

# Digital Transformation: (re)constructing EU-Russia dialogue (the case of AI)

**Ivan V. Danilin**

**Primakov National Research Institute of  
World Economy and International Relations  
(IMEMO)**

**B**eing extremely complex in nature, borderless, and challenging, digital technologies require a more profound international cooperation and dialogue. Russia and the European Union are no exception. Despite existing contradictions, both sides are interested in the development of advanced digital solutions and their effective – but socially and environmentally responsible – use, especially considering the USA's and China's dominance of the Internet and digital economy. This implies neither compromising dialogue with any other nations, nor abandoning core political positions; rather it means accepting the realities of mutual interests in the areas of science, technology (S&T) and the economy.

## Limitations for cooperation

However desirable EU-Russia cooperation on digital transformation is, it has clear limitations and constraints, especially in the post-2014 realities. We can identify several factors, which may be labeled as the “Five Dark S[igmas]” (5S).

1. **Sanctions** – EU-Russia cooperation now is very limited, with some formal and informal restrictions in place which are becoming even less clear considering the new US sanctions legislation.

2. **Security** issues – these dominate discussions on both sides and make the EU and Russia cautious about technology leaks or revealing their vulnerabilities.

3. **Suspicious** – there is almost a complete lack of trust, including in the digital realm. Hacker attacks and other episodes are preventing cooperation in any area that might look “sensitive”. Since digital technologies are ubiquitous and may cause strong spillover effects, almost any effort might look to be “sensitive”.

4. **Market Superiority** – Russia, the EU and European nations and companies from respective territories have their own plans for future markets and do not want to enhance competitors.

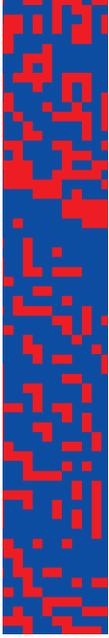
5. **The Slump** of the Russian economy – this is partly due to sanctions and global energy market trends, and partly because of institutional challenges. The current economic situation in Russia makes it less attractive to European partners.

These limitations do not imply that cooperation is impossible, but “5S” are here to stay in the coming years. Any realistic efforts to (re)construct EU-Russian digital dialogue needs to take them into account.

## Artificial Intelligence (AI) – is Russia an attractive partner?

Considering the “5S” factors, AI may not look like the best choice for cooperation. However, several issues should be kept in mind. Firstly, almost any digital solution now implies some use of AI. Secondly, AI is an





umbrella term for a different set of technologies – from voice recognition up to complex data analysis – where Russia and the EU may find “safe” cooperation harbors. Finally, competence synergies are possible (Russia enjoys strong S&T positions in some areas related to AI), while market trends in Russia shouldn’t be ignored (see below).

The Russian AI landscape looks ambiguous since the nation lags behind the USA, China and the EU in the development of AI, but it is evolving fast.

At present, Russian AI and machine learning markets are estimated to be less than 1% of the global ones – €9.5-10.5 million in 2017.<sup>1</sup> Assessments of the future Russian market size differ significantly – from €380 million in 2021 to more than €425 million in 2020.<sup>2</sup> But all analytical bodies – including PwC and Microsoft<sup>3</sup> – agree that the pace of growth will be impressive double-digits – up to 70-80% per year depending on the sector. The AI market drivers include the biggest banks; Internet businesses (search and associated services, e-commerce and other platforms), and to a lesser extent, retail. Manufacturing related markets also have potential<sup>4</sup> – the Special AI Working Group of the Russian Union of Industrialists and Entrepreneurs (RSPP) even forecasted it will reach \$380 million in 2021 (a figure which seems to be overestimated).<sup>5</sup>

The AI business landscape is presented by a mix of different entities. Among the key actors are Sberbank (one of the biggest and most digitalized Russian banks), big multinational Internet (Yandex, Mail.ru, etc.) and software (like ABBYY) companies, and state-owned Rostelecom (telecommunication infrastructure and services). Several state-owned enterprises – like Rostec (civilian and defense manufacturing) and Rosatom (nuclear engineering, construction and power) are also actively engaged due to the existing technological assets and competences. The Russian community of AI startups is not significant yet (less than 2% of global, around 350 companies)<sup>6</sup>, but it is growing. Due to competence reasons, these companies appear to be niche leaders in image and speech recognition, business optimization software, and some other domains.

The assessments of AI use in the economy differs too. Microsoft considers Russia’s big enterprises to be among the leaders of AI use (~30%), while Higher School of Economics, PwC and some other analytic centers indicate there is a lag between the number of Russian and the global companies investing in AI (35 vs 54%).<sup>7</sup> But, again, the future pace is considered to be higher than the world’s average, while AI is becoming more widespread in different industries and enterprises, from Sberbank to Beru and Wildberries (e-commerce leaders), and from Magnitogorsk Iron and Steel Works to Gazprom companies.<sup>8</sup>

Research efforts are also on the rise. SAP estimates that before 2017 only 1386 research projects were

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<sup>1</sup> Artificial Intelligence (AI) in Russia. Kingdom of the Netherlands. 2018. URL:<https://www.netherlandsworldwide.nl/binaries/en-nederlandwereldwijd/documents/publications/2018/11/09/artificial-intelligence-in-russia/Artificial+intelligence.pdf>; Iskustvennyj intellekt (rynok Rossii). [Artificial intelligence (Russian market)] TAdviser. 25.04.2019.URL: <http://www.tadviser.ru/index.php/>.

<sup>2</sup> Ibidem.

<sup>3</sup> See for example: Cifrovoe desyatiletie. V nogu so vremenem. Vsemirnoe issledovanie Digital IQ za 2017 god: desyatoe, yubilejnoe izdanie 2017 [Digital decade. Keeping up with the times. Digital IQ World Survey 2017: Tenth Edition]. PwC. 2017. URL: <https://www.pwc.ru/ru/publications/global-digital-iq-survey-rus.pdf>; Rossiya operedila SSHA i Evropu po aktivnomu vnedreniyu iskusstvennogo intellekta [Russia is ahead of the United States and Europe in the active introduction of artificial intelligence]. Microsoft.5.03.2019. URL: <https://news.microsoft.com/ru-ru/business-leaders-age-of-ai/>; Obyem PO s elementami iskusstvennogo intellekta vyrastet v 13 raz. [The size of software market with artificial intelligence elements will rise 13 times] Open Systems Publications. 18.04.2019. URL: <https://www.osp.ru/partners/13054860/>; Iskustvennyj intellekt (rynok Rossii). [Artificial intelligence (Russian market)] TAdviser. 25.04.2019.

<sup>4</sup> Iskustvennyj intellekt v promyshlennosti [Artificial Intelligence in Manufacturing]. CFO-Russia. 06.07.2018. URL:<https://www.cfo-russia.ru/issledovaniya/index.php?article=39544>.

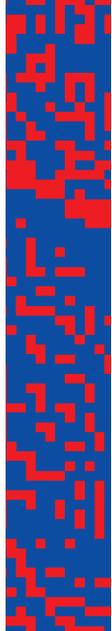
<sup>5</sup> Eksperty: rynek iskusstvennogo intellekta v promyshlennosti RF k 2021 g. dostignet \$380 mln. [Experts: the artificial intelligence market in the industry of the Russian Federation will reach \$ 380 million by 2021]. TASS. 22.05. 2018. URL: <https://tass.ru/pmef-2018/articles/5223094>

<sup>6</sup> See data and maps on: <http://airussia.online/>.

<sup>7</sup> Cifrovoe desyatiletie. V nogu so vremenem. Vsemirnoe issledovanie Digital IQ za 2017 god: desyatoe, yubilejnoe izdanie 2017 [Digital decade. Keeping up with the times. Digital IQ World Survey 2017: Tenth Edition]. PwC. 2017; Rossiya operedila SSHA i Evropu po aktivnomu vnedreniyu iskusstvennogo intellekta [Russia is ahead of the United States and Europe in the active introduction of artificial intelligence]. Microsoft.5.03.2019. URL: <https://news.microsoft.com/ru-ru/business-leaders-age-of-ai/>.

<sup>8</sup> See for example: Khisamov, T.: Gonka tekhnologij. Kak iskusstvennyj intellekt pomogaet biznesu [The technology race. How artificial intelligence helps business]. Forbes. 20.12.2017. URL: <https://www.forbes.ru/tehnologii/354727-gonka-tehnologiy-kak-iskustvennyy-intellekt-pomogaet-biznesu>;





enacted in Russia – most of them (1229) were non-commercial, and just ₺23 billion (~€400–500 million) invested (2007–2017).<sup>9</sup> Since 2017, the situation has been gradually changing, with the Moscow Institute of Physics and Technologies (the Fiztekh, now a Competence Center for AI), Skoltech University and Higher School of Economics (HSE) at the AI S&T forefront.

The Government has intensified its AI efforts since 2016. First systematic policies were embodied in the National Technology Initiative (NTI, which were a set of PPP measures focused on SMEs, technology, networking and competence-building). The next important milestone was the “Digital Economy” National Project, enacted in 2017–2018. A total of ₺1.6 trillion (~€22 billion, 2/3 from the federal budget) will be invested or contracted up to 2024, with more than ₺280 billion (~€3.8 billion) channeled to support so-called end-to-end technologies, where AI is among the top priorities.<sup>10</sup> Investments in AI basic research are also to be made in the “Science” National Project. Finalizing AI’s political build-up, President Vladimir Putin declared on February 27, 2019 the development of the National AI Strategy (to be presented on July 1, 2019) with additional federal stimulus for AI high-tech projects.

Smart Cities should be also mentioned among the AI-related efforts. It is estimated the market will reach ~€1.1 billion (IKS Consulting)<sup>11</sup> with unclear short-term, but significant long-term prospects. Rostelecom has already announced its Smart Cities program for 2019–2024, with the National Competence Centre created in January 2019 in partnership with Rostec and Rosatom. An important role is being played by the Moscow Government, which is responsible for almost 90% of all respective national investments and expenditure. In parallel, the Ministry for Construction has developed a special Smart Cities “standard”, declaring that it will ask for ₺35 billion (~€500 million) from the federal budget for the renovation of cities.<sup>12</sup>

## Areas of Cooperation

The Russian government sees AI as a key emerging technology, which along with other digital solutions (like Big Data and Quantum Computing) may increase efficiency and drive the structural transformations of the Russian economy. International cooperation is still not articulated in federal policies due to the current geopolitical situation and some techno-nationalist approaches. But the position and statements of Dmitry Peskov (the President’s Special Representative for the Digital Development), Sberbank, Moscow Government and other key business and governmental entities clearly indicates that international AI cooperation is, or will be, welcomed. A set of drivers may be identified: competence-building; cost-sharing; possible synergies (also through access to the world’s best solutions). AI may also be seen as a “testbed” for other digital and broader high-tech cooperation in the era of geopolitical controversies.

However, considering “5S”, it must be clear that in the short-term any cooperation will be project-based, and, most likely, linked to a basic, pre-commercial applied research (not mentioning pure commercial activities). There are also some operational challenges on the Russian side: direct foreign participation in the “Digital Economy” National Project is unlikely, and the general political framework and instruments for a deeper AI cooperation are unclear. Still, these problems are not unsolvable.

We may identify several areas of possible cooperation.

For science, the classic options are at hand: granting programs in support of curiosity-driven AI research for joint EU-Russia teams or (better still) collaborations between Russian and EU universities/academic institutions. Here we shall mention that the EU member states and Russia, as well as companies from the respective countries, still have some cooperation in the AI S&T. Yandex and HSE are partners in the Large Hadron Collider’s LHCb collaboration with a strong AI part. Siemens supported AI Lab in St. Petersburg Polytechnic University, while SAP Labs CIS opened 2 D-shops in Russia. In 2017, ERA.Net RUS Plus

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Iskusstvennyj intellekt v promyshlennosti [Artificial Intelligence in Manufacturing]. CFO-Russia. 06.07.2018; Obyem PO [see footnote 3].

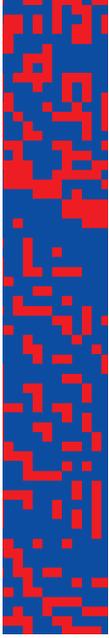
<sup>9</sup> Issledovanie SAP: v razrabotki iskusstvennogo intellekta za 10 let v Rossii vloženo okolo 23 mlrd rublej [SAP research: in the development of artificial intelligence for 10 years in Russia has invested about 23 billion rubles]. SAP News. 23.05.2017. URL: <https://news.sap.com/cis/2017/05>.

<sup>10</sup> Finansirovanie nacional'nogo proekta. Cifrovaya ekonomika [Financing of the National project “Digital economy”]. TAdviser. 12.02.2019. URL: <http://www.tadviser.ru/index.php/>.

<sup>11</sup> Rynok tekhnologij dlya umnogo goroda [Market for Smart City technologies]. IKS Consulting. 2019.URL: <http://surveyikiconsulting.ru/page5160775.html>

<sup>12</sup> Volokhina S. Umnye ochen': na cifrovye goroda hotyat vydelit' do 35 mlrd rublej [Too smart: up to 35 billion rubles is thought to be allocated for digital cities]. Izvestia. 3.04.2019. URL: <https://iz.ru/862075/svetlana-volokhina/umnye-ochen-na-tcifrovye-goroda-khotiat-vydelit-do-35-mlrd-rublei>.





and the Russian Foundation for Basic Research announced AI-related grants. Finally, in the fall of 2018, the First Deputy Minister for Science and Higher Education, Grigoriy Trubnikov, noted that Russia is negotiating some AI-related research with the EU.

Another promising area is what could be called “AI for research”, which is developing AI-enhanced IT solutions for R&D. Among the options are:

1. Megascience. EU, EU member states and Russia have very successful collaborations in this area – from particle physics facilities (like LHC, Exfel, FAIR or NICA) up to the

International Space Station and space science. No less important is the megascience pioneered use of AI in its research. Here we envision synergies with Russia’s ambitious plans to develop mega-science facilities.

2. Pharma and other healthcare R&D, including bioinformatics – the accent on human health makes this area relatively safe for cooperation. This may be paralleled with Russia’s increasing efforts in support of the national pharmaceutical industry and the industry’s own digital efforts. For example, a “National Database for Medical Knowledge” association (developers and users of AI systems and data in healthcare) was formed in 2018 with the support of the Russian Venture Company.

As a next step, more institutionalized collaborations/partnerships may take place in areas that are related to Smart Cities and other Smart infrastructures, with accompanying dialogue on AI regulations.

Cooperation between regional governments could be stepped up, including exchanges of information on best practices. The development of standards for Smart Cities (also Grids, Roads, etc), the financial sector and other areas are also important – including anti-crime and safety issues (which are already in development by NTT’s SafeNet group). A challenging, but desirable option is a

partnership for AI-related complex infrastructures, like testbeds, which could be cost-shared by the EU, Russia and other countries.

Finally, AI social, economic, and governance challenges – including privacy and ethics – make it important to initiate a dialogue on regulatory issues among both national and regional bodies, maybe in a broader international framework. A possible model for it is the EU’s High-Level Expert Group (HLEG) on AI. These efforts should be supported by extensive second track expert discussions and foresights.

In conclusion, several general considerations shall be mentioned. First of all, the regionalization of AI cooperation seems to be rational. National and European institutions could play a role by identifying “green corridors” of cooperation (procedures and/or statements/documents, indicating “safe” cooperation modes and areas). Concrete projects, however, are more realistic on the regional level, especially when they are in partnership with business and academia. Secondly, some efforts may be more acceptable for both sides if they are considered and realized in a broader international framework, like the G20 or international R&D/testbed collaborations – especially if they take into account the global nature of digital challenges and trends in AI developments.

Despite the fact that practical AI cooperation is still to be elaborated and will be affected by both technical problems and turbulence in EU-Russia relations, it still has a future. Along with the science and economic output, it hopefully may also enhance other tracks of EU-Russian dialogue.

Ivan Danilin participated in the 9th EUREN meeting on “Digital transformation and connectivity: prospects for economic interaction between the EU and Russia in times of sanctions” on 28 February/1 March in Moscow. This paper is based on his presentation. Its content is the sole responsibility of the author and does not represent the position of individual EUREN members or EUREN as a group.

