Regulatory Landscape of Artificial Intelligence

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ABSTRACT

In this article we refer to the basic levels of regulation of AI as per 2020.The following levels are identified: national strategic development documents; laws and regulations; studies by government authorities and expert groups; ethical documents; doctrinal sources; standardization documents and international acts. We analyze the relevant examples of regulatory acts at each level, inter alia the acts of Council of Europe or OECD to the legal systems of precise countries. It is proved that the levels of AI regulation seem to be universally actual, composing the large regulatory landscape of this emerging technology.

Keywords: *artificial intelligence, robotics, regulation, laws, concept, development strategy*

1. INTRODUCTION

The development of artificial intelligence technologies in the world led to the necessity of adopting the first legislative acts in this sphere. Each country addresses this issue individually, with consideration of the local legal system. As a result, by 2020, the world has accumulated a wide range of experience in the legislative regulation of relationships emerging in connection with the development of AI. This experience consists of a variety of elements: from national AI strategies to principles for applying AI in specific areas. The main forms of documents on the legal aspects of AI will be briefly described below.

2. REGULATORY LEVELS

2.1. National strategic development documents

The share of such documents in the entire experience of legislative regulation of AI technologies is, perhaps, the utmost.

Today, according to various estimates , at least two dozen countries have national development strategies in one form or another. Among these countries are China and Korea; Canada and the United States; the United Kingdom and France; and, thankfully, since 2019, Russia as well.

Typically, strategic development documents contain a description of strategic approaches to the development of AI technologies. They may contain the following sections:

- description of the current level of development of AI technologies in the world, key industries for their implementation;

- expectations and perspectives of technology development in the short, medium and long terms;

- key stages, objectives, and goals of AI technology development in a particular country;

- main problems and difficulties of the development of AI technologies

- advantages, gaps and development prospects;

- a plan of main activities targeted at the development of technologies in general;

- financial support plans for the industry;

- the sequence of realization of plans of measures to particular areas of AI technology introduction.

- directions of legal system adaptation;

- main ethical difficulties and issues;

- target state of technology development

Other examples

- French strategy for artificial intelligence #FranceIA, France, 2018

- Pan-Canadian Artificial Intelligence Strategy, Canada, 2018

- New Generation of Artificial Intelligence Development Plan, China, 2017

- National Strategy for Artificial Intelligence, Denmark, 2019

2.2   Laws and regulations

In the world, there are yet no complex regulatory acts with norms of direct action related only to artificial intelligence. South Korea and the European Union are examples of countries, approaches of which are the closest to such complex regulation.

In February 2017, the EU Parliament adopted resolution 2015/2103(INL) 'Civil law rules on robotics' based on a document drafted by the Legal Committee. Despite the fact that it focuses primarily on robotics, its content and logic obviously intersect with AI technology. The resolution outlines approaches to the problem of liability for damage caused; suggests more accurate definitions in this sphere; suggests unified criteria for developing tools for testing new technologies; formulates some basic rules for robot categories; suggests creating a European system for registering smart robots; notes the importance of infrastructure development, including 5G networks and satellite system. However, the resolution became especially memorable due to the idea of confirming the status of electronic personalities on robots with AI.

In 2008, South Korea also adopted an act formally dedicated to the robotics industry; however, to the specific type of robots with implemented artificial intelligence. The act envisages the creation of a specialized institute for the development of robotics; five-year plans for the development of robotics; a special preferential procedure to regulate the activities of robot manufacturers, and even criminal liability for some violations committed by such companies; determination of the sequence for creating of robots use zones; two approaches of developing the industry: financing specific commercial projects and financing research; the principle of "one window" to obtain permits for projects, etc.

However, a much higher number of countries have acts dedicated to specific varieties of AI systems. Since AI is applied in highly automated vehicles, in health care, in the realization of 'smart-city' concepts, in finance, all related regulatory issues affect AI technology as well. Meanwhile, the first examples of direct regulation of AI technologies can be seen in the example of medicine and public administration.

Other examples

- Changes in Germany Permits Automated Vehicles, 2017

- Estonian Traffic Act, 2017

- Automated vehicle trial guidelines, Australia, 2017

- Comprehensive Rule for AI Healthcare, Prescribe "Medical Doctor Ultimately Responsible", Japan, 2018-2019

- Intelligent robots development and distribution promotion act, 2018

- Resolution aimed at banning the use of killer robots and armed drones by the Belgian Defence Force , Belgium, 2018

- Directive on Automated Decision-Making, Canada, 2019

- Contract Guidelines on Utilization of AI and Data, Japan, 2018

2.3.   Studies by government authorities and expert groups

Research studies often precede the development of national strategies. Typically, it is performed by different expert groups or existing academic institutions. An example of such research work on approaches to AI regulation is the Report on Automated and Connected Driving by the Federal Minister of Transport and Digital Infrastructure of Germany, which in 2017 proposed principles for the utilization of unmanned vehicle technology in transportation. Another example is the Report on Artificial intelligence in Swedish business and society, developed in Sweden.

At the supranational level, reports of the World Commission on the Ethics of Scientific Knowledge and Technology by UNESCO (COMEST) are extremely significant documents. In 2017, they drafted reports on the ethics in robotics and, in 2019, on the ethics of artificial intelligence.

Other examples

- White Paper on Artificial Intelligence Standardization, China, 2018

- Report by House of Lords "Algorithms in Decision-Making" and Artificial Intelligence Committee Consolidated report, House of Lords, UK, 2018

2.4.   Ethical documents

The development of ethical documents to establish rules of AI application has long been a key trend in AI regulation. By the end of 2019, there are at least a hundred different acts, guidelines, principles and codes on AI ethics in the world.

Typically, they focus on the formulation of several key principles, such as security, confidentiality, non-discrimination, controllability, etc. One of the most notable examples is the 23 Azilomari AI Principles established in 2017.

Other examples

- Montréal Declaration: Responsible AI, 2017

- Ethics guidelines for trustworthy AI by Council of Europe Ad Hoc Group of High-Level Experts, 2018

- Model Convention on Robotics and Artificial Intelligence, 2018

2.5. *Doctrinal sources*

In the foreign legal literature, the so-called "Robolaw" or "Robotics Law" has been forming consistently enough as an independent subject area of research for several decades. Scientists focus on the problems of responsibility, juridical personality, providing algorithmic transparency, controllability of AI systems, problems of copyright and patent law, and many others.
Examples

- Robot Law Edited by Ryan Calo

- The Laws of Robots Crimes, Contracts, and Torts by Ugo Pagallo ,

- RoboLaw: Towards a European framework for robotics regulation by Erica Palmerini and a group of authors

- The Path of Robotics Law by Jack M. Balkin

- Regulating robotics: Introduction to «robolaw» by A. Neznamov

2.6. *Standardization documents*

An ad hoc technical committee on artificial intelligence (SC#42) has been established within the International Organization for Standardization (ISO). Its workplans include almost two dozen standards on artificial intelligence and big data.
At the beginning of 2020, the following standards were drafted: ISO/IEC 20546:2019 Big data — Overview and vocabulary ; ISO/IEC TR 20547-2:2018 Big data reference architecture — Part 2: Use cases and derived requirements , ISO/IEC TR 20547-5:2018 Big data reference architecture — Part 5: Standards roadmap .
Planned to be drafted: ISO/IEC CD 22989 Artificial intelligence — Concepts and terminology , ISO/IEC NP TR 24027 Artificial Intelligence (AI) — Bias in AI systems and AI aided decision making etc.
Generally, the development of national standards synchronized with the development of international standards.
Other examples

- Global Initiative called Ethically Aligned Design, 2016, IEEE

- Recommended Practice for the Quality Management of Datasets for Medical Artificial Intelligence, IEEE

- U.S. leadership in AI: A Plan for Federal Engagement in Developing Technical Standards and Related, NIST, США, 2019

- The report Developing Standards for Artificial Intelligence: Hearing Australia's Voice, Australia, 2019

2.7. *International acts*

Over the past few decades, research in the field of AI regulation has often led authors to conclusions about the importance of developing international rules of human interaction related to the development of AI systems, including the ethics of AI application. By 2020, this idea had received considerable support at various levels.
For example, the COMEST report on the ethics of AI 2019 provides recommendations on the structure and content of such a potential international document. It states that UNESCO can complement the numerous ethical guidelines and instructions currently being developed by public authorities, companies, and civil society organizations with an interdisciplinary, universal, and holistic approach to the development of AI for the benefit of humanity and peace and sustainable development.
The Council of Europe is currently the leader in establishing approaches to AI regulation. In the past year alone, various expert committees of this organization have developed a number of documents on this topic.
This includes the following documents: European Ethical Charter on the use of artificial intelligence (AI) in judicial systems and their environment by European Commission for the Efficiency of Justice (CEPEJ) , Guidelines on Artificial Intelligence and Data Protection , Declaration by the Committee of Ministers on the manipulative capabilities of algorithmic processes , Unboxing Artificial Intelligence: 10 steps to protect Human Rights. Commissioner for Human Rights Recommendations, etc.
In 2019, the Council of Europe established an Ad Hoc Committee on AI (CAHAI) to create a comprehensive normative document in the field of AI.

3. CONCLUSION

To summarize, the motion to set aside the award have the chances to be successfully recognized if is based on tenable arguments. A well prepared counsel is able to find such arguments. And if the motion would be dismissed by the court it would at least take some time what can be beneficial for the party.
The second group of actions are the actions not to set aside the award but directly against the enforcement. Three grounds have already been mentioned (the law doesn't allow such dispute to be resolved in arbitration; the declaration of enforceability would violate the public order clause; the award violates the rights of customers). Again, the public order clause is very broad an various elements could be presented in front of the courts. From economical perspective the risk of taking such actions is relatively low. The costs aren't high comparing to the disputed amount.

Stephen Walker presented pros and cons of arbitration. His list is very interesting because most of authors describe arbitration as cheaper and quicker than litigation. S. Walker disagree with the opinion that arbitration is cheaper. He is right as usually arbitration is not cheaper because of arbitrators' fees and appointing organizations' costs. What is more interesting is that S. Walker denies the common argument that arbitration is quicker. He focuses on limited case management powers of arbitrators (comparing to courts). Unfortunately he didn't comment on the fact that even quickly given award may need time during enforcement proceeding.

One of the differences between the court and arbitration is that arbitration is voluntary. The parties need to agree for arbitration. After the agreement is concluded the parties should behave in accordance to "fair play" rules. If the parties agreed for the specific organization, procedure, chose the arbitrators it would be unethical and even naive to try to discredit the procedure and case. It would be childish to deny the arbitrator which the party chose earlier. On the other hand the law allows to take the steps to negate the award and block its enforcement. This can make the whole procedure much longer as under certain circumstances the proceeding by the court are a kind of additional instances of the arbitration.

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