Key Strategic Projects

ROSTELECOM AS THE ENABLER FOR DELIVERING THE GOVERNMENT'S DIGITAL AGENDA

	Digital Economy programme	Rostelecom's key initiatives
Core focus areas	Information infrastructure	Internet access (connectivity) services for retail, healthcare, and government customers
	Information security	Development and launch of the Russian Internet information system
	Talent pipeline and education	E-Government
Applied areas	Smart City	Smart City unified national cloud platform: safe roads,
	Public administration	video surveillance, emergency management systems, energy sector, and public address systems
	Healthcare	Development of public spatial data information systems
	Digitisation of key industries of the economy: energy, transport, agriculture, etc.	Digital transformation of healthcare providers
		Education

Digital economy

Rostelecom is an infrastructure partner for the government and business in building and expanding the digital economy in Russia, in line with the Digital Economy of the Russian Federation programme adopted by the Russian Government in 2017.

Under the Programme, the government places a particular emphasis on developing new digital platforms and services as well as information security systems to ensure their reliable operation. Major nationwide projects are central to building a digital economy. Rostelecom has undisputed advantages and necessary technology capabilities in this area.

In 2018, we concentrated on five major focus areas.

- ***Implementing the Information Infrastructure action plan*** approved in late 2017, including projects such as Bridging the Digital Divide, internet access for Russian healthcare institutions, and expansion of the data centre network.
- ***Involvement in building the Digital Economy of the Russian Federation national programme,*** including projects such as Digital Public Administration, Information Security, Talent Pipeline for the Digital Economy, and Regulation of the Digital Environment.
- ***Acting as a Centre of Excellence,*** including involvement in the Information Infrastructure project, collaboration with the Analytical Centre for the Government of the Russian Federation and ANO Digital Economy as well as building regional digital agendas.
- ***Involvement in Smart City, a project for digitisation of city utilities*** jointly with the Ministry of Construction, Housing, and Utilities of the Russian Federation. The project aims to drive efficiency in municipal management by digitalising all segments of the urban environment.
- **Involvement in the activities of advisory bodies,** including meetings at the Committee on Digital Economy of the Russian Union of Industrialists and Entrepreneurs (RSPP) within the Digital Economy project of the Russian Ministry of Energy, as well as involvement in preparing proposals on building a virtual economic zone.

Bridging the Digital Divide

Being Russia's only designated universal service provider, Rostelecom is involved in the Bridging the Digital Divide (BDD) nationwide project financed by the government. BDD aims to bring high-speed internet access to remote and sparsely populated regions of Russia by connecting local communities.

Under a ten-year agreement signed with Federal Communications Agency (Rossvyaz) under the BDD project, Rostelecom will install internet access points with bandwidths of at least 10 Mbps at communities with a population between 250 and 500 people.

To increase the availability of universal service during 2018, Rostelecom completed a phased migration of Wi-Fi points to a new platform and a single Wi-Fi network with an easy login process. Customers can now login by sending a text message, using their account on the Public Services Portal, or calling to a toll-free number. In 2018, our Wi-Fi user base grew tenfold year-on-year to 236 thousand while our data traffic exceeded 4.8 PB, up 2.6 times year-on-year.

Since Q3 2017, Rostelecom has been offering the service within its Wi-Fi network free of charge. 2018 saw an explosive growth in the user base: up 19 times year-on-year.

As of 1 December 2018, we charge no fee for intra-zone calls to help rural residents handle their multiple day-to-day tasks remotely and free of charge.

We are planning to continue the programme in 2019 and 2020, and target to install over 1,500 public Wi-Fi hotspots in communities with a population between 250 and 500 people.

Video surveillance and broadcasting support for Russian elections

Rostelecom has a unique track record of delivering nationwide IT projects, including technology support for federal, regional, or municipal elections. We have repeatedly demonstrated our top expertise in organising video surveillance, broadcasting, and technical support for elections in Russia. The biggest highlights of 2018 were the Russian presidential election held in March 2018 and the Single Voting Day held on 9 September 2018.

The online translation of the Russian presidential election was watched by more than 2 million viewers.[1]

When organising video surveillance at elections, Rostelecom employs integrated out-of-the box solutions reflecting the rapid advances in technology and the IT industry on the whole.

The video surveillance of the Russian presidential election held in March 2018 involved 92 thousand cameras, while during the Single Voting Day we used advanced video cameras to transmit video data to Rostelecom's data centres for storage while simultaneously recording to stationary devices. Over 500 TB of video were saved at data centres during the Single Voting Day, with the number of visitors to the election website nashvybor2018.ru exceeding 1.6 million.

For the first time in the history of the Russian presidential election, we deployed a Russian solution, SKIT hardware and software package, to monitor resources and services of geographically distributed IT infrastructure.

During the 2018 Russian presidential election, we successfully protected the Russian segment of the internet against cyber attacks. As part of our efforts to ensure information transparency of the Russian presidential election, we used a cloud-based NGENIX platform. We created secure infrastructure for the нашвыбор2018.рф portal and ensured uninterrupted video broadcasting from the polls.

Bringing internet access to hospitals and polyclinics

Rostelecom has been designated by a Decree of the Russian Government[2] as the only provider of services to connect government and municipal healthcare systems to the internet. In 2017 and 2018, Rostelecom connected 8,900 hospitals and polyclinics to fibre.

As part of the government-financed programme, we have built a robust infrastructure to integrate telemedicine technology and improve healthcare services, including in remote and hard-to-access areas.

A total of 5,777 healthcare facilities were provided with a high-speed internet connection in 2018. All facilities were connected to fibre at speeds of at least 10 Mbps. 37,900 km of FOCL were laid to connect hospitals and polyclinics in 2017 and 2018, including 33,500 km in 2018. The work was mostly carried out during five months outside the construction season in extreme weather conditions and despite limited transport accessibility.

To deliver the project, we engaged about 300 contractors, mostly SMEs. A total of about 8,000 people were involved in the project, which widely used products of Russian enterprises as all equipment and cables were sourced from Russian suppliers.

The programme has enabled the Russian Ministry of Health to launch its federal project, Digital Healthcare Environment, under the national Healthcare programme and roll out telemedicine technology across Russia.

The launch of the Unified Biometric System

The Unified Biometric System has been operational in Russia since 30 June 2018 and is a key element of the remote identification framework that provides Russians with remote access to public and commercial services.

The Unified Biometric System was designed by Rostelecom at the request of the Bank of Russia and the Ministry of Digital Development, Communications, and Mass Media, and with active support from the Bank of Russia's interbank working group on regulating remote identification of individuals. The Unified Biometric System is an end-to-end cross-industry solution. To register in the Unified Biometric System, a user needs to visit a bank once and register in the Integrated Identification and Authentication System.

The accuracy of biometric identification within the system is ensured through algorithms designed by leading Russian developers of biometric software. The Unified Biometric System uses voice and facial recognition, the two most widely spread features available for mass application. Their simultaneous use enables distinguishing a live person from a digital simulation of their biometric data. Going forward, the Unified Biometric System will become a nationwide platform for simple and secure access by individuals to public and commercial services.

1. From 11:00 p.m. (Moscow time) on 17 March 2018 until the final tally in the westernmost regions of Russia.
2. Decree of the Russian Government No. 2094 dated 29 September 2017.

Key principles of the Unified Biometric System

Multimodality. The Unified Biometric System simultaneously processes two types of biometric data: voice and face.

Multiple vendors. The project involves leading Russian biometric software developers, whose products are ranking among the top performers in independent international tests.

Liveness. The ability to distinguish between fake and real is one of the key capabilities of the Unified Biometric System.

Anomaly detection. The Unified Biometric System not only identifies fraud during remote identification, but also boosts a bank's anti-hack security systems.

Data security. The Unified Biometric System pays special attention to data security. The system has a high level of protection, Rostelecom being a leader in the cyber security market.

Biometric data registration is currently available at more than 4,500 offices in 150 banks across Russia. Accounts can be remotely registered at Pochta Bank, Tinkoff Bank, Home Credit Bank, Sovcombank, ALFA-BANK, and Raiffesenbank.

Construction of the Sakhalin–Kuril Islands submarine fibre-optic cable link (SFOCL)

The Sakhalin–Kuril Islands FOCL links Yuzhno-Sakhalinsk with Kurilsk (Iturup Island), Yuzhno-Kurilsk (Kunashir Island), and the village of Krabozavodskoye (Shikotan Island) based on the dense wavelength-division multiplexing (DWDM) technology. The project has been implemented as part of the federal targeted programme, Socioeconomic Development of the Kuril Islands (Sakhalin Region) for 2016–2025, approved by Resolution of the Russian Government No. 793 dated 4 August 2015.

In December 2018, Rostelecom completed the construction of the Sakhalin–Kuril Islands submarine fibre-optic cable link (SFOCL) launched in 2017.

The length of the link totalled about 831 km, including 766 km under water, and 65 km onshore. We will use the GPON fibre-to-the-home technology to provide our subscribers on the Iturup, Kunashir, and Shikotan Islands with internet access.

The installation of the SFOCL's submarine sections involved a number of innovative solutions:

- Submarine repeaters were installed at the leg between Sakhalin and Iturup to reinforce the signal
- Remote optically pumped amplifiers (ROPA) were used to reinforce the signal at the link between Iturup and Kunashir, with the cable laid at depths of over 3,000 m