in vitro can confirm the biological activity of a substance, it cannot demonstrate the therapeutic efficacy of a pharmaceutical composition.

Rospatent cannot go beyond the objection filed in relation to certain independent points of the formula and invalidate the patent in its entirety

without an objection filed in relation to all points of the formula and in the absence of the patent holder's intention to amend the formula.

An objection has been filed with Rospatent against the validity of a Eurasian patent within Russia for a group of inventions, specifically against two independent claims, the protection for that had been extended. The applicant raised, among other grounds, these claims do not meet the patentability requirement of industrial applicability.

Rospatent upheld the objection on this ground, therefore, other conditions were not assessed. The Eurasian patent was declared invalid in its entirety.

The first instance court patent holder's claim, refusing to invalidate the decision of Rospatent. The IPC Presidium upheld the court's ruling.

The first instance court has ruled that the application materials and the description of the group of inventions covered by the disputed patent did not contain information allowing the conclusion that the compositions in question could be used in healthcare, i.e. there was no information objectively confirming that the invention could be used for its intended purpose; there is no test data and no examples of treatment or prevention of disease; they contain only declarative information; the description shows only methods of preparation for studies that are carried out in vitro. At the same time, the results of other studies were not provided.

Agreeing with the conclusion of the first instance judgement, the IPC Presidium has noted the following:

1. According to Subpara 4, Para 1.4.6.3 of the Rules for the Preparation, Filing and Examination of Eurasian Applications at the Eurasian Patent Office, approved by Order of the Eurasian Patent Office No. 22 of 18 May 1998 (hereinafter referred to as Rules No. 22), for an invention relating to a means for the treatment, diagnosis or prevention of a disease in humans or animals, reliable information confirming its suitability for the treatment, diagnosis or prevention of the specified disease should be provided. With regard to compositions, section 1.4.6.3 of Rules No. 22 stipulates that examples must be provided that indicate the ingredients included in the composition and their characteristics and quantitative ratios. The method of obtaining the composition must also be described (Subpara 8, Para 1.4.6.3 of Rules No. 22).

The criterion of industrial applicability implies the invention is fundamentally suitable for use in any branch of industry. Inventions that

can only be implemented once in specific, unique conditions may meet the requirement of industrial applicability.

It is the patent holder who must prove that the invention can be implemented in principle to achieve the stated purpose, so that the expert (i.e. an expert in the relevant field of technology) has no doubts.

The IPC Presidium was agreed with conclusion of the first instance court, stating the patent holder's position was that, in the case under consideration, the pharmaceutical composition was based on a new compound not known from the prior art.

For this reason, the applicant believed that the provisions of Subparas 4 and 8, Para 1.4.6.3 of Rules No. 22 did not apply to the group of disputed inventions, but rather the provisions of Subpara 2 of the same Para.

Subpara 2, Para 1.4.6.3 stipulates: for an invention relating to a new chemical compound with an established structure, the structural formula and physicochemical constants must be provided. For an invention relating to a chemical compound with unidentified structure, a set of characteristics is provided that allow it to be identified. Furthermore, a description is provided of the method by which these compounds are obtained; where necessary, the possibility of using the compound for a specific purpose is confirmed; for biologically active substances, quantitative characteristics of activity (and toxicity, where necessary) are provided, as well as selectivity of action and other relevant information.

At the IPC Presidium hearing, the representative of the Eurasian Patent Organisation also considered it possible to apply the latter provision on unknown compounds to pharmaceutical compositions if a single application seeks legal protection for a group of inventions that includes both the new compound itself — not known from the prior art — and compositions containing such a compound.

Given that the group of disputed inventions is covered by a patent obtained from a divisional application for a new compound not known in the prior art, the representative of the Eurasian Patent Organisation has pointed out this approach was applicable to the case at hand.

However, the court has observed that the Eurasian Patent Organisation has not provided any data suggesting that the countries participating in the Eurasian Patent Convention interpret the provisions of international agreements in this area in this way.

Meanwhile, the need to apply such an approach in the present case does not follow from the literal content of Para 1.4.6.3 — according to it relevant requirements must cover inventions relating to means for the treatment, diagnosis or prevention of diseases in humans or animals, and compositions. The disputed independent patent claims to the group of inventions relate only to pharmaceutical compositions.

Therefore, the IPC Presidium has acknowledged it is necessary to confirm the therapeutic efficacy of a pharmaceutical composition.

Both Rospatent and the first instance court reasonably assumed that while activity on cells in vitro can confirm the biological activity of a substance, it cannot demonstrate the therapeutic efficacy of a pharmaceutical composition because when the composition is applied to a living organism, many accompanying factors arise that can affect therapeutic efficacy, despite biological activity. Therapeutic efficacy example depends on parameters such as, e.g., absorption, distribution, metabolism and excretion, which cannot be tested on cells in vitro.

2. The IPC Presidium has acknowledged as worthy of consideration the arguments of the appellants that there are no grounds for declaring the disputed patent completely invalid.

The procedure for considering objections is based on the provisions of Article 45 of the Russian Federation Constitution and Article 11 of the Civil Code and provides for the protection of the rights of the person filing the objection through administrative proceedings.

An objection cannot be upheld arbitrarily. For approval, the administrative body must agree with both the claim and its grounds.

The Rules do not provide for the possibility of granting an objection to a greater extent than requested by the person raising the objection.

Any other approach contradicts to the provisions of Article 45 of the Constitution and Article 11 of the Civil Code regarding the administrative procedure for considering a specific dispute, which can be used exclusively at the discretion of the specific person initiating this procedure in cases provided for by law.

Rospatent could not go beyond the objection and invalidate the disputed patent in its entirety without an objection filed in relation to the remaining patent claims and in the absence of the patent holder's intention to amend the claims of the group of inventions under the disputed patent.

The decision to invalidate a Eurasian patent in Russia on the grounds that it does not meet the conditions for patentability has the same legal significance as invalidating a Russian patent on the basis of Para 1, Article 1398 of the Civil Code. In accordance with Para 139 of Resolution No. 10, Rospatent's decision to invalidate a patent results in the patent being cancelled and the corresponding exclusive right being terminated from the date on which the patent application was filed with Rospatent; this also involves the relevant entry being cancelled in the State Register.

Thus, the decision to invalidate the Eurasian patent in the Russian Federation has retroactive effect.

10. How Long Can the Grace Period for the Author Last?

IPC Presidium Resolution of 29 November 2024 in Case No. СИП-551/2024

The period specified in Subpara 2, Para 4, Article 1352 of the Civil Code is retrospective in nature and cannot be restored, even if there are valid reasons for doing so.

Rospatent has refused to grant the applicant a patent for the industrial design of a "Tool Bag" due to lack of originality.

In her objection, the applicant argued that she had been directly involved in selling a product whose appearance was recognised as the closest prior art to her design, but she had missed the twelve-month deadline for filing an application, as set out in Para 4, Art. 1352 of the Civil Code, due to compelling reasons: namely, pregnancy and maternity leave.

In rejecting the objection, Rospatent has noted that the law does not provide grounds for restoring the period specified in Para 4, Art. 1352 of the Civil Code for a valid reason, and the administrative body does not have the relevant powers.

The applicant has appealed to the IPC, requesting, among other things, that the legal position reflected in the ruling of the RF Supreme Court No. 78-KG18-74 of 29 January 2019 be taken into account by analogy. According to the RF Supreme Court's explanations, when resolving the issue of restoring the missed deadline for applying to the court, it is necessary to take into account the provisions of the Constitution, which guarantee women who combine work under an employment contract with the fulfilment of family obligations the same opportunity

as other citizens to exercise their rights and freedoms in the field of labour.

In rejecting the application to invalidate Rospatent's decision, the IPC concluded that the time limit set forth in Subpara 2, Para 4, Art. 1352 of the Civil Code is a substantive, not a procedural one. Substantive time limits are not restored unless otherwise expressly provided by law; the restoration of such time limits is not covered by analogy of law. Meanwhile, the law does not provide for the possibility of calculating the period established in Article 1352 of the Civil Code in any other way, or from any other date.

The IPC Presidium upheld the first instant court's ruling and dismissed Rospatent's cassation appeal, noting the following:

Recognising the constitutional importance of supporting mother and child, the IPC Presidium has stated that the provision in Subpara 2, Para 4, Art. 1352 of the Civil Code is universal in nature and is not intended to infringe in any way on the rights of mothers and children.

The IPC Presidium also has noted that neither the provision in question nor any other provisions of the Code establish a deadline for filing a patent application. On the contrary, the applicant chooses the moment of submitting the application. At the same time, the Civil Code establishes certain consequences of the result of such a choice.

In the provision under consideration, the date on which the industrial design application was filed is taken into account when determining the scope of information that became publicly available worldwide prior to the industrial design's priority date, but which is nevertheless not considered when establishing its novelty and originality.

This rule is not prospective (it does not give the right to take any action following a specific date), but retrospective: it allows information disclosed in the past — within twelve months prior to the date of filing the application for an industrial design — to be disregarded.

Retroactive deadlines cannot be restored.

The court has noted that, in effect, by requesting the reinstatement of the 'deadline for filing a patent application', the applicant was asking for this deadline to be extended retrospectively and for information disclosed twenty-five months prior to the filing date of the application for the disputed industrial design to be excluded from the public domain. However, the Civil Code does not allow for this possibility.

Furthermore, the IPC Presidium has emphasised that Subpara 2, Para 4, Article 1352 of the Civil Code establishes an exception to the general rule set out in Paras 2 and 3 of the same Article, according to which novelty and originality are assessed on the priority date of the industrial design.

The Presidium of the Court recalled that exceptions cannot be interpreted by analogy; they do not permit a gap in legal regulation, meaning that anything not covered by the exception is subject to the general rule, and the introduction of exceptions to the general rule is at the legislator's discretion.

11. Hindsight Bias Revisited

IPC Presidium Resolution of 22 April 2025 in Case No. SIP-730/2022

The inventive step is assessed based on the knowledge of an expert at the time of the priority date of the disputed invention, rather than at the time of the subsequent examination (e.g. when an objection or court case is considered). Attention should be paid to the risk of subsequent analysis.

Following consideration of an objection, Rospatent has recognised a group of inventions protected by a Eurasian patent did not meet the conditions of 'novelty' and 'inventive step'. The rightholder exercised their right to submit an amended set of claims, but Rospatent has refused to maintain legal protection in part. Having decided that the group of inventions in the refined formula did not possess an 'inventive step', the administrative body upheld the applicant's objection in its entirety.

The patent holder appealed to the court, and, at the first hearing, their claims were rejected. However, the court of cassation overturned this decision, remanding the case for a retrial.

Upon reconsidering the case, the court upheld the claims and recognised Rospatent's decision invalid. After considering the appeals filed by Rospatent and the objector, the IPC Presidium agreed with the first instance court's decision on the merits, but having identified remediable errors, has adopted a new judicial act.

Regarding the compliance of the amended set of claims with the 'inventive step' criterion for the group of inventions, the IPC Presidium has noted that Rospatent had made an error when identifying the closest prior art, i.e. when carrying out the initial check for compliance with this criterion.

In the decision contested, the first instance court found the technical result of the group of inventions disclosed in the amended set of claims was the production of a new chemical compound (tofacitinib), which is capable of inhibiting Janus kinase 3 and is suitable for treating a number of diseases.

Having examined the amended set of claims for the group of inventions covered by the disputed patent, Rospatent has declared this technical solution as lacking inventive step as compared to prior art in information source 2.

The first instance court has refuted Rospatent's conclusion: the compound described in this source is a product with a different purpose, as it inhibits a different protein kinase (tyrosine kinase instead of Janus kinase 3).

Moreover, as the IPC Presidium noted, source 2 was published in 1997, i.e. at a time when the structure and activity of Janus kinase 3 had not yet been discovered or confirmed, and its effectiveness in treating disorders characterised by Janus kinase 3 involvement had not yet been demonstrated.

Consequently, the technical solution known from information source 2 does not and could not have been intended to inhibit Janus kinase 3.

As in the first review of this case, the IPC Presidium has recalled that the inventive step is assessed based on the knowledge of an expert at the time of the priority date of the disputed invention, rather than at the time of the subsequent examination (e.g. when an objection or court case is considered); it also drew attention to the risk of subsequent analysis if this requirement is not met.

The scientists who responded to the request based on Part 1.1 of Article 16 of the Commercial Procedural Code also pointed to the difficulty of drawing conclusions about the inhibitory activity of the disputed compound against Janus kinase 3 based on the information in source 2.

The IPC Presidium, nevertheless, found some remediable errors in the court ruling.

Indeed, the court has imposed on Rospatent the obligation to reinstate the disputed Eurasian patent in the Russian Federation as a remedial measure.

However, Rospatent does not have the authority to enforce decisions concerning the termination or restoration of the validity of a Eurasian patent in the Russian Federation.

The IPC Presidium amended the concluding part of the judicial act accordingly, specifying the amended claims for the group of inventions covered by the disputed patent. This will ensure that the court ruling adopted in this case can be interpreted unambiguously, and that the relevant entries can be made in public registers.

12. Simplicity Can be Deceptive

IPC Presidium Resolution of 23 December 2024 in Case No. СИП-236/2024

It is not permitted to engage an expert to supplement the applicant's obligation to provide evidence.

When assessing the inventive step, the general knowledge of an expert should be taken into consideration. However, the level of this knowledge should be assessed based on the priority date of the disputed invention and not on any other date, such as the date on which an objection is filed or the date on which the case is considered in court.

If the protectability of the disputed composition is confirmed, then the method of obtaining such a composition cannot be recognised as known from the prior art and general knowledge of a specialist on a legally significant date.

Rospatent has rejected the company's objection to the granting of a patent for a group of inventions titled 'Medicinal composition with protective action and method for its preparation.'

The first instance court's decision, affirmed by the IPC Presidium, recognised Rospatent's decision as lawful and upheld it.

As the IPC Presidium dismissed the cassation appeal, it stated the following:

1. The company's argument that the court's refusal to grant the motion to involve an expert in the case is unlawful is not based on the provisions of the Commercial Procedural Code and the explanations given in Para 40 of Resolution No. 46 of the Plenum of the Supreme Court of 23 December 2021 'On the application of the Commercial Procedural Code of the Russian Federation when considering cases in the court of first instance.'

Indeed, the court has no duty to involve an expert in the case. The court decides whether they need to be involved in each case, based on

the facts and evidence presented. If the court concludes that the case can be heard without the involvement of someone with specialist technical knowledge, no expert shall be involved.

The IPC Presidium has noted that the first instance court's refusal was not only duly justified, but also reasonable insofar as the specialised court has the necessary competence to independently resolve technical issues in the case under consideration (Ruling of the RF Supreme Court No. 300-ES16-19920 of 9 February 2017; IPC Presidium ruling of 29 February 2024 in case No. SIP-868/2022).

Moreover, the Presidium has noted that it is not permitted to engage an expert to supplement the applicant's obligation to provide evidence. In this case, when justifying the grounds for the objection, the objector did not confirm that this was known to a person skilled in the art on the priority date of the disputed patent for the distinctive feature of the group of inventions.

2. The arguments in the cassation appeal centred on the fact that two substances known from the prior art are the starting components for obtaining a new chemical compound by simple mixing.

However, the fact the components required to obtain a new chemical compound are known from prior art, does not mean that the compound itself is known.

When analysing an inventive step, the general knowledge of a specialised expert should be taken into consideration. However, as the IPC Presidium has repeatedly pointed out, the level of this knowledge should be assessed based on the priority date of the disputed invention and not on any other date, such as the date on which an objection is filed or the date on which the case is considered in court.

The company had to confirm that the expert was aware of certain circumstances relating to this group of inventions on the priority date, and not after this date, especially if the expert's opinions were based on information from the description of this group of inventions.

In view of this circumstance, these opinions were not taken into account by either Rospatent or the first instance court.

The opinion on the need to take into account the risk of subsequent analysis (retrospective or hindsight bias) is given, e.g., in the IPC Presidium's decisions dated 18 December 2023 in case No. SIP-730/2022 and dated 16 October 2024 in case No. SIP-190/2023.

At the same time, as expressly stated in Para 79 of Rule 316[3], an invention shall not be considered as failing to meet the requirement for an inventive step due to its apparent simplicity and due to the fact that the mechanism for achieving the technical result is disclosed in the application materials, if such disclosure did not come from the prior art, but only from the application materials.

In these circumstances, the IPC Presidium was agreed with the conclusions of Rospatent and the first instance court regarding the unknown nature of the disputed feature from the opposing sources and the general knowledge of an expert on the priority date of the disputed group of inventions.

3. On the question whether claim 2 of the disputed invention met the inventive step requirement, the IPC Presidium has noted that while the disputed medicinal composition is confirmed as patentable, the method of obtaining such a composition cannot be considered as known from the prior art and general knowledge of an expert on the relevant date.

B. Entitlement and ownership

13. Disagreements when Submitting an Application

IPC Presidium Resolution of 24 June 2025 in Case No. SIP-830/2024

When several persons co-own the right to obtain a patent, it shall be exercised jointly. Any dispute between the co-owners on this matter shall be settled in court.

An individual filed a lawsuit against the company seeking to invalidate patents due to the incorrect indication of the company as the sole patent holder. The first instance court has denied the claims, finding that both the individual and the company were entitled to the disputed patents. The court has concluded that the individual had chosen an inappropriate route to protect their right, since the company was lawfully listed as the patent holder, hence invalidating the patents would result in the unlawful deprivation of the moral and patent rights of the company and other authors.

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[3] Rules for Drafting, Filing, and Examining Documents that are Grounds for Taking Legally Significant Actions for State Registration of Inventions and Forms Thereof, approved by Order No. 316 of the Ministry of Economic Development of the Russian Federation. 25 May 2016.

The IPC Presidium has overturned the court ruling and referred the case for retrial, noting the following.

Since filing a patent application is essentially a way of determining the future fate of intellectual property and exclusive rights to it, it is covered by the provisions of Para 3, Art. 1229 and Para 3, Art. 1348 of the Civil Code. The application to transactions aimed at determining the fate of intellectual property of the rules on joint action by co-owners of rights also follows from Subpara 9, Para 35 of Resolution No. 10.

Consequently, the right to obtain a patent (the right to file an application) had to be exercised jointly by the co-authors, i.e. with the consent of all co-authors.

A person's intention to exercise their right to obtain a patent and designate a specific person as the patent holder does not have to be expressed in an agreement between the co-owners of the right to obtain the patent; it can be established based on various forms of evidence.

At the same time, the IPC Presidium has recalled that if a unilateral transaction is concluded when its conclusion is not provided for by law, by other legal acts or by agreements between the parties, or the requirements for its conclusion are not met, then, as a general rule, such a transaction does not entail the legal consequences for which it was intended (Para 51 of Resolution No. 25 of 23 June 2015).

Therefore, the lack of consent from one of the co-authors regarding the disposal of the right to obtain a patent should not result in legal consequences for such actions.

However, declaring a patent invalid in its entirety, rather than in part, is an extreme measure in such a case.

If it is established that one of the co-owners of the right to obtain a patent does not wish to do so, while the other co-owners of that right do wish to do so, this does not mean that the patent must in any case be declared invalid in its entirety.

Disagreement with the application submitted may indicate the existence of a dispute between the co-owners of the right to obtain a patent.

Consequently, if the co-authors do not agree on how to dispose of the right to obtain a patent, how to file a patent application, or the conditions for obtaining a patent — e.g., by designating one person as the patent holder — and if the co-authors have a dispute, it shall be resolved in court.

Such a dispute may be considered taking into account the circumstances of the relationship between the co-owners of the right to obtain a patent, including taking into account their good faith towards each other.

14. Dependent Invention and Co-Authorship

IPC Presidium Resolution of 28 May 2025 in Case No. IPC-83/2024

Co-authorship is impossible without some form of coordination between co-authors.

For an invention to be recognised as dependent, it is not necessary to use all the features of the 'parent' invention. An invention covered by a 'junior' patent may be declared dependent on an invention covered by a 'senior' patent in the overlapping part (when a specific implementation of the invention covered by the 'junior' patent simultaneously involves the implementation of the invention covered by the 'senior' patent).

To satisfy a claim for dependency in situations of partial overlap between 'senior' and 'junior' patents, it must be proven that the rights of the holder of the 'senior' patent have been infringed or are under a real threat of such infringement.

The IPC does not have the authority to declare on its own an invention as dependent, so the courts consider an independent claim for this purpose in accordance with the general rules of jurisdiction.

A group of individuals submitted two claims to the IPC against the patent holder:

to declare the patent invalid insofar as it fails to name the plaintiffs among the inventors,

to declare the defendant's invention as dependent on the plaintiffs' invention.

The claims were grounded on the facts: the plaintiffs had previously disclosed some of the features of the disputed patent to the authors, and therefore were co-authors of the invention; the plaintiffs hold a patent for another invention, some of whose features overlap with those of the invention covered by the contested patent, and therefore the plaintiff's invention is dependent on the defendants' invention.

The first instance court has denied the claims because the information provided by the plaintiffs to the defendant was not new, was known

from the prior art, and the plaintiffs did not prove that they had worked together on this invention.

The court also has found no grounds for declaring patent dependency, given that Article 1358.1 of the Civil Code applies only when implementing a dependent invention leads to the use of the basic invention. This was not the case here, as only a range within the basic invention coincided with the second invention.

The IPC Presidium, on the basis of Part 1.1 of Article 16 of the Commercial Procedural Code, has issued a request to scientists and, based on the opinions presented, came to the following conclusions.

The IPC Presidium has rejected the argument that co-authorship should be recognised because, in the plaintiffs' opinion, certain features of the invention in the disputed patent overlap with features of the invention.

Co-authorship is impossible without some form of coordination between co-authors. In this case, the approach set out in Para 83 of Resolution No. 10 may be applied to similar situations involving the joint creation of works: coordination is required, and 'co-authorship of a work arises when each co-author, by mutual agreement, including verbal agreement, has made a creative contribution to the work. An agreement on co-authorship may be reached at any stage of the creation of the work or after its completion. The condition for creating a work in co-authorship may be contained in an agreement concluded by each of the co-authors separately with a third party.'

The very basis of patent law is that information about patented technical solutions is open, which allows for more technical creativity. The authors of technical solutions, based on prior art, should not list all the authors of the prior art solutions used as their co-authors. Patents for such solutions can be obtained independently. However, the use of patented technical solutions alongside other inventions, utility models, or industrial designs, is permitted with the consent of the latter's rightholders in accordance with the rules on dependent inventions, utility models, and industrial designs (Article 1358.1 of the Civil Code).

The IPC Presidium has disagreed with the first instance court's conclusion that it was impossible to recognise the invention as dependent when the invention in question could be implemented in such a way that it did not affect the invention under the plaintiffs' patent.

This understanding of the institution of dependent inventions, utility models, and industrial designs does not comply with Article 1358.1 as interpreted in Subpara 2, Para 125 of Resolution No. 10.

Indeed, there may be cases where the 'junior' invention, regardless of its implementation, necessarily involves the use of the 'senior' invention. Such cases are described, for example, in Subpara 2 and 3, Para 1, Art. 1358.1.

At the same time, the provisions of Subpara 1 of the same provision of the Civil Code are broader. Thus, Subpara 2, Para 125 of Resolution No. 10 describes a situation where the specific implementation of an invention under a 'junior' patent simultaneously means the implementation of an invention under a 'senior' patent.

In such a case, the invention under the 'junior' patent is dependent on the invention under the 'senior' patent in the overlapping part (when a specific implementation of the invention under the 'junior' patent simultaneously involves the implementation of the invention under the 'senior' patent), and the court's decision to recognise the invention under the 'junior' patent as dependent must indicate this overlapping part.

In view of this, the first instance court's decision is based on the incorrect application of Para 1, Art. 1358.1. However, in this case, this did not lead to the adoption of a fundamentally incorrect decision.

According to Para 2, Art. 12 of the Civil Code, recognition of a right is an acceptable means of protecting civil rights.

As a general rule, the concept of dependent inventions, utility models, and industrial designs is used to assess the legality of specific actions already taken (in a case initiated by the patent holder of the invention under the 'senior' patent to protect the infringed right to the invention under the 'senior' patent) or the specific intended use of the invention under the 'junior' patent, which objectively requires the issuance of a compulsory licence at the request of the holder of the 'junior' patent. In such circumstances, there is a person who denies or otherwise does not recognise the right.

The plaintiffs filed a lawsuit seeking declaration of the invention under the disputed patent as dependent on the very existence of such an invention, rather than for the purpose of preventing any existing use.

At the same time, the mere existence of a 'junior' patent may indicate the existence of a right subject to protection only if any use of the invention under the 'junior' patent simultaneously and necessarily implies the use of the invention under the 'senior' patent.

In a situation where only certain implementations of the invention under the 'junior' patent require the consent of the patent holder of the

'senior' patent, the mere existence of the 'junior' patent does not infringe the rights of the holder of the 'senior' patent: the actual actions of the holder of the 'junior' patent may never infringe upon the legal protection afforded to the 'senior' patent.

Regarding a similar situation, Para 57 of Resolution No. 10 states that requests for a general prohibition on a specific person from using the results of intellectual activity or means of individualisation in future will not be granted. This prohibition is established directly by law (Sub-para 3, Para 1, Art. 1229 of the Civil Code).

Thus, in a situation where the inventions covered by the 'senior' and 'junior' patents partially overlap, to satisfy a claim for recognition of an invention as dependent, it must be proven that the rights of the holder of the 'senior' patent have actually been infringed or that there is a real threat of such infringement.

The facts established by the first instance court suggesting that the holder of the 'junior' patent is actually able to implement their invention without infringing on the legal protection of the invention under the 'senior' patent, do not mean that the 'junior' patent is unconditionally independent, but rather the failure of the holder of the 'senior' patent to prove their right to sue.

In turn, the absence of the right to sue also entails a refusal to honour the stated claims.

The request to recognise the patent as dependent does not fall within the competence of the IPC at first instance. The courts must consider an independent claim for declaring a patent as dependent in accordance with the general rules of jurisdiction.

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