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**New Principles  
and individual  
practices  
in legal regulation  
amid technological  
revolutions**

# New Principles and individual practices in legal regulation amid technological revolutions

*This report is compiled by leading experts from the Center of Development Institute, the Institute for Statistical Studies and Economics of Knowledge, the Skolkovo—HSE Institute for Law and Development, Institute of Legal Regulation, the Institute for Transport Economics and Transport Policy Studies, and the Institute of Education of National Research University Higher School of Economics.*

*The report aims to reveal the role of the proactive approach to legislation in order to ensure sustainable economic development, to use specific cases in order to demonstrate a variety of approaches to regulation, to highlight specific challenges to deal with while responding to the changing technological environment, and to discuss possible principles and instruments of new regulation.*

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## 1. Role of Technology in World Development

Despite the upturn of the economy in 2017-2018, a decade after the global financial crisis, GDP growth rates have not returned to the pre-crisis level and are unsustainable in most states. The lower production levels caused by outdated production facilities and the ever-less favourable impact of earlier technological innovations on the world economy account for the slowing productivity growth and decreasing investment in the world economy. The slowdown in knowledge-based capital accumulation, the reduced number of new enterprises, and the smaller contribution of ICT and total-factor productivity to GDP growth have also caused some concern over the last decades.

Amid the existing challenges, new trends have been emerging in the global economic - first and foremost, technological - development. Many experts attribute large-scale technological shifts to the fourth industrial revolution, which results in dramatically changing economic sectors<sup>1</sup>. Key technologies, including ICT, artificial intelligence, advanced manufacturing technologies, and biotechnologies, are cross-sectoral and provide the basis for developing numerous technologies and sectors.

*Technological change is the most important driver of economic growth nowadays which increases labour productivity. However, it also presents new challenges, which include new trends in the labour market leading to multiple job cuts in a number of sectors, growing income inequality, and rampant urban sprawl, which exacer-*

bates environmental and transport problems. Moreover, technological change causes uneven economic development within states and growing regionalization and protectionism amid increasing monopolization of main platform owners.

The use of new technologies often breaks the established ethical norms and requires their revision when it comes to social values, as well as new legal regulations. It predominantly concerns the use of artificial intelligence for decision-making and medical technologies<sup>2</sup>. All these factors necessitate *by far more stringent requirements for rule-making, standard-setting and regulation nowadays.*

## 2. Individual Practices in New Regulation

We will consider regulatory issues in some areas as specific examples of how regulation evolves in certain areas of technological development, what challenges lawmakers are faced with and what ways of addressing them are discussed. These areas include:

- 1) artificial intelligence,
- 2) unmanned vehicles,
- 3) "fake news",
- 4) cryptocurrency.

We can account for the choice. Artificial intelligence is cross-sector and affects many new sectors, including unmanned vehicles. The dissemination of fake news also has a profound impact on other sectors, including financial markets and cryptocurrencies.

<sup>1</sup> Strukturnaya politika v Rossii: novyye usloviya i vozmozhnaya povestka [Structural Policy in Russia: New Conditions and a Possible Agenda] [Text]: Reports from XIX April International Academic Conference on Economic and Social Development, Moscow, 10-13 April 2018 /Yu.Simachev, N.Akindinova, A.Yakovlev et al.; Scientific adviser E. Yasin; Higher School of Economics. - M.: HSE Publishing House, 2018.

<sup>2</sup> SCOTT A. (2018) A CRISPR path to drug discovery // Nature. 8 March 2018 / Vol 555 / Issue No 7695. Режим доступа: <https://www.nature.com/magazine-assets/d41586-018-02477-1/d41586-018-02477-1.pdf>, 24.04.2018.

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Butler D. A world where everyone has a robot: why 2040 can blow your mind // Nature. Vol. 530. No. 7591. February 24, 2016. Режим доступа: <http://www.nature.com/news/a-world-where-everyone-has-a-robot-why-2040-could-blow-your-mind-1.19431>, Access date: 24.04.2018.

AI (2015) Research Priorities for Robust and Beneficial Artificial Intelligence. Open Letter. Режим доступа: <http://futureoflife.org/ai-open-letter/>, Access date: 24.04.2018.

## 2.1. Regulatory Oversight over Artificial Intelligence (AI)

### Demand for Regulation

AI systems are becoming increasingly autonomous in terms of the complexity of tasks they can perform, their potential impact on the world and man's diminishing ability to understand, predict and control their operations. Such self-study systems can act in a way which was not designed by their creators<sup>3</sup>. These characteristics raise issues related to, first, the systems' predictability and, second, to their ability to act independently without bearing any legal responsibility<sup>4</sup>.

Algorithms collect information about various aspects of private life and are even used to predict possible crimes and assess a person's predisposition to a crime. At the same time, most algorithms are patented and constitute commercially sensitive information, which prevents both users and competent authorities from learning what algorithms do and how they make decisions.

Moreover, self-study algorithms erode the concept of an actor. Studies show that even without market dominance or a level playing field, artificial intelligence can independently generate new anticompetitive practices<sup>5</sup>, which will require the complete revision of competition law.

### Models of Regulation

In this regard, it is frequently suggested that *norms similar to those that regulate the activities of legal entities should be applied*. Since a legal entity is an artificially constructed subject of the law<sup>6</sup>, for example, robots can be ascribed a similar status. Legal systems make legal entities liable under civil and, in some states, criminal law. However, such analogy can also pose difficulties since the actions of legal entities are always traced back to those of a person or group of people<sup>7</sup>, which may be impossible in AI-based systems.

It is possible to create a *new legal category* according to the most advanced AI technologies legal personality, which is proposed both by legal experts<sup>8</sup> and lawmakers. The European Parliament has proposed a prospective

regulatory framework for robots which is based on the definition of a robot as a new legal category. The resolution on the Civil Law Rules on Robotics resolution<sup>9</sup> was adopted in 2017. EU authorities suggested establishing the European Agency for Robotics and Artificial Intelligence and introducing a system of registration for 'smart robots'. There are two possible types of liability for damage caused by robots:

- 1) strict liability (no requirement to prove fault),
- (2) a risk management approach (liability of a person who was able to minimize the risks).

Liability should be proportionate to the actual level of instructions given to the robot and to its degree of autonomy. Rules on liability are complemented by a compulsory insurance scheme for robot users, and a compensation fund.

*It is suggested that the most advanced robots would be granted a special legal status of an e-person.* It implies liability for the damage caused when robots make decisions autonomously or otherwise interact independently with third parties.

### Individual Practices

Nowadays states are vigorously establishing legal frameworks for developing AI-based technologies. South Korea adopted Intelligent Robots Development and Distribution Promotion Act back in 2008<sup>10</sup>, while the UAE has devised the Artificial Intelligence Strategy<sup>11</sup> and has even appointed the world's first Minister of Artificial Intelligence<sup>12</sup>. In late March 2018, France presented its national Strategy for Artificial Intelligence. The French government plans to invest €1.5 billion in artificial intelligence research over five years<sup>13</sup>.

A particularly important proposal is *to make AI (its algorithms) transparent*. There has already been legal precedent. A defendant in the United States received a lengthy prison sentence on the basis of information obtained from an algorithm predicting the likelihood of recidivism<sup>14</sup>. The self-study process can make algorithms biased. They can, for example, absorb social stereotypes or adopt biases from their developers.

<sup>3</sup> Asaro P., "From Mechanisms of Adaptation to Intelligence Amplifiers: The Philosophy of W. Ross Ashby", in Wheeler M., Husbands P., and Holland O. (eds.) *The Mechanical Mind in History*, Cambridge, MA: MIT Press: 149-184.

<sup>4</sup> Asaro P. *The Liability Problem for Autonomous Artificial Agents* // AAAI Symposium on Ethical and Moral Considerations in Non-Human. Agents, Stanford University, Stanford, CA. — March 21-23, 2016. — P. 191.

<sup>5</sup> Ezrachi A., Stucke M.E. *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy*, Harvard University Press, 2017.

<sup>6</sup> See. Winkler A. *We the Corporations: How American Business Won Their Civil Rights*. — Liverlight, 2018. See for the description: <https://www.nytimes.com/2018/03/05/books/review/adam-winkler-we-the-corporations.html>

<sup>7</sup> Brożek B., Jakubiec M. On the legal responsibility of autonomous machines // *Artificial Intelligence Law*. — 2017. — № 25(3). — P. 293-304; Khanna V.S. Corporate criminal liability: what purpose does it serve? // *Harvard Law Review*. — 1996 — № 109. — 1477-1534.

<sup>8</sup> See Chopra S., White L.F. *A Legal Theory for Autonomous Artificial Agents*, University of Michigan Press, 2011; Hage J. Theoretical foundations for the responsibility of autonomous agents // *Artificial Intelligence Law*. — 2017. — № 25(3). — P. 255-271.

<sup>9</sup> Civil Law Rules on Robotics, European Parliament resolution of 16 February 2017, <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0051+0+DOC+XML+VO//EN>.

<sup>10</sup> Act No 9014, 28 March 2008 on Intelligent Robots Development and Distribution Promotion Act (IRDDPA) with amendments and additions, [http://robopravo.ru/zakon\\_iuzhnoi\\_koriei\\_2008](http://robopravo.ru/zakon_iuzhnoi_koriei_2008)

<sup>11</sup> UAE 2031: UAE Artificial Intelligence Strategy, <http://www.uaesai.ae/en/>

<sup>12</sup> His Excellence Omar bin Sultan Al Olama, The Cabinet, United Arab Emirates, <https://uaecabinet.ae/en/details/cabinet-members/his-excellency-omar-bin-sultan-al-olama>

<sup>13</sup> French Strategy for Artificial Intelligence, <https://www.aiforhumanity.fr/>

<sup>14</sup> Smith M. "In Wisconsin, a Backlash Against Using Data to Foretell Defendants' Futures" // *The New York Times*, June 22, 2016, <https://www.nytimes.com/2016/06/23/us/backlash-in-wisconsin-against-using-data-to-foretell-defendants-futures.html>

Ethics and law are inextricably linked in modern society, with AI adding a new dimension. This year, Microsoft has released a report on the impact of artificial intelligence on humanity, where it suggested a Hippocratic oath for coders<sup>15</sup>. The Ethics Advisory Group under the European Data Protection Supervisor has published a report which predicted a shift from individual to distributed responsibility and highlighted regulatory inadequacy and the need for digital ethics<sup>16</sup>.

### Prospects for Regulation

1) AI presents new challenges to various domains of law, ranging from patent law to criminal law, from the protection of privacy to antitrust law.

2) Liability for using the algorithm is the main issue for consideration. In the long term, a transition from individual responsibility to distributed responsibility may occur.

3) What remains unclear is the necessity or desirability of new regulations, in particular, the direct responsibility of AI-based systems. Making coders or users of autonomous systems responsible for the actions of such technologies may be more effective. However, it can stand in the way of innovation.

4) It is necessary to increase the transparency of algorithms and expand the possibilities for their verification.

5) Public values affect the attitude to AI and its legal status. New digital ethics and codes of conduct are required.

## 2.2. Unmanned Vehicles Market

### Demand for Regulation

The development of unmanned and autonomous vehicles is part of global trends. Today's regulation is assumed to be evolving gradually, which depends on the levels of autonomy. Partially autonomous cars, that is from level 1 to level 3, equipped with driver support devices (for example, emergency braking systems and cruise control and lane-centering) will not require drastic changes in the control systems.

The main changes will be needed as fully autonomous cars referred to as level 4 and level 5 vehicles, enter the mass market. The key regulation aspects are related to artificial intelligence, information security, insurance, responsibility for road accidents<sup>17</sup>, and access to the public infrastructure.

## Individual Practices

As an initial stage of regulation of unmanned vehicles, it is possible to recognize *the approval of special reports (White Papers) outlining governmental policies* rather than the passage of relevant legislation. This is illustrated by "Federal Automated Vehicles Policy: Accelerating the Next Revolution in Road Safety" issued by the US Department of Transportation (DoT). It is noteworthy that the report was primarily aimed at emphasizing safety measures<sup>18</sup>.

Innovations have an impact on the regulation of artificial intelligence. This is exemplified by a *set of ethical standards for developers of automated and connected cars* embraced by Germany in 2017<sup>19</sup>. The paper centers around the value of human life.

The world witnesses the emergence of legal acts giving *unmanned vehicles potential access to the public road network*. In 2017, the German federal government approved a bill changing the country's Road Traffic Act to allow the use of automated vehicles on public roads<sup>20</sup>. The system must, amongst other things, be able to comply with traffic rules, recognize situations that require human input, and allow override by the driver at any time.

The US House of Representatives has recently approved the SELF DRIVE Act (Safely Ensuring Lives Future Deployment and Research in the Vehicle Evolution Act), which makes it easier

to ensure the safe and innovative development, testing, and deployment of self-driving cars. In March 2018, Russia endorsed an action plan (road map) to improve legislation in the field<sup>21</sup>.

### Prospects for Regulation

1) Individual practices in the sphere have started to emerge since the second half of the 2010s.

2) Driverless cars typified by high levels of autonomy are expected to be sold after 2025.

3) In countries which are supposed to see unmanned vehicles, a comprehensive review of the legal framework will be required, primarily with regard to the regulation of artificial intelligence and responsibility for road accidents.

## 2.3. "Fake News" Circulation

### Demand for Regulation

*Web 2.0*, which presupposes active and potentially positive user participation, including blogs, wikis, social networks and other features, has changed the usual

<sup>15</sup> Shum H., Smith B. The Future Computed: Artificial Intelligence and its role in society, Microsoft, 2018, [https://blogs.microsoft.com/uploads/2018/02/The-Future-Computed\\_2.8.18.pdf](https://blogs.microsoft.com/uploads/2018/02/The-Future-Computed_2.8.18.pdf)

<sup>16</sup> Burgess J.P. et al., Ethics Advisory Group Report 2018, [https://edps.europa.eu/sites/edp/files/publication/18-01-25\\_eag\\_report\\_en.pdf](https://edps.europa.eu/sites/edp/files/publication/18-01-25_eag_report_en.pdf)

<sup>17</sup> Krawiec, R.J., White, V. (2017) Governing the future of mobility: Opportunities for the US government to shape the new mobility ecosystem, Deloitte University Press.

<sup>18</sup> Hanaghan, J. (2018) Preparing communities for autonomous vehicles, An American Planning Association Report.

<sup>19</sup> URL: <http://www.bmvi.de/SharedDocs/EN/publications/report-ethics-commission.html?nn=187598>

<sup>20</sup> Deutscher Bundestag Website. URL: <http://dipbt.bundestag.de/extrakt/ba/WP18/795/79579.html>

<sup>21</sup> Russian Government Order No. 335-r of 29 March 2018. URL: <http://government.ru/docs/31810/>

<sup>22</sup> Federal Road Agency website. URL: <http://www.rosavtodor.ru/press-center/news/archive-news/45501>

approach to disseminating information and receiving news drastically as it has deprived the traditional media of their role of gatekeepers.

Social networks and other large-scale digital platforms are the major instruments for circulating fake news today. News appears in the news feed in the order determined by automatic algorithms, which are dependent on the number of "clicks", "likes", and re-posting.

Studies by Edelman Trust Barometer<sup>23</sup> show that 63% of the respondents fail to tell good journalism from rumor or falsehoods when they get information via the Internet. Recipients of information - in fact, almost everyone - are overwhelmed with data flows and often fail to properly process them. Thus, former markers of deception have disappeared, which facilitates the manipulation of social groups' views. The dissemination of fake news does not only affect politics and ethics, but it also damages the economy by paving the way for poor investment decisions (market manipulation).

The definition of «fake news» boils down to the "online publication of the intentionally or knowingly false statements of a fact"<sup>24</sup>. However, information is often used as a tool for fine manipulation based - among other things - on big data analytics. It complicates state regulation in cases associated with the circulation of fake news.

### Individual Practices

Nowadays every state is actively drafting bills to regulate the dissemination of false or misleading information in three main areas:

- 1) regulating online advertising (advertising regulations apply to political propaganda in most states);
- 2) regulating online platforms (social networks);
- 3) regulating the activities of people disseminating false information.

In particular, the United Kingdom is about to adopt the Digital Charter<sup>25</sup> and the Internet Safety Strategy, part of the Charter<sup>26</sup>. The Charter is aimed at making the internet work for everyone - for citizens, businesses and society as a whole. It is based on liberal values that cherish freedom. To develop Internet safety regulations, the British government will engage public organizations and volunteers, as well as high-tech companies, schools and the public<sup>27</sup>.

Israel is mulling the «Facebook Bill», the Removal of Criminally Offensive Content from the Internet bill. It will allow the state to seek court orders to force the social media site to remove incitement and hate content based on police recommendations. The Knesset passed the bill in the first reading in March 2017<sup>28</sup>.

In Germany, the fake news regulation is linked to the activities of online platforms and, especially, social networks. In October 2017, the Network Enforcement Act came into force in Germany<sup>29</sup>. This is the first European state to lay down clear rules.

In Ireland, James Lawless, a TD for Fianna Fáil party, submitted the Online Advertising and Social Media (Transparency) Bill 2017 on November 6, 2017. The draft of the US Honest Ads Act<sup>30</sup> was put to the vote in the US Senate on October 19, 2017.

## Prospects for Regulation

Lawmakers have not yet answered some key questions:

1. whether new regulations are needed to combat fake news online circulation or the existing mechanisms are effective enough;
2. in which cases false or misleading information should be subject to regulation;
3. who should be authorized to classify any information as false or misleading;
4. who should be charged with removing / limiting access to fake news
5. on which realms new regulations should be imposed: politics, economics, public safety, etc.

### 2.4. Cryptocurrency and Token Market

#### Demand for Regulation

State authorities are wary that crypto-currencies may affect regulation in a number of ways, which crudely boil down to the following:

- the state may lose control over inflation and lending through the banking system;
- the interests of third parties which invest in cryptocurrencies must be safeguarded;
- the state seeks to control budget revenues from cryptocurrency trading and effectively ward off the shadow market<sup>31</sup>.

An argument against cryptocurrencies goes that they are not backed by any tangible asset and, therefore, are

<sup>23</sup> Edelman Trust Barometer Special Flash Poll. Research. 2017 // <https://www.edelman.com/trust2017/trust-barometer-media-fake-news-flash-poll/>.

<sup>24</sup> Klein D., Wueller J. Fake News: A Legal Perspective // Journal of Internet Law. Apr. 2017. Available at SSRN: <https://ssrn.com/abstract=2958790>.

<sup>25</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/676715/2018-01-25\\_Digital\\_Charter\\_final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/676715/2018-01-25_Digital_Charter_final.pdf); <https://www.meetup.com/ru-RU/ORG-Birmingham/events/247971623/?eventId=247971623>.

<sup>26</sup> Internet Safety Strategy. October 2017 // [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/650949/Internet\\_Safety\\_Strategy\\_green\\_paper.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/650949/Internet_Safety_Strategy_green_paper.pdf).

<sup>27</sup> <http://www.theweek.co.uk/90730/should-uk-adopt-european-style-fake-news-law>.

<sup>28</sup> <https://www.timesofisrael.com/israel-getting-better-grip-on-online-incitement-justice-minister-says/>.

<sup>29</sup> The Network Enforcement Act // [http://www.bmjv.de/SharedDocs/Gesetzgebungsverfahren/Dokumente/NetzDG\\_engl.pdf?\\_\\_blob=publicationFile&v=2](http://www.bmjv.de/SharedDocs/Gesetzgebungsverfahren/Dokumente/NetzDG_engl.pdf?__blob=publicationFile&v=2)

<sup>30</sup> Honest Ads Act // <https://www.congress.gov/bill/115th-congress/senate-bill/1989>; <https://www.epic.org/democracy/Honest-Ads-Act.pdf>.

<sup>31</sup> Bulgakov I. Pravovyye voprosy ispol'zovaniya tekhnologii blokcheyn [Legal Aspects of Using Blockchain Technology] // Zakon. 2016. № 12

<sup>32</sup> Bitcoin is Evil by Paul Krugman December 28, 2013 [http://krugman.blogs.nytimes.com/2013/12/28/bitcoin-is-evil/?\\_r=0](http://krugman.blogs.nytimes.com/2013/12/28/bitcoin-is-evil/?_r=0) Also see his speech at The Genius of Economics in summer 2015 <https://www.youtube.com/watch?v=B-H8LRHG1hc&feature=youtu.be>

fraught with the risk of default increasing in parallel to expanding trade in cryptocurrencies. Bitcoin is subject to severe criticism because of its high volatility and inconvenience when it is regarded as a store of value, which is the key function of money<sup>32</sup>.

### Models of Regulation

Opting for proactive regulation lawmakers can choose between

- 1) creating one legal framework for cryptocurrencies and tokens;
- 2) setting different regulatory frameworks, which will depend on a particular asset.

Major financial regulators (the US, the EU, Switzerland, Singapore, etc.) still prefer the second approach as they stress that the emission of tokens should be regulated as securities issuance given the former's investment component. First of all, it concerns the obligation to disclose information about the issuer and the planned emission. The major drawback is the need to clearly differentiate between tokens and the need for traders to accept liability for unintentional mistakes. The main advantage is the application of the relevant legislation. If goods are sold, then consumer protection is used. If tokens look profitable, they are treated as securities.

### Money Laundering and Terrorist Financing Prevention

On December 15, 2017, the European Union announced the strengthening of EU rules to prevent money laundering and terrorist financing. Specifically, the new regulations, among others, obliged cryptocurrency trading platforms and custodian wallet providers to target anonymity among users<sup>33</sup>.

On April 19, 2018, the European Parliament adopted amended Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing. The new changes stipulate that cryptocurrency trading platforms and custodian wallet providers will be obliged to introduce customer due diligence controls, including bank-style identity verification procedures.

### Cryptocurrency Taxation

Although the world does not have a common approach to the issue, the 2015 Skatteverket-versus-David Hedqvist disputed, which was resolved by the European Court of Justice (ECJ)<sup>34</sup>, can be considered a momentous case. The judgement at the highest court ruled that that when virtual bitcoin exchanges were used as a way of issuing a payment it would be exempt from VAT.

Against this background, the German Federal Ministry of Finance, Bundesministerium der Finanzen, jumped on the bandwagon and released a message to clarify when it would not tax cryptocurrencies. Spe-

cifically, when used for purchases, cryptocurrencies will receive the same tax treatment as legal tender. For purchases, taxes will be calculated (in accordance with the EU's VAT Directive) based on the converted value of the cryptocurrency's fiat pair value at the point of sale, which is reported by the vendor. Taxes will not be applied to block rewards sent to miners. Likewise, intermediaries who facilitate cryptocurrency conversions to or from fiat currency would not be considered liable for taxes.

### Regulatory Aspects of Islamic Banking

Influential Islamic financiers claim that cryptocurrencies may be more "halal" than fiat money because the former has nothing to do with fractional reserve banking (FRB) and usury or loan sharking<sup>35</sup>. The counter-argument is that fiat money is created by banks through the multiplier mechanism, which allows scope for fractional reserve banking. In terms of economic security, this is quite similar to cryptocurrency creation.

The issue of cryptocurrencies has not been incorporated into the current set of AAOIFI standards yet. However, the situation might change in two or three years' time.

### Prospects for Regulation

1) Cryptoassets are not currencies in the traditional sense of the word. As an unreliable asset in terms of value preservation qualities, they do not perform the standard functions of currencies. Actually, monitoring is needed.

2) Preference is still given to determining the requirements for cryptocurrency emission, depending on special features of a particular asset.

3) One can find itself at "a regulatory crossroads" when every cryptocurrency transaction beyond the prescribed amount is subjected to rigorous financial scrutiny, which, among others, demands that investors get certified as a qualified investor.

4) It is necessary to set a common international regulatory framework for cryptoassets.

## 3. Common Framework and Individual Tools for Developing Legal Regulation

Despite a considerable difference between the above-mentioned examples, one can single out some general problems:

- new relations are often so special that they cannot be effectively managed through the existing regulatory mechanisms at the state's disposal;
- notwithstanding rapid technological advancement, legal regulation is quite inert due to sophisticated mechanisms of adopting regulatory acts;

<sup>33</sup> <https://www.reuters.com/article/us-global-markets/world-shares-hemmed-in-by-dollar-and-fed-rate-expectations-idUSKBN11306B>

<sup>34</sup> <http://curia.europa.eu/juris/document/document.jsf?docid=170305&doclang=EN>

<sup>35</sup> [www.muslimeco.ru/onevs/2143](http://www.muslimeco.ru/onevs/2143)

- the fact that lawmakers are aware of the “overregulation” risk slows down the passage of new regulatory acts because it requires preliminary discussions and arriving at a consensus with business and society;

- the cross-border nature of digital relations requires the development of cross-border mechanisms or common approaches to their regulation.

Against this background, a possible response to emerging challenges in the face of rapid changes, high uncertainties, and a close interconnection between economic aspects and social and ethical ones is *the transition to “new regulation”* based on the following approaches:

1) given the complexity of regulation issues, the state is forced to shift from detailed regulation of the rights and obligations of participants in economic relations to the regulation of principles and transfer regulatory functions to non-state institutions;

2) one should ensure the maximum possible independence of regulation from the nature of technologies, which will allow approaches and norms to be used by the parties, irrespective of technological changes. This will also allow scope for technological neutrality of the legislation:

3) one should develop “soft regulation” mechanisms and guarantee cross-border harmonization of approaches, the exchange of best practices and the development of shared framework rules, including through the formation of “horizontal” strategies, as well as the development of consensus documents for individual technological areas;

4) one should establish a legal regulation regime (regulatory “sandboxes”) to lay the basis for formulating new rules and attracting investors to new technological areas;

5) one should use legislative foresight aimed at implementing systemic changes in the sphere, giving it a pro-active character and ensuring the consensus of interests of various parties, which, in its turn, will take into consideration the peculiarities of new generations and limit the risks of increasing age-related technological inequality.

## Conclusions: Political Implications, Agenda for Parliamentarians

### I. Harmonizing Legal Regulation

- ▶ The emergence of a new technological order and the digitalization of all spheres of life constitute most important trends which determine political and socio-economic processes at the global, regional and national levels. The issue is bound to top the political agenda of both developed and developing countries for years to come.
- ▶ The prominent role of parliaments in developing the regulatory and legal framework of the digital economy and preparing society for the requirements of the fourth industrial revolution is a major factor strengthening the authority and clout of the legislative power in the emerging new world.

- ▶ Active and proactive development of legal regulation enhancing digital development and simultaneously safeguarding citizens’ rights in the ICT environment brings parliaments to the forefront of public life and adds considerable political weight to their activities.

- ▶ Close interparliamentary interaction, the systematic exchange of best legislative practices and joint efforts to develop model legislation are essential for effective law-making in this field with due regard to rapidly changing technologies.

- ▶ It is important to secure the compatibility of national legislation and emerging international norms in this field and jointly formulate such norms.

- ▶ Large-scale reforms, including legislative innovations, designed to stimulate accelerated digital development, the formation of a data-centric economy and digital ecosystems, will have political implications both at the domestic and international levels.

- ▶ Stimulating reforms will affect socially sensitive spheres, including taxation, education and health.

- ▶ The investment process in the digital economy is to be accelerated by the system of financial and non-financial incentives for the creation and development of business companies, including preferential tax regimes for R&D investment, sale of start-ups, disposal of intellectual property, residence of highly qualified specialists.

- ▶ In order to provide the digital economy with human resources, to form the necessary digital skills, the educational system should be deeply reengineered. The learning process will be individualized on a life-long basis with the use of modern flexible digital educational technologies.

- ▶ Digitalization of medicine will allow to dramatically improve the effectiveness of health care, the quality of life and, thereby, significantly reduce social and political tensions.

### II. Lifting Barriers

- ▶ The digital economy is inherently open, with open architecture, and functions with an aim to ultimately enter the global market. An attempt to build a “closed” digital economy or an autarchic digital economy will inhibit its development, preventing breakthroughs and the emergence of game-changers.

- ▶ Therefore, along with harmonized national regulatory systems, a non-confrontational political environment, which is conducive to deeper economic cooperation, will be an important prerequisite for promoting digital development.

- ▶ Stable international trade regimes, as well as the renunciation of attempts to politicize international economic relations, to wage trade wars, to exert pres-

sure through sanctions and to impose other artificial barriers are necessary prerequisites for dynamic and synchronized digital development, whose unification multiplier effect benefits the whole international community.

- ▶ Interparliamentary dialogue is able to contribute to a common and uniting agenda concerning international economic cooperation in the interests of digital development.

### III. Risk Management

- ▶ As various elements make uncoordinated and multi-speed progress towards the new technological order, the complex world of interconnected global economies runs a potential risk of destabilization.
- ▶ Against the background of the fourth industrial revolution, potential revolutionary changes will bring about profound socio-economic transformations in most states, which can reconfigure the current system of global labor division and technological chains and ultimately have an impact on the distribution of world economic power.

- ▶ Apart from the different depth levels and dynamics of the new technological order in numerous countries, the speed of digital development can cause an explosive growth of global inequality, which, in its turn, can destabilize socio-political systems of the entire regions. This will prepare the ground for new migration waves, the spread of extremist ideologies, and the growth of international terrorism and organized crime.
- ▶ It is of crucial importance to prevent the emergence of such destabilizing gaps, to ensure equal access to potential benefits of the new technological order, and to effectively use antimonopoly legislation to avoid the monopolization of markets and the establishment of technological superiority.
- ▶ The agenda can be advanced only through close interparliamentary dialogue, political interaction within multilateral parliamentary structures, and concerted legislation efforts aimed at regulating the economy of the future.

