Rostelecom

Digital Ecosystem of the Future Economy

Annual Report 2018

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PJSC Rostelecom is Russia's largest provider of digital services and solutions operating across all market segments.

Rostelecom is a recognised technology leader in innovative solutions for e-government systems, cyber security, data centres, cloud computing, biometrics, healthcare, education, and utilities.

The Company is a key participant in the Digital Economy of the Russian Federation programme implementing nation-wide technological and IT projects.

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ROSTELECOM TODAY

SMART CITY

Rostelecom has focused on developing a single Smart City digital platform. The platform comprises four types of systems – management of urban resources, social infrastructure, and utility services and the Safe City project.

In 2018, Rostelecom presented a roadmap for the Smart City programme aimed, among other things, to reduce incidents in utilities systems by up to three times, improve energy supply reliability 1.5-fold, and reduce fatal road accidents within cities.
Satka in the Chelyabinsk Region, Vladikavkaz in the Republic of North Ossetia–Alania, and Novye Lyady in Perm have been selected to run the first pilots.

About this Report

This Report has been prepared by PJSC Rostelecom ("Rostelecom" or the "Company") and its subsidiaries (jointly, the "Group"), in line with Note 10 Subsidiaries to the Company's consolidated financial statements prepared under the International Financial Reporting Standards ("IFRS") for the year ended 31 December 2018. This Report has been prepared based on PJSC Rostelecom's management reports and in line with PJSC Rostelecom's IFRS consolidated financial statements for 2018.

PJSC Rostelecom's Annual Report was pre-approved by the Board of Directors and approved by the 2018 Annual General Shareholders' Meeting.

Highlights

	2016	2017	2018	2018/2017, %
Revenue, RUB bn	297.4	305.3	320.2	5
Share of revenue from content and digital services, %	44	48	55	7 pp
OIBDA,[1] RUB bn	96.8[2]	96.7	100.9	4
Free cash flow,[3] RUB bn	13.3	20.4	14.8	(28)
Net profit, RUB bn	12.2	14.1	15.0	7
CAPEX, RUB bn	61.9	60.8	73.2	20
Broadband base, million subscribers	12.5	12.9	13.0	1
Pay TV base, million subscribers	9.3	9.8	10.2	4
Backbone network capacity, Tbps	13.7	15.5	20.3	31
Data centre racks, thousand	4.1	5.3	5.9	11
Headcount, thousand people	142.5	133.7	128.6	(4)
Salary expenses, RUB m	66,018	67,238	69,812	4
Investment in training, RUB m	452.6	463.6	496.0	7
Contributions to Telecom-Soyuz and Alliance private pension funds, RUB m	703.6	163.5	756.7	363
Health and safety expenses, RUB m	550.6	640.8	697.8	9
Income tax, RUB m	4,692	4,856	4,427	(9)
Other taxes, RUB m	5,079	4,661	5,747	23
Member fees, charity contribution, payments to labour units, RUB m	660	697	767	10
Environmental expenditure, RUB m	128.8	104.6	111.9	7

1. Rostelecom calculates OIBDA as operating income before depreciation, amortisation, and one-off items. In 2018, Rostelecom changed OIBDA calculation methodology by excluding expenses related to Rostelecom's private pension fund programme. For historical OIBDA numbers for 2016–2018 see OIBDA breakdown table in the Financial Overview section of this Annual Report.
2. OIBDA for 2016 is provided as reported in 2016.
3. Starting from 2018, free cash flow is calculated based on the statement of cash flows as the net cash from operating activities, net of CAPEX, plus proceeds from sale of property, plant and equipment and intangible assets, plus interest received. Free cash flow for 2017 and 2016 is presented as reported in the corresponding period.

Disclaimer

This Report contains certain "forward-looking statements regarding future events", as defined by the US federal securities laws, which are, therefore, regulated by these laws, which release from liability for any act done or omitted in good faith. Such forward-looking statements regarding future events include (but are not limited to) the following:

- Estimates of future operational and financial performance of the Company and projected effects on the current value of future cash flows
- The Company's plans to have equity interests in other businesses
- The Company's plans for network construction and upgrades, as well as capital expenditures
- Changes in demand for the Company's services, the Company's plans to enhance the existing and develop new services, and price forecasts
- Plans to improve the Company's corporate governance practices
- The Company's future position in the telecommunications market and the outlook for the market segments in which the Company operates
- Economic outlook and industry trends
- Potential regulatory changes and assessments of the impact any laws or regulations may have on the Company's business
- Assessment of the risks affecting the Company's financial and business operations and risk mitigation plans
- The Company's other plans and forecasts regarding future events

The above forward-looking statements regarding future events are subject to risks, uncertainties and other factors that may cause the actual results to differ from those discussed in the statements. These risks, uncertainties, and other factors include:

- risks associated with changes in the political, economic, and social environment in Russia and macroeconomic changes
- risks associated with Russian laws, such as legislative reforms, and taxation, including laws, regulations, decrees, and resolutions governing the Russian telecommunications industry, and activities related to placement and public circulation of securities, and foreign exchange control requirements to Russian companies, including official interpretation of such regulations by regulatory authorities
- risks associated with the Company's business, including performance against targets and set profitability and growth rates; ability to create and meet demand for the Company's services, including their promotion; the Company's ability to remain competitive within the Russian liberalised telecommunications market
- technology risks associated with the operation and development of the communications infrastructure, technology-driven innovations, and convergence of technologies
- other risks and uncertainties.

More details on these factors are available in the Company's public disclosures. Most of the above factors are beyond the Company's control or can not be predicted by the Company. In view of the above, the Company does not recommend relying on the statements regarding future events presented in this Report without proper guidance. The Company assumes no obligation to publicly revise its statements – neither to reflect events or circumstances after the date of this Report, nor to report on any unanticipated events, except where required by the applicable law.
Minor discrepancies between sums of percentage changes, constituent figures and totals in the charts and tables of the Annual Report are due to rounding.

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Key Events

History milestones

1993
Incorporation of Rostelecom Open Joint Stock company

1995
Svyazinvest, a state-owned holding company, established to run 85 regional telecoms operators

2002
Seven interregional companies (IRCs) established through merging regional telecoms operators

2011
Stage 1 of the government-initiated reform to consolidate state communications assets completed, as IRCs merged into Rostelecom

2013
Stage 2 of Rostelecom transformation completed, as Svyazinvest and 20 subsidiaries merged to form a new company, Rostelecom

2014
Joint venture established to develop the mobile business based on Tele2 Russia

2018
Rostelecom's Strategy 2022 launched to transform the Company into a digital partner for households, business and government customers

Key events of 2018

January

23 January 2018
Rostelecom created the Geodata Information System (GIS) for the Arkhangelsk Region
25 January 2018
Rostelecom signed an agreement with the Moscow Government on telemetry transmission from special vehicles

February

13 February 2018
Rostelecom signed an agreement with TechnoServ Cloud on traffic monitoring and DDoS protection services
19 February 2018
Rostelecom introduced the first beta version of the Unified Biometric System
22 February 2018
Fitch affirmed Rostelecom's investment grade rating of BBB- with a stable outlook

March

1 March 2018
Rostelecom invested in Sailfish, a mobile operating system developer
6 March 2018
Rostelecom placed bonds for RUB 10 billion at 7.15% p.a.
18 March 2018
Rostelecom provided video surveillance at Russia's presidential election
21 March 2018
Rostelecom announced its updated Strategy 2022 and the new Dividend Policy for 2018–2020
21 March 2018
Rostelecom named Regional Supporter of the 2018 FIFA World Cup
21 March 2018
Rostelecom, Nokia, and the Skolkovo Foundation launched the first open pilot zone for the next-generation 5G network in Russia

April

9 April 2018
Rostelecom doubled the capacity of its Transit Europe–Asia terrestrial cable system

May

21 May 2018
5G pilot zone opened in Innopolis
22 May 2018
Rostelecom acquired 100% of Solar Security, a technological leader in target monitoring and information security management products and services
23 May 2018
Rostelecom, the State Hermitage, and Ericsson launched a 5G pilot zone

June

6 June 2018
The Russian Ministry of Construction, Housing, and Utilities and Rostelecom signed a cooperation agreement to jointly implement Smart City projects
18 June 2018
Rostelecom's Annual General Shareholders' Meeting was held; the dividend per share was determined at RUB 5.05; the new Board of Directors and Audit Commission were elected; the auditor was approved
22 June 2018
ACRA affirmed Rostelecom's rating of AA(RU) with a stable outlook

July

2 July 2018
The Unified Biometric System launched in Russia

August

30 August 2018
Rostelecom launched the Videoserver cloud service

September

4 September 2018
Rostelecom and the Russian Ministry of Energy signed a cooperation agreement
6 September 2018
Rostelecom and Yandex launched a joint tariff with a 12 Tb cloud storage
10 September 2018
Rostelecom provided video surveillance on the Single Election Day
24 September 2018
Rostelecom and Nokia established a joint venture to develop innovations
26 September 2018
Rostelecom presented new digital services and its new brand

November

14 November 2018
Rostelecom launched a Unified Cyber Security Platform
21 November 2018
3GPP consortium confirmed compliance of Rostelecom's 5G pilot zone with its latest standards

December

14 December 2018
Rostelecom acquired LLC Start2Com, a leading developer of billing solutions
19 December 2018
Rostelecom sold the Central Telegraph building on Nikitsky Lane
24 December 2018
The Extraordinary General Shareholders' Meeting approved the payment of an interim dividend of RUB 2.5 per share for the nine months ended 31 December 2018
26 December 2018
Sberbank and Rostelecom made contributions to the capital of a commercial real estate developer
27 December 2018
Rostelecom successfully completed the first stage of testing quantum communications equipment for its network

Key events after the reporting period

January

25 January 2019
Rostelecom joined the national Smart City Centre of Excellence

February

6 February 2019
Rostelecom updated "Byt v plyuse" ("Plus Account"), a bundled offering for small and medium-sized businesses
7 February 2019
Russian mobile operating system moved to the next stage of development and was rebranded as Aurora OS
15 February 2019
Rostelecom developed an off-the-shelf solution for secure biometric data collection

March

14 March 2019
Rostelecom and the Russian Union of Industrialists and Entrepreneurs held the second Digital Transformation Forum
26 March 2019
Rostelecom placed bonds for RUB 15 billion at 8.45% p.a.

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Chairman’s Statement

Dear Colleagues,

Rostelecom is successfully progressing towards becoming the largest national provider of digital services and solutions while consistently strengthening its position in the telecommunications market, maintaining steady growth of key operational and financial indicators, and fully promoting the development of digital ecosystems for its customers, including government organisations, companies across various industries, and millions of retail customers.

Recognising the global trend for accelerated digitisation, driven by technological innovation and changing customer needs, we are also progressing as planned in achieving our key objective – to build infrastructure for the development of the digital economy in Russia.

In 2018, Rostelecom implemented a number of programmes that reinforced its reputation as a reliable partner capable of carrying out major infrastructure projects on a nation-wide scale. These include installing video surveillance at the Russian presidential election and a submarine fibre-optic communications line to the Kuril Islands, as well as bringing broadband services to healthcare institutions and small communities.

Our other notable achievements include establishing a joint venture with Nokia and setting up 5G pilot zones in Skolkovo, the State Hermitage, and Innopolis. We are also maintaining our focus on the high-potential data centre and cloud service businesses: the number of our data centre racks has already reached 5,900, and revenues from our highest value-added services – Virtual Data Centre / IaaS – grew by 40%.

In striving to stay ahead of the curve and keep up with new trends through dynamic transformation, we are improving our product and service offerings, upgrading Rostelecom’s technological platform, enhancing our risk management, and strengthening our corporate talent pool with a focus on professional excellence and performance.

Rostelecom has been rebranded to demonstrate this transformation, its image now fully reflecting our strategic goals and allowing strong positioning in the market.

In 2018, the price of one Rostelecom ordinary share grew by 13% to RUB 72.33, while preference shares rose 8% to RUB 60.45. Total dividends paid for 2017 amounted to RUB 14.0 billion.

We started implementing a new dividend policy last year, as Rostelecom’s highest priority has always been strong investment appeal and honest and open relations with investors and shareholders. Now, at least 75% of Rostelecom’s free cash flow will be allocated to dividend payments, but no less than RUB 5 per share.

Dear colleagues, 2018 was a year of solid performance for Rostelecom. On behalf of the Board of Directors, I thank you for your positive cooperation and firmly believe that our partnership will become even stronger going forward.

Sergey Ivanov,
Chairman of the Board, PJSC Rostelecom

Letter from the President

Dear Shareholders, Partners, and Colleagues,

In 2018, Rostelecom demonstrated strong operational and financial performance. We continuously worked on growing the digital segment, which generated more than 55% of our total revenue in 2018. Our key services – Pay TV and broadband – demonstrated a larger subscriber base and higher ARPU. We saw increased demand in value-added services and new services, with revenue from the Corporate TV and Federal Wi-Fi growing two-fold, sales in the cyber security segment growing four-fold, and revenue from smart home services – 24-fold.

Our digital transformation achievements yielded strong financial results in 2018, with revenue going up by 5% to RUB 320.2 billion, OIBDA increasing by 4% to RUB 100.9 billion, and net profit growing by 7% to RUB 15.0 billion.

2018 was a special year for Rostelecom. We launched our new Strategy 2022 to develop digital ecosystems of services and customer care, upgrade our technology platform, develop human capital, and improve operational excellence.

We have repositioned Rostelecom as an IT company which delivers digital solutions for retail customers, business, and government customers. The rebranding, which emphasises Rostelecom's digital transformation, was a landmark on this journey. People and the customer experience are at the core of our new brand. We do not simply create products and services, we provide a safe and comfortable environment for denizens of the digital age, create new experiences, open opportunities for quality education and healthcare, help businesses grow, and help the government reach out to the people.

DEVELOPMENT OF PRODUCT, SERVICE, AND CUSTOMER SERVICE ECOSYSTEMS

Today, Rostelecom is traversing the path of creating ecosystems across all customer segments, covering households, government and business sectors, and other telecommunications operators.

We implemented a number of ambitious projects in 2018. We launched the Unified Biometric System, digital solutions for education and healthcare, as well as a new tariff line for retail customers allowing all users to choose a tariff that best matches their personal needs. We updated the "Byt v plyuse" ("Plus Account") platform that provides entrepreneurs with fast access to broadband and mobile services and offers additional services like Virtual PBX, SMS marketing, Wi-Fi, video surveillance, or business TV. We also developed the Wink multimedia platform, which has expanded our retail customer ecosystem. Wink is the new generation of interactive TV combining a mobile app, a web portal, and a Smart TV app.

Higher revenue in the B2B and B2G segments was primarily driven by Smart City projects, video surveillance, data centres, and promotion of cloud and other digital services.

Rostelecom is continuing development of its Operator for Operators offering, which received strong demand from other operators and boosted sales in 2018, generating a revenue of RUB 1.1 billion, a three-fold increase.

Developing the digital economy requires a focus on information security. Rostelecom strengthened its position in the segment in 2018 by establishing Rostelecom-Solar and launching a Unified Cyber Security Platform.

TECHNOLOGICAL PLATFORM UPGRADE

As part of our efforts to upgrade Rostelecom's technological platform, we are expanding our FOCL network and centralising the IT landscape. In 2018, our IP/MPLS backbone network capacity was increased by 31% to 20.3 Tbps.

HUMAN CAPITAL DEVELOPMENT

I firmly believe that Rostelecom's team is our greatest asset in achieving our goals. We seek to create an environment that will encourage the professional development of every Rostelecom employee. I am pleased to note that our employee engagement score grew strongly in 2018 to 69%.

In order to build a talent pipeline for the future, we are actively working with school and university students by holding competitions and training programmes and offering internships.

OPERATIONAL EXCELLENCE

Strong operational excellence, which is critical for a digital company, is being pursued across three key areas. Firstly, through developing Rostelecom's production system (RPS), with its projects generating around RUB 1 billion in savings in 2018. Priority areas include an operational excellence programme, which delivered a benefit of over RUB 3 billion in cost savings, as well as optimising the real estate portfolio and increasing labour productivity. Our revenue per employee grew by 9% – a major achievement.

We also strive to improve Rostelecom's investment appeal by leveraging our unique market position of being a leading digital service provider. We have an extensive network infrastructure and a committed management team. Going forward, we will continue our key strategic projects while developing digital ecosystems, technological infrastructure, and human capital. Rostelecom plans to maintain its leading position as a provider of digital services across all customer segments and fully achieve its strategic goals by 2022.

I would like to thank all our employees, shareholders, partners, and other stakeholders for supporting Rostelecom in 2018, and I look forward to continuing our positive cooperation in the future.

Mikhail Oseevsky,
President of PJSC Rostelecom

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Rostelecom's Structure and Geography of Operations

Rostelecom is Russia's largest provider of digital services and solutions

Rostelecom comprises seven macroregional branches (MRFs) and several dozen subsidiaries and affiliates engaged in providing services across Russia.

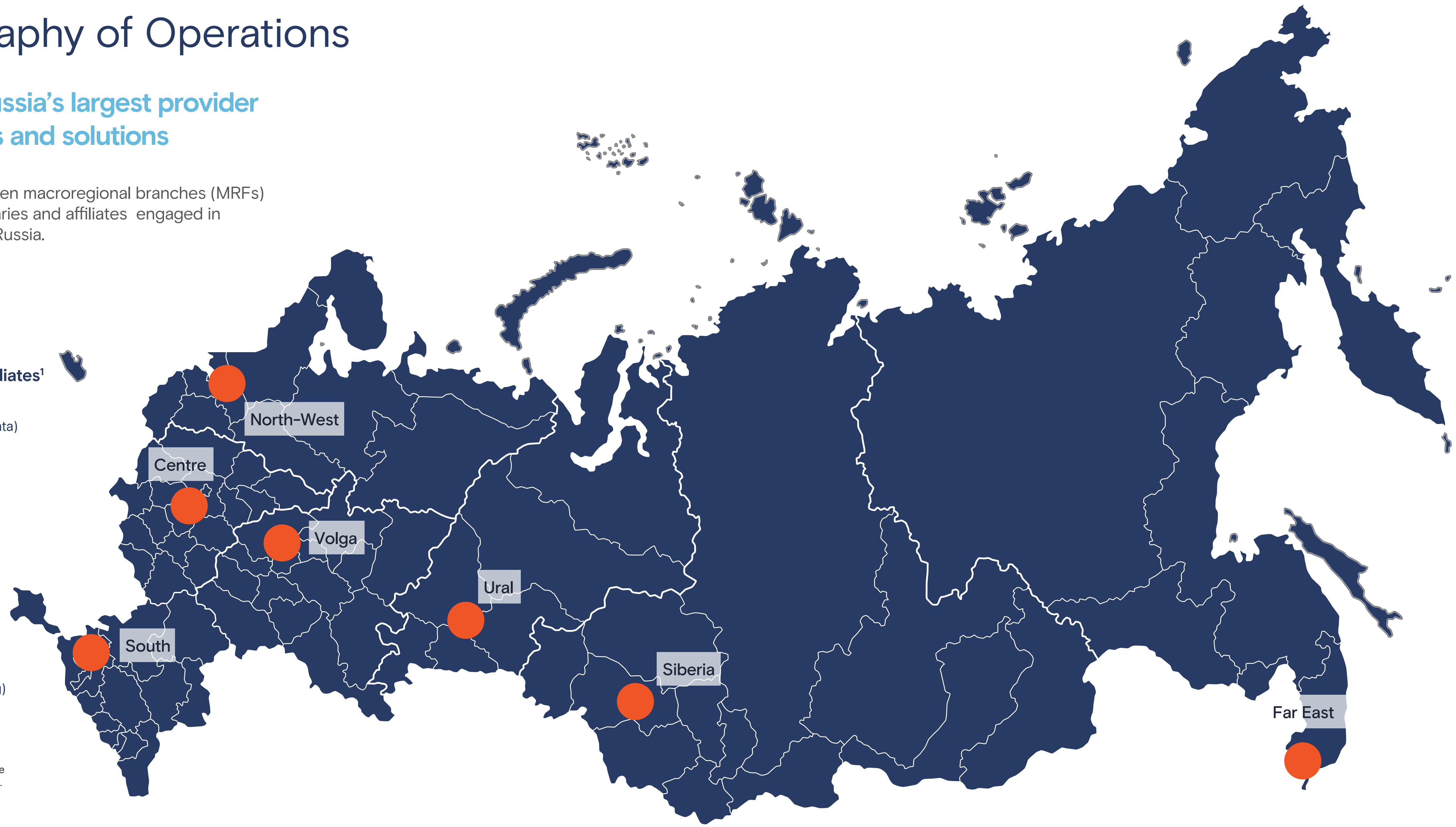
Major subsidiaries and affiliates[1]

PJSC Bashinformsvyaz
LLC Data Storage Centre (SafeData)
JSC RTComm.RU
PJSC Central Telegraph
JSC Macomnet
JSC Severen-Telecom
LLC Rostelecom Retail Systems
CJSC GNC-ALFA
JSC Severen-Telecom
JSC MTs NTT
LLC Morton Telecom
LLC Tvingo Telecom

Major joint ventures

Tele2 Russia (LLC T2 RTK Holding)
JSC Digital Television

1. For significant subsidiaries and affiliates see Note 10 to consolidated financial statements.



Rostelecom has direct connectivity with

150 telecoms networks in 70 countries

320.2 RUB billion
Revenue

20.3 Tbps
Backbone network capacity

35 million households
Total fibre optic network coverage

13 million subscribers
Broadband base

10.2 million subscribers
Pay TV base

1.2 million subscribers
MVNO base

128.6 thousand people
Headcount

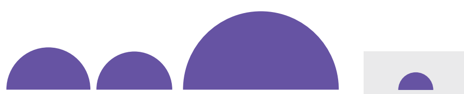
Investment Hotspot

Rostelecom continues to pursue its strategy of transforming into a digital partner for retail, business and government customers. The Company is focused on building digital ecosystems, upgrading its technology, developing human capital and improving operational efficiency.

Investment Highlights

Leadership and the largest customer base in high-growth potential markets, as well as exposure to the mobile data market through a 45 % stake in fast-growing Tele2 Russia

Market share[1], %

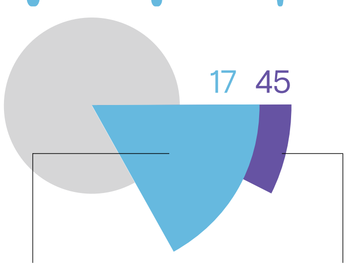


41 B2C broadband
37 Pay TV
76 IPTV
15 Data centres

Subscriber base, million

12.0 10.2 5.3

5.9 thousand Data centre racks



Tele2 Russia's mobile market share[2], %

Rostelecom's stake in Tele2 Russia, %

43 % best-in-class NPS[3]

42,3 million subscribers

67 Russian regions covered

1. Source: TMT Consulting. Data on data centre racks are for 2018. For other markets, revenue data are for 2018.
2. Source: TMT Consulting, 2018.
3. Source: Company data.

Unique expertise in all market segments and an ambitious strategy aimed at growing revenue from digital products and services

Advanced digital ecosystems for households and B2B, B2G, and B2O customers Rostelecom is:

- the operator of the Unified National Cloud Platform
- the operator of the national Unified Biometric System
- the leading contributor to the national Digital Economy programme.

8.9 thousand healthcare centres connected to broadband

86 million public services (e-government) portal users

8.2 thousand communities connected under the Bridging the Digital Divide (BDD) project

A network infrastructure unique for its coverage and capacity, providing the Company with a technology edge

35 million households passed with fibre

20.3 Tbps capacity of backbone network

Shortest data transit route – offered by the Transit Europe–Asia cable system

We continue to grow through our digital transformation and migration to a new business model based on the digital and content services segment. We set ambitious goals and take pride in our leading position in key markets.
Rostelecom's investment case is based on sustainable business growth and attractive dividend yield.

Potential to drive further operational efficiencies that generate cost savings

Operational excellence

3.3 RUB billion generated in savings

Real estate management

> 11 RUB billion revenue from real estate operations (RUB 8 billion from sales and RUB 3 billion from leases)

8.3 million sq m real-estate portfolio

Labour productivity

+9 % increase in labour productivity

–0.6 pp decrease in payroll share of revenue

–4 % headcount optimisation

Committed management focused on achieving the Strategy targets

KPI system for top management comprising key strategic targets and metrics linked to market capitalisation (in particular, TSR).

Long-term Incentive Programme for 2017–2019

Up to **1,000** employees are eligible for the Programme

3 annual implementation cycles 2017, 2018, 2019

up to **6 %** of ordinary shares Aggregate share package size under the Programme

SMP (share matching plan) to provide longer-term, share-based incentives

KPIs free cash flow, net profit, and return on invested capital (ROIC)

≥ 50 % the number of matched shares provided during the first phase a top manager should keep to be eligible for the second and third phases

Attractive dividend policy

PJSC Rostelecom's Dividend Policy[1] for 2018–2020 stipulates the following dividend distribution:

≥ 75 % of free cash flow

≥ 5 per ordinary share for three years

50 % ≤ & ≤ 100 % of net profit

RUB 14.05 billion total amount of dividends paid for 2017 on Rostelecom shares

RUB 6.96 billion total amount of interim dividends paid on Rostelecom shares for the first nine months of 2018

1. Approved by PJSC Rostelecom's Board of Directors on 14 March 2018; Minutes No. 17 dated 14 March 2018. The full text of the Dividend Policy is available at www.company.rt.ru/en/ir/dividends/Rostelecom_Dividend_Policy_for_2018-2020.pdf.

STRATEGIC REPORT

UNIFIED CYBER SECURITY PLATFORM

Rostelecom has developed a Unified Cyber Security Platform targeting the mass B2B segment. The platform is based on SD-WAN technology and comprises services such as protection from network attacks (Unified Threat Management), e-mail protection (Secure Email Gateway), and web application security (Web Application Firewall). By the end of 2019, the number of services will be more than doubled.

Strategic Report

Industry Overview and Competitive Analysis

FIG. 1. INDUSTRY TRENDS.

STAGNATING TELECOMS AND GROWING IT

COMPETITION MOVING TO THE ECOSYSTEM SPACE

EMERGING PLATFORM BUSINESS MODELS

The global telecommunications market grew to USD 3.9 trillion in 2018 and is characterised by a number of emerging trends. These include THE DIGITALISATION OF TELECOMS, THE DEVELOPMENT OF THE INTERNET OF THINGS (IOT) INCLUDING SMART CITY PROJECTS AND SMART HOME SERVICES, INCREASING VIDEO CONTENT CONSUMPTION, AND THE DEVELOPMENT AND ACTIVE TRIALS OF 5G NETWORKS.

There are also ongoing developments in DIGITAL SECURITY, DATA PROTECTION, AND CLOUD-BASED VIDEO SURVEILLANCE[1].

[1] Source: GSMA Mobile Economy 2019 report

The global telecommunications market, Russia included, is experiencing a decline in traditional services and a rapid growth of interest in ecosystems and platform solutions. The fast-paced technological advances and rapid adoption of the internet of things, artificial intelligence, and big data solutions are major drivers of the industry's transformation. Consumer behaviours are also changing, driven by rapidly evolving visual communication channels, increasing use of social media, and the growing importance of personalised solutions.

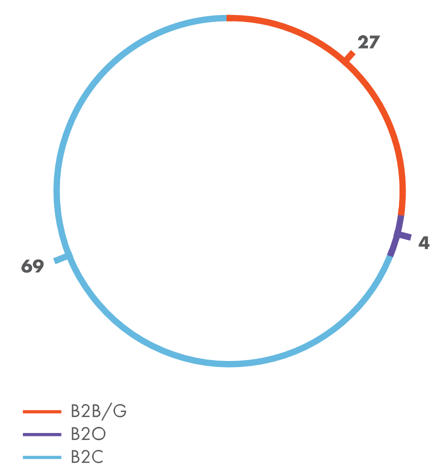
As the IT services market significantly outperforms the traditional services market, building customer loyalty and increasing sales requires companies to focus on new solutions beyond the "basic package". Investment requirements of major infrastructure projects enabling industry adoption of innovative technology are yet another important driver for the market.

Russian market

Russia's telecommunications market grew by 3.4% to RUB 1.7 trillion in 2018, the strongest performance over the past five years[1]. The market has been consolidated to four main players, with Rostelecom maintaining leadership in many segments.

Mobile data revenue grew for the second consecutive year and remains the key growth driver for the market. The industry's strong performance in 2018 was supported by the sustained impact of the 2018 operators' initiative to abandon price competition and focus on offering more value-added services. Broadband and Pay TV also exhibited steady growth. Fixed-line telephony and some of the wholesale services continued to shrink, although at a lesser pace. Similarly to previous years, the B2C segment accounted for over two thirds of the market.

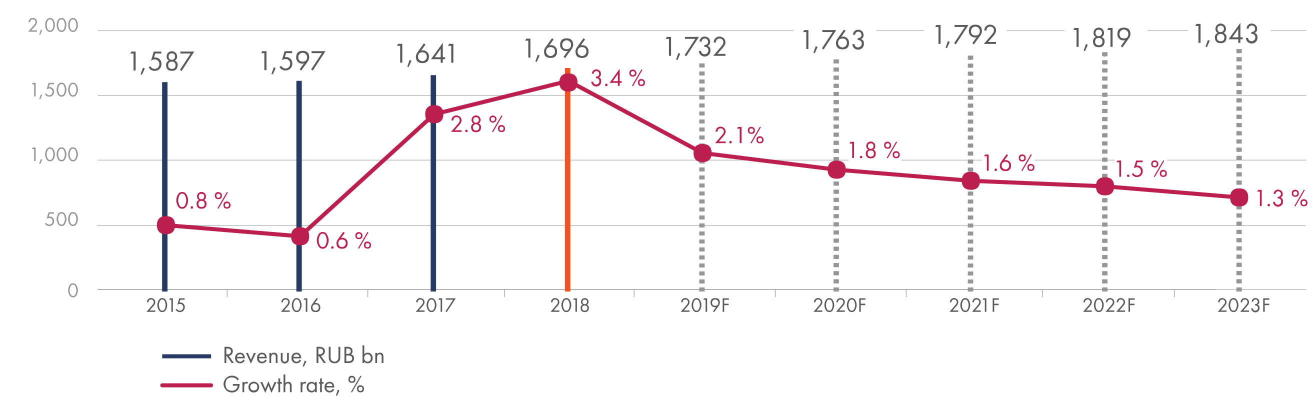
FIG. 3. BREAKDOWN OF THE RUSSIAN TELECOMS MARKET BY CUSTOMER SEGMENT, 2018, %



Source: TMT Consulting

The Russian telecommunications market is divided between the following key players with an aggregate share of around 80%: MTS, MegaFon, Rostelecom, Tele2 Russia, and VimpelCom.

FIG. 2. REVENUE IN THE RUSSIAN TELECOMS MARKET, 2015–2023, RUB BN



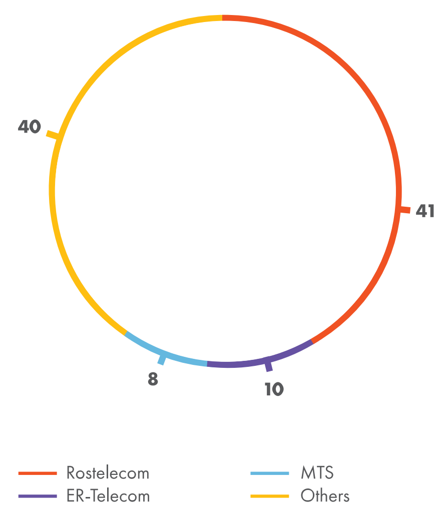
Source: TMT Consulting

1. Source: TMT Consulting, 2019.

Broadband services

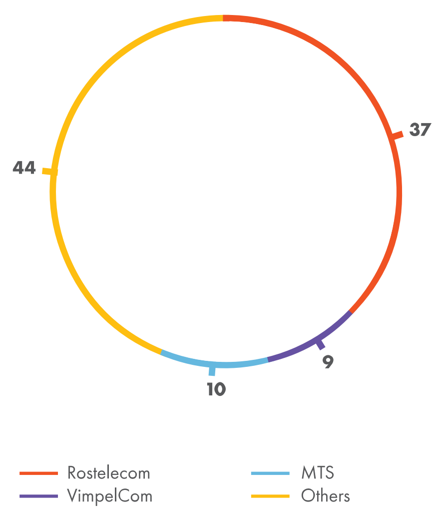
Broadband penetration in the B2C segment reached almost 60% in 2018. The total customer base grew to 34.9 million, driven by new-builds and small town connections. Broadband revenue increased 3.2% in 2018, with the operators' revenue reaching RUB 192.3 billion. An important growth driver for the market in 2018 was customer ARPU, illustrating the trend toward more rational competition and the increasing willingness of customers to pay more for stable, high-speed internet services.

FIG. 5. BREAKDOWN OF THE BROADBAND MARKET'S B2C SEGMENT BY OPERATOR REVENUE, 2018, %



Source: TMT Consulting

FIG. 6. BREAKDOWN OF THE BROADBAND MARKET'S B2B SEGMENT BY OPERATOR REVENUE, 2018, %



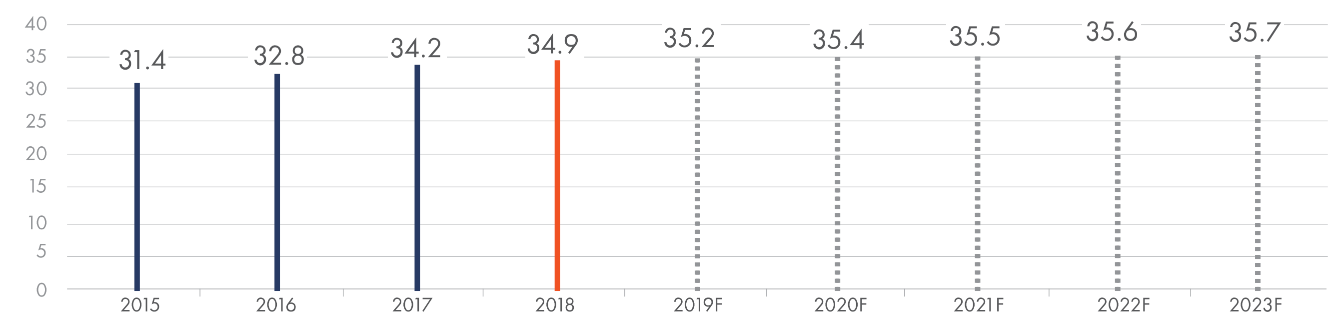
Source: TMT Consulting

TABLE 1. ROSTELECOM'S MARKET SHARE BY OPERATOR REVENUE, BROADBAND, 2016–2018, %

Segment	2016	2017	2018
B2C	38	40	41
B2B	35	35	37

Source: TMT Consulting data

FIG. 4. NUMBER OF BROADBAND USERS, 2015–2023, MILLION

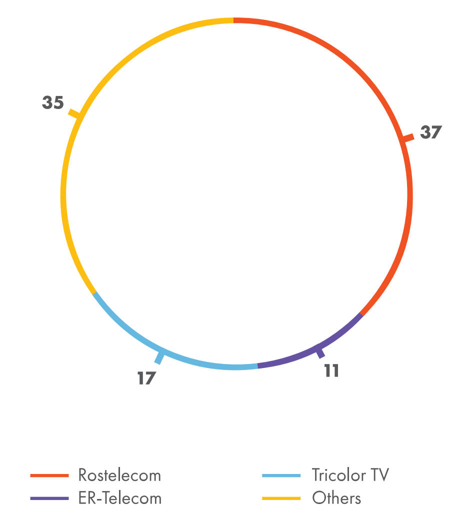


Source: TMT Consulting

Pay TV

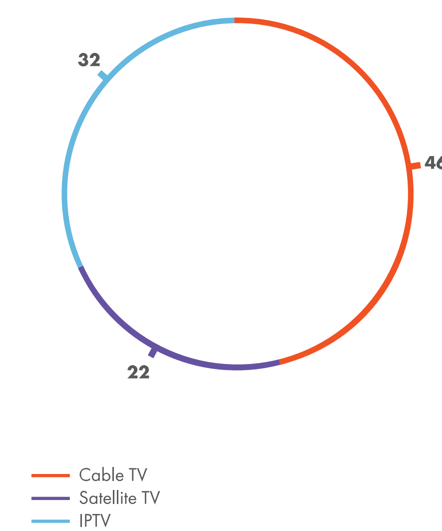
Pay TV subscriber growth slowed in 2018 but remained positive with a 2.6% increase to 43.9 million subscribers and the service penetration rate exceeding 77%. Revenue in the segment also grew by 10% to RUB 92.6 billion. Average revenue per user was RUB 177 net of VAT, up RUB 10 year-on-year. Cable TV retained its market leadership by revenue compared to IPTV and satellite TV however its share has been gradually declining.

FIG. 8. BREAKDOWN OF THE PAY TV MARKET BY OPERATOR REVENUE, 2018, %



Source: TMT Consulting

FIG. 9. BREAKDOWN OF REVENUE BY PAY TV TECHNOLOGY, 2018, %



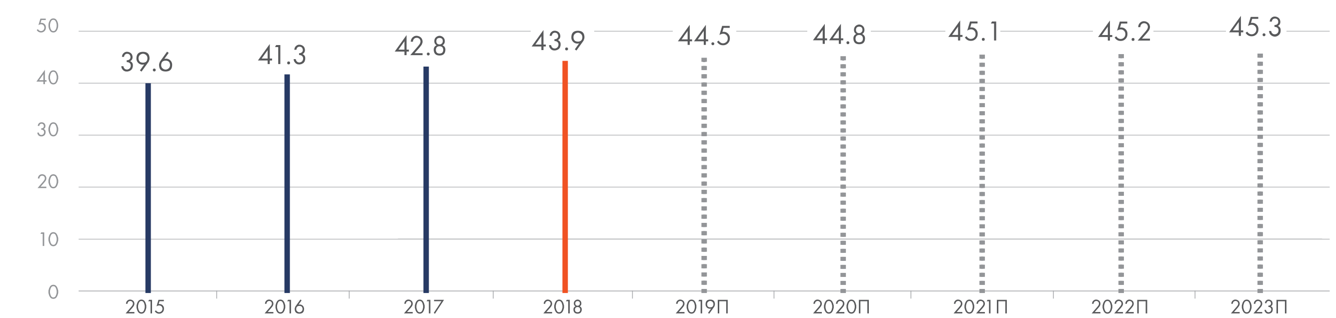
Source: TMT Consulting

TABLE 2. ROSTELECOM'S MARKET SHARE BY OPERATOR REVENUE, PAY TV, 2016–2018, %

	2016	2017	2018
Pay TV services	31	35	37

Source: TMT Consulting data

FIG. 7. NUMBER OF PAY TV SUBSCRIBERS, 2015–2023, MILLION



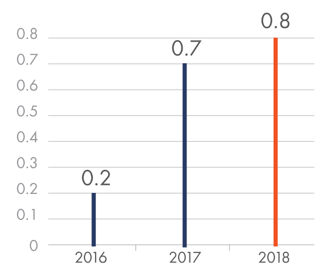
Source: TMT Consulting

MVNO services

The mobile virtual network operator (MVNO) market has shown steady growth over the past two years and remains a high-growth, high-potential area within the telecommunications market. According to TMT Consulting's research, the MVNO subscriber base reached 7 million in 2018, up 18% year-on-year. Rostelecom is the leader in the MVNO market's B2B segment with a 56% market share.[1]

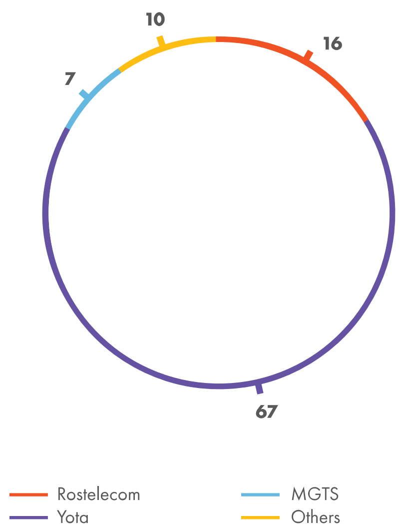
New players are coming into the MVNO market from adjacent industries. E.g. Sberbank launched its own Sbermobile mobile virtual network operator brand in 2018, becoming the second bank to offer its own virtual network operator after Tinkoff Bank made its foray into the market in 2017.

FIG. 10. NUMBER OF MVNO SUBSCRIBERS IN THE B2B SEGMENT, 2016–2018, MILLION



Source: TMT Consulting

FIG. 11. BREAKDOWN OF THE MVNO MARKET BY OPERATOR, 2018, %



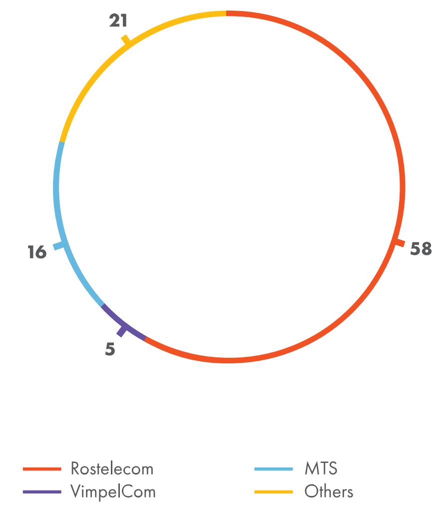
Source: TMT Consulting

1. Source: TMT Consulting data, 2019.

Fixed-line services

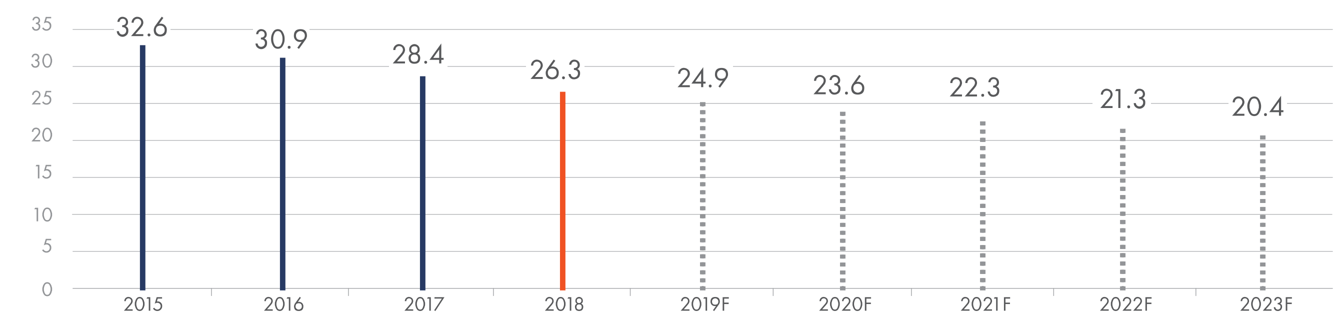
Fixed-line continued to decline in 2018, with service penetration falling by 3 pp to 34.5% and the subscriber base down by 1.9 million to 26.3 million.[1] PJSC Rostelecom retains its leadership in all segments of the fixed-line market.

FIG. 13. BREAKDOWN OF THE FIXED-LINE MARKET BY OPERATOR, 2018, %



Source: TMT Consulting

FIG. 12. NUMBER OF FIXED-LINE SUBSCRIBERS, 2015–2023, MILLION



Source: TMT Consulting

1. Source: TMT Consulting data, 2019.

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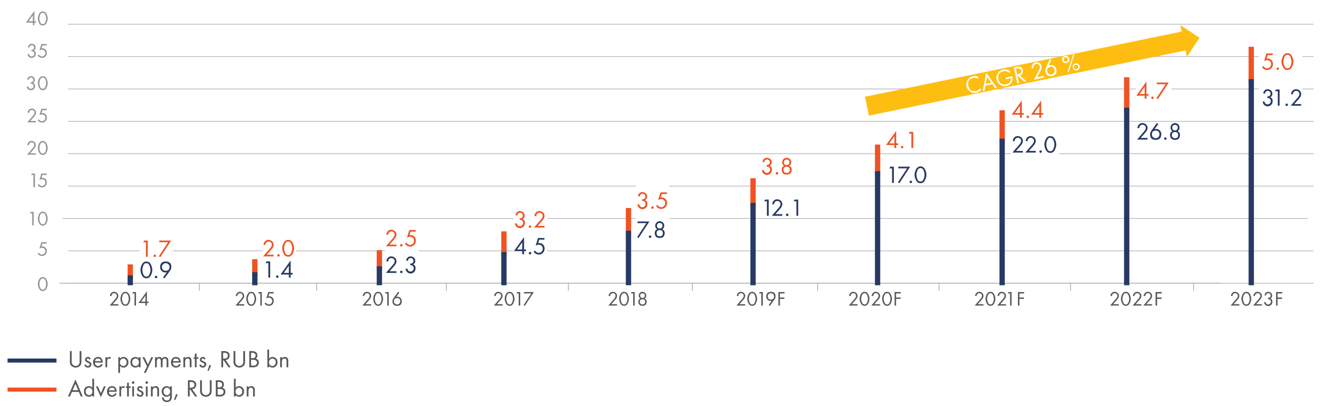
OTT

The OTT market continues to demonstrate steady, rapid growth, driven largely by the growing supply of the exclusive content offered by video streaming services, increasing user loyalty to legal OTT VoD services, and internet giants such as Yandex and Rambler entering the market.

TMT Consulting's estimates show that video streaming market grew by 48% to RUB 11.2 billion in 2018. Subscription-based services demonstrated the fastest growth, with the share of revenue from these services reaching 69%. The market grew by 75% to RUB 7.85 billion in 2018, with advertising revenue up 10% year-on-year to RUB 3.52 billion.

The OTT video streaming market is forecasted to grow to approximately RUB 36.0 billion by 2023, with sales of paid services accounting for 86% of total revenue and the market growing at a CAGR of 26% over the next five years.

FIG. 14. OTT MARKET OUTLOOK WITH A REVENUE BREAKDOWN, 2014–2023, RUB BN[2]



Source: TMT Consulting

Industrial Internet of Things (IIoT)

The Russian Internet of Things (IoT) market grew to RUB 251.6 billion in 2018.[1] With a forecast annual growth rate of about 18% through to 2022, this is one of the fastest-growing segments in the market. Industrial Internet of Things development in Russia is driven mostly by integration of IT into companies' core businesses, business process optimisations, and government-sponsored digital economy initiatives.

Manufacturing and transport are the leading industries in terms of IIoT investment. Quality assurance and power consumption are currently seen as the key use cases for IIoT.

1. Source: IDC Russia data.
2. Source: TMT Consulting, 2019.

Data centres

Key trends in the data centre market include capacity extensions at existing data centres and a growing number of new data centres. Ongoing developments in cloud services are also expected. With 5,900 racks across commercial data centres in 13 cities, Rostelecom is the leader of the Russian data centre market.

The Russian market is impacted by the growing demand for data storage and processing from individuals and companies, and by initiatives within the Digital Economy national programme. Another driver is IT infrastructure outsourcing, a service delivery model becoming increasingly popular in the market.

The Russian data centre rack market is expected to grow at an annual rate of at least 9% to 10% over the next three years,[1] reaching approximately 56 thousand racks by 2021.

FIG. 15. MARKET SHARES OF THE COMMERCIAL DATA CENTRE MARKET LEADERS BY NUMBER OF RACKS, 2018, %[2]

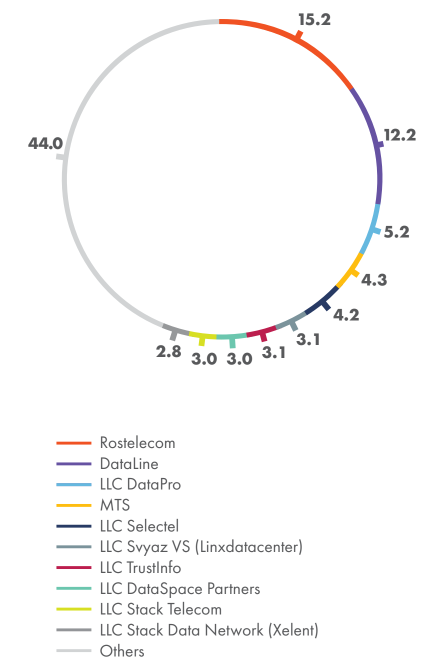
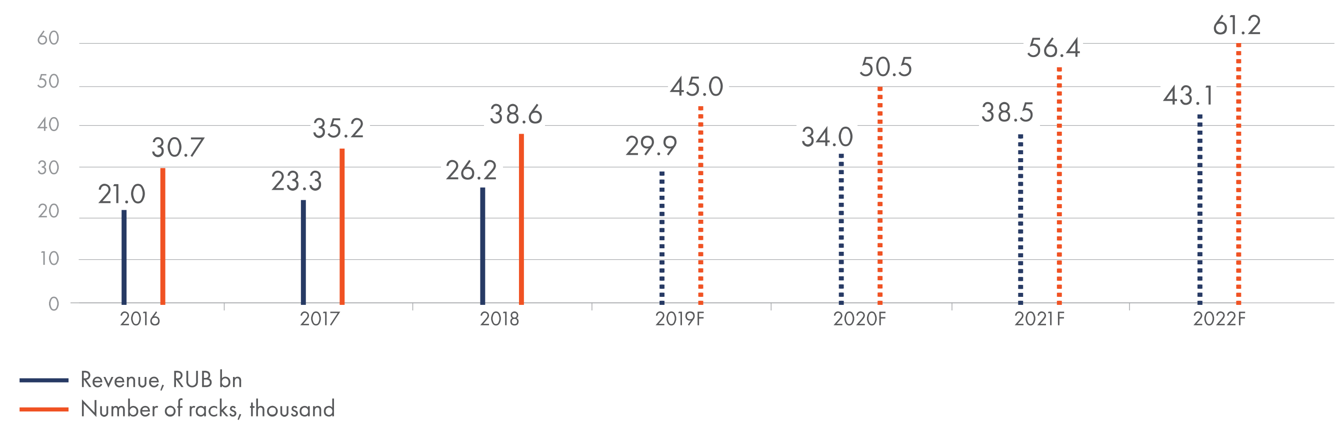


FIG. 16. OUTLOOK FOR DATA CENTRES IN RUSSIA, 2016–2022[3]



1. Source: iKS-Consulting data, 2019.
2. Source: TMT Consulting, 2018.
3. Source: TMT Consulting data, 2019.

Information security

The steady growth in the information security market will continue, driven by the increasing volumes of data stored within information systems and the growing data traffic in Smart Home projects, automated process control systems, and the Internet of Things segment. The market is expected to grow at a CAGR of around 9% during 2018–2022.[1] Currently, key market players are systems integrators, to be replaced by information security service providers within the next few years.

These organisations have all necessary technology, talent, and other resources to complement their core offerings with information security services.

Drivers of the information security market:
- Legal framework development
- Digitalisation and business security needs
- Major incidents (WannaCry, NotPetya, BadRabbit ransomware attacks) affecting many companies
- Development of information security services and solutions
- Growing trust in outsourcing
- Shortage of information security experts

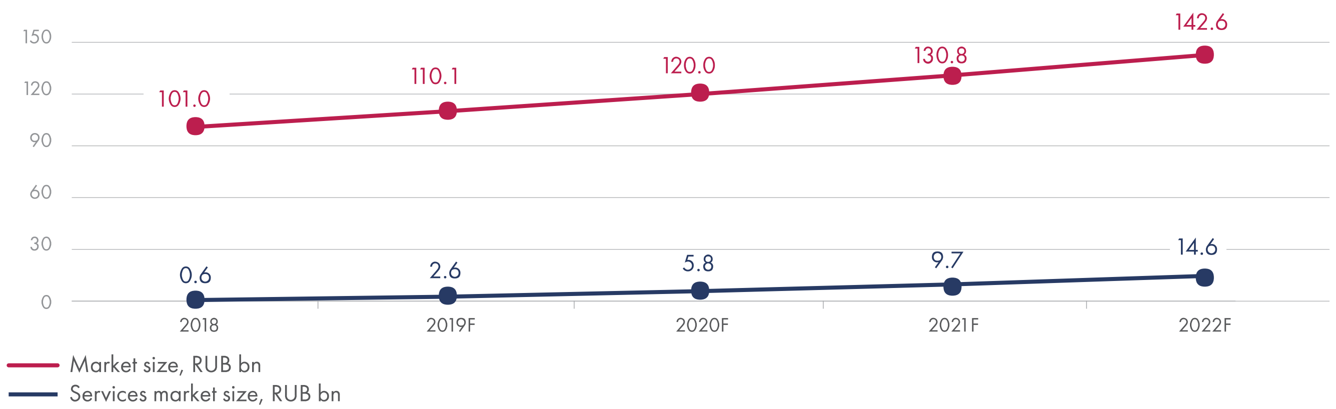
Information security services accounted for less than 1% of the information security market in 2018 (RUB 0.64 billion), with the potential to grow to 10.2% (RUB 14.6 billion) by 2022[2].

The biggest opportunities for the development of information security technology lie in building integrated data protection systems, designing cloud security servers, User and Entity Behaviour Analytics (UEBA) systems, attack mitigation systems, and developing biometric authentication and Internet of Things security solutions.

TABLE 3. KEY FUTURE PLAYERS IN THE INFORMATION SECURITY MARKET

B2B/G	B2C
Insourcers and carve-outs from state-owned corporations	Internet giants with segment-specific promotion experience capable of offering information security services to complement their core offering
Vendors offering their solutions as a service	Telecoms
Telecoms already focused on information security services	Vendors offering their solutions as a service
Tech giants	Fintech companies
Sberbank of Russia	

FIG. 17. REVENUES FROM INFORMATION SECURITY SERVICES IN THE RUSSIAN MARKET, RUB BN[3]



1. Source: IDC, Cnews, Orange Business services, Gartner, Russian Federal Procurement Portal.
2. Source: IDC, Cnews, Orange Business services, Gartner, Russian Federal Procurement Portal.
3. Source: IDC, Cnews, Orange Business services, Gartner, Russian Federal Procurement Portal.

Cloud services[1]

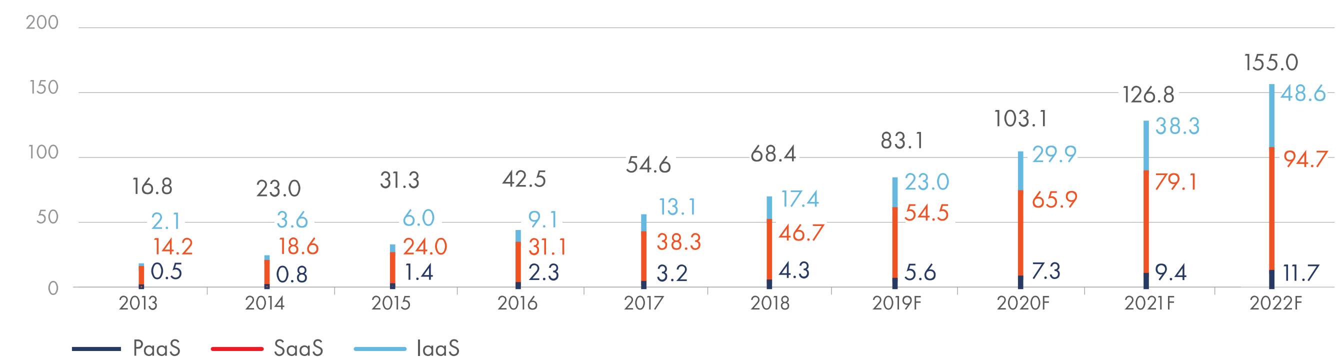
The cloud services market is booming, with the Russian market growing by 25% year-on-year to RUB 68.4 billion in 2018. It is expected to grow at an annual rate of 23% to 30% through to 2022.

The market is largely transitioning to a service-based model, with Russian IaaS (infrastructure as a service) market leaders – Selectel, DataLine, and Rostelecom – developing their service offerings based on owned data centres.

SaaS (software as a service) is currently the leading segment in cloud-based services with a 46% market share in 2018. Virtual PBX is one of the largest SaaS segments in Russia, with the Russian virtual PBX market growing by 35% year-on-year to RUB 7.9 billion in 2018. The number of virtual PBX corporate customers reached 267 thousand, up 45% year-on-year. Rostelecom led the market in 2018 by Virtual PBX subscriber base, with a 24% market share.[2]

PaaS (platform as a service) also increased its share of the market to over 6% in 2018.

FIG. 18. RUSSIAN CLOUD-BASED SERVICES MARKET BREAKDOWN BY REVENUE, 2013–2018, RUB BN[3]



Key digital legislative developments in Russia in 2018:[4]

- The Ministry of Digital Development, Communications, and Mass Media was established on 15 May 2018 by the Executive Decree of the President of the Russian Federation.
- Federal Law No. 374-FZ ("Yarovaya law") took effect in two phases, on 1 July and 1 October 2018, requiring operators to store subscribers' voice data and text messages for the period of six months, and internet traffic data for the period of 30 days.
- An official 5G development concept was presented, commissioned by the Ministry of Digital Development, Communications, and Mass Media of the Russian Federation. The concept includes a proposal to establish a single infrastructure operator to be allocated the entire relevant spectrum. GSMA forecasts that Russia may become a pioneering market in developing 5G standard.

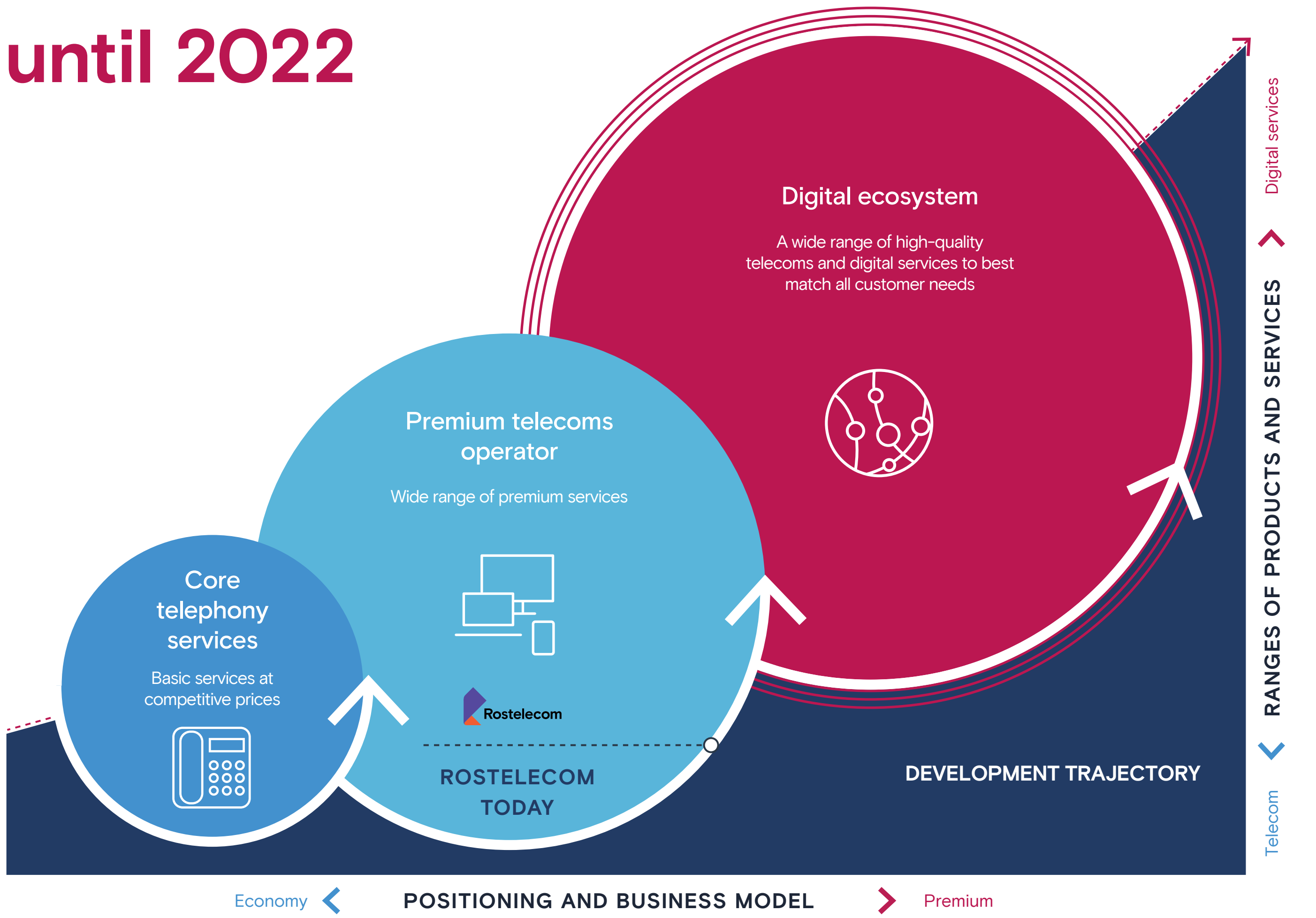
1. Source: iKS-Consulting study.
2. Source: TMT Consulting, 2019.
3. Source: iKS-Consulting study.
4. Source: itech. Intelligent technologies.

Development Strategy

In 2018, Rostelecom launched its strategy for 2018–2022[1] aimed at transforming the Company from a telecoms operator into a digital partner for households, business, and government customers.

Our mission: Rostelecom is a digital partner for households, business, and government customers.

FIG. 19.
ROSTELECOM'S STRATEGIC PRIORITIES
until 2022



1. Approved by the Board of Directors on 14 March 2018; Minutes No 17.

Developing product digital ecosystems & improving customer experience

- Development of product and service ecosystems around customers
- Ensuring high standards of customer service
- Developing and enhancing partner platforms
- Scaling-up traditional business

Human capital development

- Building digital skills and capabilities
- Staff retraining and internal migration
- Adaptation of approaches to staff development and corporate culture improvements to meet digital company requirements

Technology platform upgrade

- IT landscape upgrade and centralisation
- Expansion of fibre and upgrade of copper networks

Operational excellence

- Continued implementation of the operational efficiency programme
- Real estate portfolio optimisation
- Improved decision-making and business processes

Strategic objectives for 2018–2020

REVENUE
4%–5%
accelerating CAGR

OIBDA MARGIN
>32%

CAPEX/REVENUE
down to **17%**
(excluding government-sponsored programmes)

Details on Rostelecom's Strategy were presented in the Company's Annual Report 2017.
The full text of the Strategy is available at https://www.company.rt.ru/upload/protected/iblock/5d5/RT_AR_2017_final_eng.pdf.

Long-Term Development Programme

In 2018, we continued implementing Rostelecom Group's Long-Term Development Programme for 2017–2021, developed in accordance with the Russian Governmental directives and guidelines of the Russian Ministry of Economic Development and approved in December 2017. Along with the Long-Term Development Programme, the Board of Directors also approved Key Performance Indicators (KPIs) for 2017–2021.

The scope of the Long-Term Programme covers all activities of Rostelecom in consolidating its market position, driving infrastructure development, supporting innovation-driven growth, and improving business performance. Adequate investment, HR and management resources were allocated to support the activities set out in the Long-Term Programme. These activities are well balanced to reflect financing capabilities of the Company.

1. The Long-Term Development Programme and KPIs were approved by the Board of Directors on 29 December 2017; Minutes No. 13.
2. Actual performance against the KPI targets set in the 2018 Long-Term Development Programme is detailed in paragraph 7 of Appendix 4 Actual Results of Compliance with Instructions and Directives of the President of the Russian Federation and Instructions of the Government of the Russian Federation to this Annual Report.

Business Model

RESOURCES

FINANCE

Revenue
RUB 320.2 billion

OIBDA
RUB 100.9 billion

CAPEX
RUB 73.2 billion

FCF
RUB 14.8 billion

INTELLECTUAL PROPERTY

Investment in new products
15% of CAPEX

EMPLOYEES

Total headcount
129 thousand people

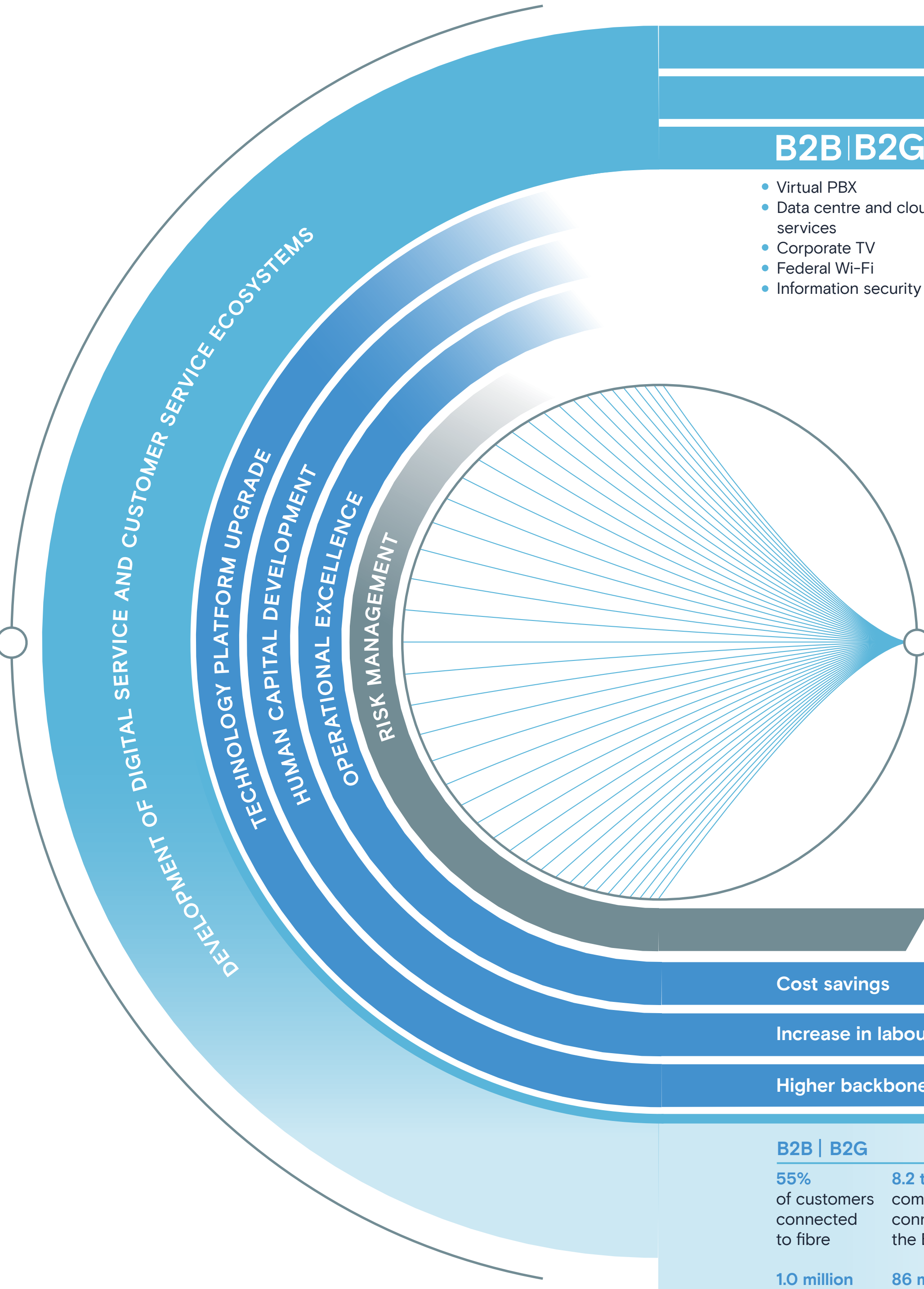
BRAND AND REPUTATION

#1[1]
- in top-of-mind awareness in broadband
- in top-of-mind awareness in Pay TV
- in Broad Content Offering category

ENVIRONMENT

Environmental expenditure
RUB 0.1 billion

ACHIEVEMENT OF STRATEGIC PRIORITIES



B2O
- Voice and IP transit
- Line leases
- IP VPN
- Infrastructure maintenance services for mobile and fixed-line operators

B2C
- Smart home
- IPTV
- OTT video
- Games
- Antivirus
- Cloud software
- Online education
- Financial products
- Insurance
- Telemedicine
- Fixed-line
- Mobile
- Broadband
- MVNO
- Video surveillance

B2B|B2G
- Virtual PBX
- Data centre and cloud services
- Corporate TV
- Federal Wi-Fi
- Information security

2018 results

Cost savings RUB 3.3 billion

Increase in labour productivity 9%

Higher backbone network capacity at 20.3 Tbps

B2B | B2G

55% of customers connected to fibre

8.2 thousand communities connected under the BDD project

1.0 million broadband and VPN subscribers

86 million public services (e-government) portal users

5.9 thousand racks in data centres

46% growth in revenue from Smart City projects in 2018

B2C

12.0 million broadband subscribers

5.2 million IPTV subscribers

0.8 million retail MVNO customers

35 million households connected to fibre

B2O

Connectivity with more than 150 telecoms networks in 70 countries

Partnerships with 600 national and international fixed-line and mobile operators

1 Tbps capacity growth for the Transit Europe – Asia cable system

STAKEHOLDER VALUE

SHAREHOLDERS

Total dividends paid for 2017
RUB 14.1 billion

Share price (as at 28/12/2018)
RUB 72.3
+13% year-on-year

EMPLOYEES

Salary expenses
RUB 69.8 billion

Investment in training
RUB 0.5 billion

GOVERNMENT

Income tax
RUB 4.4 billion

Other taxes
RUB 5.7 billion

CUSTOMERS

Households, retail, business, and government customers, other operators

Advanced, high-performance digital ecosystems covering a wide range of tasks

SOCIETY

Member fees, charity contribution, payments to labour units
RUB 0.8 billion

Reduced power consumption
4%

Reduced ground water consumption
38%

1. According to Brand Health Tracking (BHT) study by IRC.

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Sustainability Management

TABLE 4. ROSTELECOM'S CONTRIBUTION TO SOCIETY

Stakeholder group	Engagement	2015	2016	2017	2018
Shareholders	Dividend payments, RUB m	16,472	15,000	14,050	6961[1]
Employees	Total headcount, thousand	150	143	134	129
	Salary expenses, RUB m	67,184	66,018	67,238	69,812
	Investment in training, RUB m	354	453	464	496[2]
	Contributions to Telecom-Soyuz and Alliance private pension funds, RUB m	959	704	164	757
	Health and safety expenses, RUB m	623	551	641	698
Government	Income tax, RUB m	2,436	4,692	4,856	4,427
	Other taxes, RUB m	5,560	5,079	4,661	5,747
Society	Member fees, charity contribution, payments to labour units, RUB m	854	660	697	767
Environment	Environmental expenditure, RUB m	130	129	105	112

Sustainability strategy

Rostelecom's resources serve as a technology platform driving the development of Russia's digital economy. The Company contributes to the sustainable development of Russian society in many areas – enabling initiatives in healthcare, education, equal access to public services, transport upgrades, energy development, agriculture, and natural disaster risk mitigation.

In 2018, the Company launched its new five-year strategy, focused on transformation into a digital partner for households, business, and government customers. Rostelecom is evolving from a telecoms operator offering traditional services such as data transmission and storage, into a provider of an entire range of advanced digital services, while maintaining its focus on core infrastructure development.

Among other things, the Company's strategic vision provides for changes in technical infrastructure, IT, HR, and other internal processes, including developing and supporting an advanced innovation management system.

To remain competitive globally, Russian industries need digital transformation and, to maximise the benefits of Industry 4.0 cooperation, should push beyond corporate boundaries. Successful implementation of the new strategy will allow us to automate, accelerate, and simplify connecting digital partner services, as well as expanding the offerings of our own digital services.

Strategic analysis suggests that digital transformation of cities (smart city initiatives), data centre and cloud services, cyber security, digital government, big data analytics, artificial intelligence, Industrial IoT, and digital transformation of Russian industries will be the key growth drivers for our business in the coming years.

1. For 9M 2018.
2. Data for PJSC Rostelecom.

Sustainability priorities

Over the past few years, Rostelecom has increasingly integrated the United Nations Sustainable Development Goals (UN SDGs)[1] into the design of its projects and in the preparation of its annual reports. We seek to bring Rostelecom's development strategy more in line with the global UN SDGs in respect of environmental, social, and economic matters, while applying regional, national, and global lenses.

In 2018, the Company prioritised the list of UN SDGs to identify the areas where it could contribute the most:

TABLE 5. UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS PRIORITISED BY ROSTELECOM

FIRST PRIORITY GOALS

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Goal 9
Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

8 DECENT WORK AND ECONOMIC GROWTH

Goal 8
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

4 QUALITY EDUCATION

Goal 4
Ensure inclusive and equitable quality education and promote lifelong opportunities for all

11 SUSTAINABLE CITIES AND COMMUNITIES

Goal 11
Make cities and human settlements inclusive, safe, resilient and sustainable

10 REDUCED INEQUALITIES

Goal 10
Reduce inequality within and among countries

SECOND PRIORITY GOALS

17 PARTNERSHIPS FOR THE GOALS

Goal 17
Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Goal 16
Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Goal 12
Ensure sustainable consumption and production patterns Goal 13
Take urgent action to combat climate change and its impacts

13 CLIMATE ACTION

Goal 13
Take urgent action to combat climate change and its impacts

15 LIFE ON LAND

Goal 15
Protect, restore and promote sustainable use of terrestrial ecosystems

1. See Sustainability Goals: https://www.un.org/sustainabledevelopment/.

At the same time, Rostelecom also makes efforts towards other United Nations Sustainable Development Goals, seeking to maximise its positive contribution to society.

In the reporting period, the Company developed and approved its Corruption Risk Mitigation Programme for 2018 (the "Compliance Programme"), defining the activities that have a positive impact in preventing corruption, and minimising and (or) mitigating the consequences arising from corruption.

The Company also continues to improve the openness and transparency of its activities in its relations with customers, partners, and shareholders. We continued to develop and adopt innovations which boost the quality of Rostelecom's services and enhance the customer experience. We improve accessibility to the Company's services for small population centres. Rostelecom runs social, volunteer, and charitable programmes improving the quality of life for Russian citizens and contributing to the sustainable development of society. We provide attractive working conditions for our employees. Our priorities include professional development of our people, and promoting employee health and safety. Rostelecom seeks to reduce its environmental footprint, improves energy efficiency, and fosters environmental culture in society. Affordable universal service has become an important enabler for SMEs. We run programmes commissioned by the Russian Government to improve access to knowledge, information, and quality products for all Russian citizens irrespective of their place of residence.

Business ethics

Rostelecom's Code of Ethics conforms to the highest standards of business ethics and is underpinned by our corporate values of expertise, responsibility, innovation, openness, and continuity. Legal compliance, integrity, openness, privacy, and engagement are the key principles of PJSC Rostelecom's Code of Ethics.

Any employee of the Company can report violations of the Code of Ethics to a dedicated e-mail address: ethics@rostelecom.ru.

Rostelecom cooperates with the government to help justice and law-enforcement. The key elements of our Code of Ethics are:
- corporate transparency
- customer and partner confidence
- reputation of an open and reliable company providing high quality, affordable services.

Rostelecom has a zero tolerance approach to any manifestations of corruption, demonstrating commitment to high standards of business conduct and ethics in dealings with any and all stakeholders. Between 2014 and 2018, we developed a number of key documents covering corruption prevention (including the updated Code of Ethics, Anti-Corruption Policy, Regulations on the Conflict of Interest Management, Regulations on on Giving and Receiving Gifts, Regulations on Charitable Donations and Assistance, etc.).

Rostelecom implements effective measures to prevent corruption and fraud – we have in place a whistleblowing hotline, as well as a dedicated anti-corruption portal www.nocorruption.rt.ru (in Russian). The Company employees and suppliers can take special tests on the portal, as well as find anti-corruption documents. As part of our corruption prevention and asset protection efforts, we have extended the availability of the anti-corruption portal and whistleblowing hotline to Rostelecom subsidiaries. Additionally, 480 employees of the Company and 420 employees of Rostelecom subsidiaries were trained in 2018 on anti-corruption issues (as per the requirements of anti-corruption laws) through distance or classroom learning.

Society

As the only designated universal service provider throughout the Russian Federation, the Company seeks to contribute as much as it can towards societal development across all Russian regions. In 2018, Rostelecom continued to drive social change for the public good and develop infrastructure for Russia's digital economy, implementing a range of programmes, including federal and regional social programmes, as well as carrying out volunteer activities, charitable projects, etc.

Digital Equality

Digital Equality is an integrated nationwide programme to improve the quality of life for millions of Russian citizens by bridging digital divides and ensuring accessibility of communications services for such underprivileged and vulnerable groups as senior citizens, children in orphanages, children in needy families, physically challenged children, and others.

The programme comprises the most significant and successful social projects of the Company: ABC of the Internet, Growth, Learn the Internet – Manage It!, Social Impact Award, Internet for Social Infrastructure Facilities, Computerisation of Orphanages, and Distance Learning for Disabled Children.

In 2018, Rostelecom became a winner of the Leaders in Corporate Philanthropy project, getting the first prize of the Graduate School of Management (GSOM SPbU) for the Best Programme (Project) Facilitating Education Development in Russia with its integrated Digital Equality social programme.

Rostelecom was ranked third among Top 10 companies

The Digital Equality programme won the Ethical Dimensions of the Information Society category. Rostelecom received the award of the international contest held by the UN World Summit on the Information Society (WSIS) to select the best innovative projects involving Information and Communications Technology (ICT).

ABC of the Internet

– a programme offering quality training on basic computer and internet skills for senior citizens and people with disabilities. Over 85 thousand senior citizens were trained under this programme in 2018.

Learn the Internet – Manage It!

– a socio-educational project for school students, using modern interactive format to provide basic knowledge of the internet – its tools and capabilities.

A total of approximately 142 thousand school students from across Russia have benefited from the project since its inception.

Growth

– a distance learning project for children in orphanages and foster homes, as well as children deprived of parental care. Over 4,800 lessons were given across the entire school curriculum in 2018.

Social Impact Award

– and international programme promoting social enterprise among young people. In 2018, 98 applications were submitted, with 13 proposed projects from 8 cities getting to the finals and the winners offered the opportunity of free enrolment in an incubator programme.

Computerisation of Orphanages

– overall, in 2018, Rostelecom:
- provided computer equipment to 31 orphanages
- offered support to 2,384 children;
- deployed 15 Wi-Fi hotspots
- donated 112 desktops.

Distance Learning for Disabled Children

In 2018, we provided access to distance learning courses for 1,000 disabled children.

Internet for Social Infrastructure Facilities

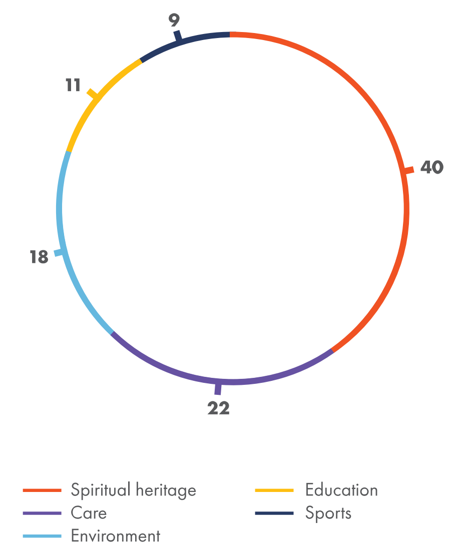
– 3,260 people used the platform integrating library and information centre resources and benefited from access to learning and educational materials.

Philanthropy

Active charitable giving is a part of our responsible approach to business. Rostelecom channels significant funds to programmes in healthcare, education, promotion of healthy lifestyles and sports, support for vulnerable groups across all Russian regions, etc. The Company cooperates with major charities active both in regions or on a national scale. Rostelecom not only provides quality telecommunications services, but also actively contributes to create stable social environment, and seeks to help those most in need.

In 2018, PJSC Rostelecom (including its subsidiaries and affiliates) spent RUB 193,320.18 thousand on charitable purposes, including in education, environment, sports, etc.

FIG. 20. CHARITABLE PRIORITIES, %



Volunteer activities

Volunteer activities of Rostelecom are featured by their large scale. Volunteer actions have become common in each region of the Company's operation. Employee volunteers are actively involved for all kinds of programmes. It helps them contribute to significant social causes, fulfil their potential and improve engagement.

Active volunteering confirms Rostelecom's reputation as socially responsible company with strong focus to improve the quality of life for Russian citizens. Among the more significant projects are Donorship, Midday, Let's Help Together, Stan Dedom Morozom (Become a Santa) New Year campaign, House of Veronica, Run and Help, Believe in Yourself, and many others. Project Midday is an interactive educational programme for children in orphanages and foster homes providing career guidance with a focus on the telecoms industry and social adaptation. Within the project Let's Help Together, Rostelecom employees send own money through charities to help severely ill children and seniors. In preparation for New Year's holidays, children in orphanages across Russia, supported by our sponsorship programme, receive gifts under the Company's Become a Santa volunteer project. Through our active volunteering strategy, we reinforce Rostelecom's reputation as a socially responsible organisation committed to improving the quality of life for Russian citizens. The Company's volunteers help residents of the hostel to learn how to benefit from web resources. Run and Help is a sports charitable project raising money for medical treatment of children with severe and rare illnesses.

A total of 200 volunteering projects were carried out during 2018.

Over 600 people took part in donor sessions.

3,500 Rostelecom employees are regularly involved in volunteering projects.

At the All-Russian corporate volunteering contest, Champions of Good Deeds 2018, our Believe in Yourself social project won the second prize for Skill-based Volunteering.

At the 11th People Investor 2018 Forum, organised by the Russian Managers Association, our Run and Help project made it to the top four social projects for Healthy Lifestyles.

Our people

In 2018, Rostelecom's headcount totalled 128.6 thousand employee, making the Company to one of Russia's largest employers.

We make every effort to create career advancement and self-fulfilment opportunities for our employees, ensure decent working conditions, and provide access to training and professional development programmes. Transparency of the remuneration system, provision of statutory social benefits, and ensuring safe working conditions to employees remain our key priorities[1].

1. See Section 3, Investing in Our People, of Rostelecom's Sustainability Report 2018.

Our Long-Term Personnel Transformation Programme, spanning the period until 2019, helps attract and retain best talent, create career opportunities, provide decent remuneration, recognise achievements, foster dialogue with management, and develop leadership skills in people. All these initiatives boost Rostelecom's profile as the employer of choice, supporting its longer-term development goals.

Rostelecom Group's salary expenses were increased from RUB 67.2 billion in 2017 to RUB 69.8 billion in 2018 (+4%), with the average monthly pay raised from RUB 44 thousand to RUB 47 thousand (+6%) and employee engagement score up by 14 pp to 69% at year-end 2018 vs year-end 2016). As at 31 December 2018, 41,779 employees were members of our new corporate pension scheme offered by the subsidiary pension fund Alliance – 46.2% of total employees eligible for the scheme.

Corporate Online University

The purpose of Rostelecom's Corporate Online University is to build modern professional skills in our employees. To upgrade professional skills among employees, we engage both in-house and external experts: Russians trainers with experience of training in similar educational establishments, specialists who studied and interned abroad, and international business coaches. Both face-to-face and distance learning opportunities are offered in-house.

In 2018, the Company established its Knowledge Management Department, with a mission to create a favourable environment for continuous employee development across all functions and roles throughout their entire careers with Rostelecom. During the reporting period, the Knowledge Management Department started the transformation of internal employee training to address the following tasks:

- implement uniform, effective business processes to train and develop employees
- define the standards and methodology for training, as well as for development and implementation of nationwide skill building programmes
- finalise the updated centralised catalogue of internal programmes to build soft skills
- enhance the competencies of in-house coaches.

Environmental protection and energy efficiency

As Russia's largest telecoms operator, Rostelecom sees environmental protection as an integral part of its business. The Company implements a wide range of environmental initiatives, contributes to fostering environmental culture in society, and offers innovative solutions based on the smart city philosophy.

Environmental Policy

The Company has developed and implemented an Environmental Policy, setting requirements for managing Rostelecom's activities with a potential impact on the environment. Our key objectives in environmental protection and safety are sustainable use of natural resources, minimising Rostelecom's environmental footprint, and preserving the environment for future generations.

Key environmental initiatives in 2018

Improving the environmental management system – in 2018, the Company's environmental management system successfully passed an external recertification audit for compliance with GOST ISO 14001, with the certificate of conformity renewed for one year. Within the Company's environmental operational control framework, 758 specific internal audits (540 on-site audits and 218 desk audits) were performed, with 974 facilities audited and 1,029 violations identified and remedied.

Boiler facility upgrades (replacement of boilers, equipment, and automatics with modern, higher performance ones; conversion to cleaner fuels) – 46 boiler facilities were upgraded for a total of RUB 14,476.16 thousand.

Replacing fluorescent lamps with LEDs – a total 31,300 lamps were replaced across 502 facilities.

Optimising the use of water supply wells – in 2018, the number of wells in use decreased by 8%, from 104 to 96, with groundwater consumption reduced by 38%, from 372 thousand cu m to 229.55 thousand cu m.

Replacement of transport equipment with poor environmental performance. In 2018, the Company procured 1,104 Euro 5 vehicles to replace the retired Euro 0–4 vehicles. As at the end of 2018, Euro 5 vehicles accounted for 27.7% of the Company's total fleet, Euro 4 22.5%, and Euro 3 and lower 49.8%.

TABLE 6. TOTAL ENVIRONMENTAL EXPENDITURES AND INVESTMENTS, 2018, RUB THOUSAND

Landfill disposal fees for municipal/household solid waste	88,685.5
Disposal/neutralisation fees for non-landfill wastes (lamps, oils, batteries, etc.)	10,489.7
Environmental charges for air pollution	764.8
Environmental charges for waste landfill	10,412.7
Third party fees for drafting an environmental charge declaration	514.0
Permit/license fees and duties	1,428.5
Fees for the development of emission limits, obtaining air pollution permits	12,827.0
Fees for the development of draft waste generation rates and disposal limits, obtaining approvals for waste generation rates and disposal limits	10,175.0
Expenses related to obtaining subsoil licences (for wells), excluding duties	1,206.8
Employee training and upskilling	1,566.8
Expenses related to setting up separate waste collection (procurement of containers, waste sorting, etc.)	657.0
Expenditures on land improvements and urban greening	2,133.5
Expenditures on air pollution control and climate change mitigation	5,753.1
Expenditures on surface water and groundwater pollution control, and wastewater treatment (renovation and refurbishment of water treatment facilities, water well cementing, cleaning of river beds, setting up sanitary protection zones around water bodies and wells, etc.)	1,507.3
Expenditures on soil contamination control (sampling, decontamination, reclamation, etc.)	69.0
Expenses on wastewater laboratory testing	2,334.3
Expenses on groundwater laboratory testing	1,997.1
Expenses related to the development and approvals of draft projects to establish sanitary protection zones	1,746.9
Fees for official registration of facilities affecting the environment	241.7
Fees for the development of environmental operational control programmes	4,147.0
Development of passports for Hazard Classes 1–4 wastes	64.8
Other	763.6
Total	159,485.9

Environmental safety

Rostelecom is committed to ensuring environmental protection and safety, conducting regular environmental risk assessments across all activities, i.e. assessments of the likelihood of adverse changes in the environment.

One of the environmental safety procedures put in place by the Company is specialised training of managers and employees responsible for making decisions that could have adverse environmental impact.

Energy efficiency

Through implementing its Energy Policy, Rostelecom maintains a continued focus on reducing its energy consumption and greenhouse gas emissions and helps its customers to follow suit. The Company upgrades networks and infrastructure by introducing more energy efficient equipment, increases the share of renewables in its total energy mix, and seeks to gradually maximise the use of green energy. Among other things, Rostelecom actively upgrades street lighting in regions, enabling local authorities to enhance the reliability and efficiency of street lighting systems and reduce energy consumption.

In 2018, we reduced our power consumption by 52,149,620 kWh (down 3.74%).

Rostelecom won a tender for the development and support of the Automated Power Supply Data Collection System of the Moscow Region. Integration of platforms and databases will enable automation of the process for creating energy passports for regional budgetary institutions.

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Green Office

In 2017, Rostelecom developed the concept of separate office waste collection and launched its phased implementation across the Company. Separate collection has been adopted for used office paper in 52 regional branches (238 facilities), and for used household batteries in 37 regional branches (112 facilities). A total 270 tonnes of waste paper and 1.1 tonne of batteries have been collected and handed over for recycling.

The Green Office principles are actively implemented in operating office spaces: reduced energy and water consumption, use of environmentally safe consumables, reduced paper use through electronic document flow, wider use of videoconferencing, etc. As one tonne of collected waste paper saves ten trees, in 2018, Rostelecom employees saved a total 2,700 trees (3,400 trees in 2017).

2019 priorities

In 2019, in line with the Company's strategy of digital transformation we will focus on automation of compliance processes, including the development of the Compliance Control automated system (resolution of conflicts of interest, and handling employee and third party enquiries).

In addition, Rostelecom plans to actively participate in the sector-specific risk assessment carried out by FATF for telecoms operators to create a national risk assessment framework of the Russian Federation.

We are also planning to continue our focus on further development and promotion of healthy lifestyles, expanding sports programmes through non-team sporting activities, e.g. providing opportunities for building running or workout communities etc.

Plans for 2019 also include launching online training programmes to build digital skills:

- iMBA (skills of a digital company leader)
- Digital Economy. Jobs of the future
- A Programming School.

We will continue transforming the internal employee training system, with plans to launch new programmes building employee soft skills and desired socio-behavioural, communication, and managerial skills (e.g. programme for top managers, including MBA programmes offered by the SKOLKOVO Moscow School of Management, and Sberbank 2020 programme).

A pilot project with banks participating in the FinTech Association will be launched in 2019, moving online the loan application process for improved customer experience.

In the coming years, Rostelecom will continue to focus on ensuring the sustainable operation of the E-Government infrastructure.

We will also continue contributing to Bridging the Digital Divide. As at 31 January 2019, contracts were signed for the construction of 27 thousand km of fibre-optic communications lines. The Company is planning to install 2,723 access points through to Q4 2019.

To maximise the efficiency of delivering its Smart City projects, Rostelecom plans to foster cooperation with regional authorities, local authorities, urban service and backbone enterprises, and federal and local businesses.

Risk Management

Rostelecom's risk management framework allows for effective modelling, assessment, and mitigation of risks that the Company is exposed to. The framework is structured in full compliance with the requirements of international and national regulatory bodies. To further enhance its reliability, Rostelecom implements projects aimed at automating risk management processes.

Risk management framework

Rostelecom's risk management framework emphasises effective management decision-making under uncertainties and related risks and capturing identified opportunities to achieve strategic goals.

Risk management is carried out in full compliance with international and national standards. The Company updates its risk management regulations as a part of business-as-usual.

Rostelecom's key internal documents regulating risk management:

- Charter
- Risk Management Policy
- Regulations on the Board of Directors and Regulations on the Audit Committee of the Board of Directors
- Regulations on the Integrated Risk Management System
- Regulations on the Risk Management Committee of the Management Board
- Risk Management Procedure

Risk management is based on a system of concise, clear, and measurable corporate goals set by Rostelecom shareholders and management. Rostelecom approves its Risk Management Programme every year and monitors its execution on a quarterly basis.

Risk Management Programme includes:

- a list of strategic risks, and strategic risk scenarios
- key strategic risk indicators and thresholds
- strategic risk management activities.

Operational risks are considered throughout our day-to-day operations and when developing new products and services. To ensure risk monitoring and rapid decision-making, Rostelecom develops and automates risk dashboards for business processes. In particular, Rostelecom developed an automated risk dashboard for procurement in 2018.

Quarterly progress reports on the Risk Management Programme and other relevant matters are reviewed at the meetings of the Management Board's Risk Management Committee which approve follow-up risk management initiatives.

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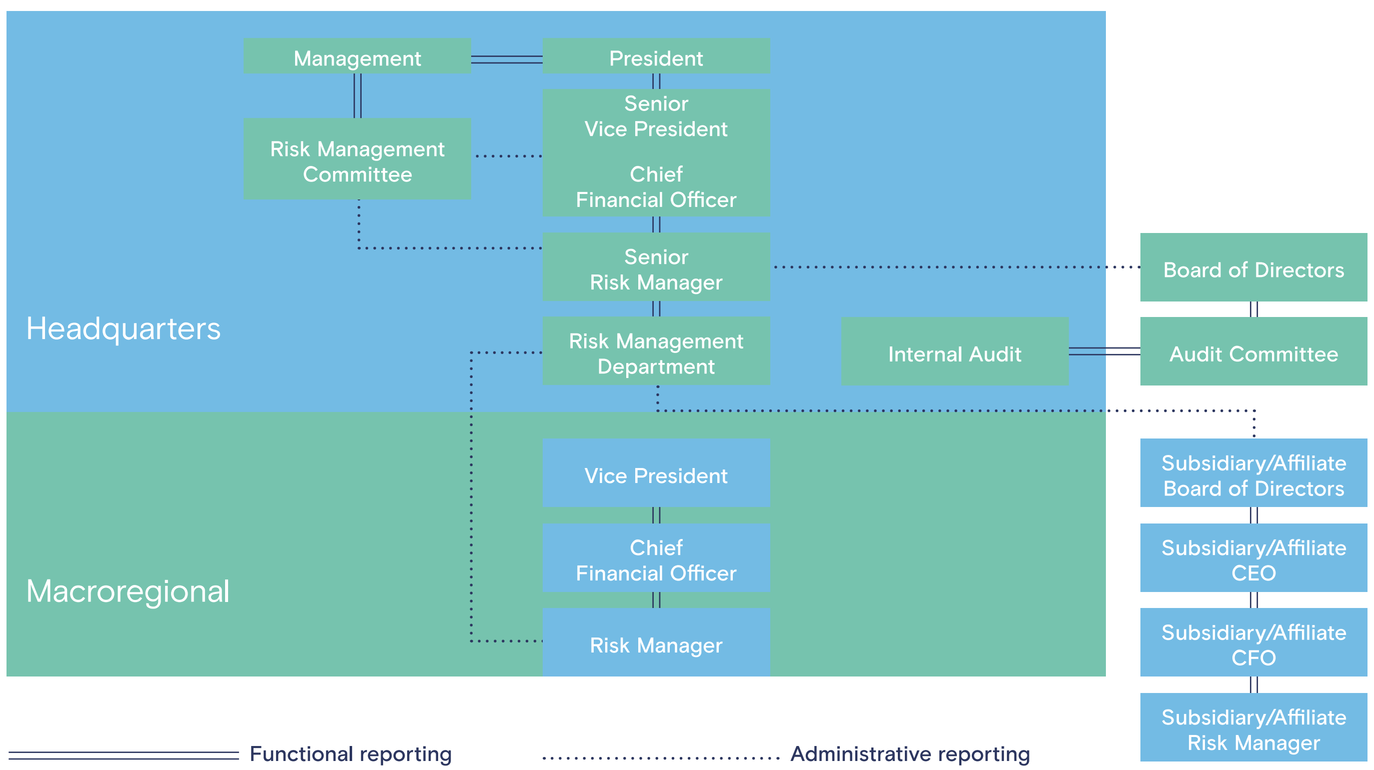
RISK MANAGEMENT ACTORS

Actor	Roles and responsibilities
Board of Directors	Defines the operating principles and improvement areas of the risk management framework; performs overall monitoring of risk management performance
Audit Committee	Oversees the operation of, and identifies gaps in, the risk management framework; makes recommendations to the Board of Directors
The Company's management	Manages key risks and regularly monitors the risk management framework
Internal Audit and Internal Control units	Assess risk management performance and advise on improvements
Senior Risk Manager and Risk Management units	Build, monitor, and maintain the risk management framework
Business units and employees	Manage risks within their areas of responsibility

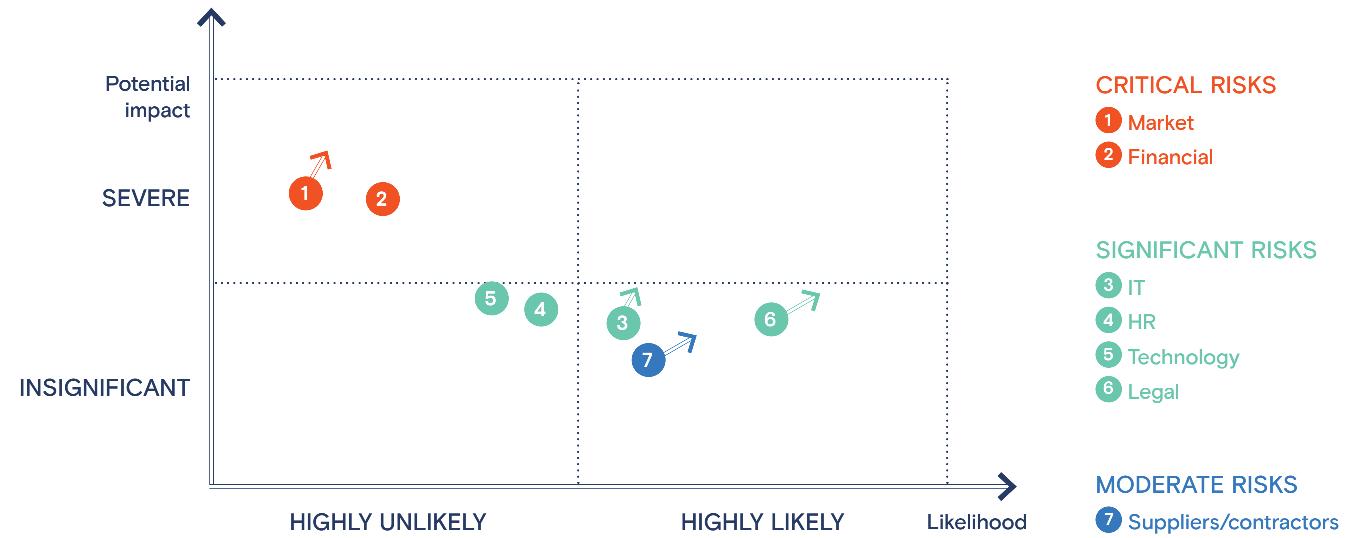
FIG. 21. RISK MANAGEMENT INTERACTIONS WITHIN ROSTELECOM GROUP



Rostelecom Group's risks

The risk map details the key risks Rostelecom is exposed to. Dots show the severity of potential impact and risk likelihood in 2018. Arrows show risk movement forecasts for 2019.

FIG. 22. RISK MAP



Critical risks may result in:
- failure to achieve KPI targets set in our Strategy and Long-Term Development Programme
- extended business interruptions
- significant downgrade of credit or corporate ratings
- negative publicity in national or international media.

Significant risks may result in:
- significant variance in key performance indicators
- short-term business interruptions
- downgrade of credit or corporate ratings
- negative publicity for the Company in regional or local media.

Moderate risks do not have a material impact on our financial and business performance; however, they need to be monitored to ensure timely detection of their potential growth in materiality.

Development of the risk management system in 2019 will prioritise:
- identifying risks and developing mitigating measures
- deploying advanced risk management solutions
- automating risk dashboards for business processes to enable prompt notification of management.

TABLE 7. RISKS AND MITIGATION

No.	Risks in 2018	Mitigation in 2018	Manageability in 2018	Change in manageability in 2019	Risks in 2019	Mitigation plans for 2019
1	**Market risks** 1. Slowed market recovery in terms of prices; price wars in some regions 2. Stronger trend in MS telephony revenue decline 3. Market capture by competitors	Development of new products and services Measures to improve customer loyalty Measures to ensure reduced time-to-market for new products to capture market share	Medium	↑	**Market risks** 1. Flat ARPU 2. Higher subscriber churn 3. Market capture by competitors	Measures to improve customer loyalty Development of new services through product teams
2	**Financial risks** Resource allocation in an environment of future TMT sector uncertainties	Automation of procurement violations monitoring to enable prompt notification of management and reduce business impact during control procedures Procurement regulations updates	Medium	=	**Financial risks** Insufficient funds to invest in business growth	Prioritising projects depending on applicable risk factors by project type Focusing on risk criteria in project planning models Regular audits Improving approval, procurement, and project control processes
3	**IT risks** Compromised data integrity or reliability	Prioritising IT projects Aligning the development of business continuity management projects with integrated information security system for target OSS/BSS architecture Implementation of information security measures	High	↑	**IT risks** Compromised data integrity or reliability	Implementing projects for cyber security and information protection of the network and internal services Prioritising improvements to internal IT systems Acknowledging risks related to the criticality of internal and external services provided by the Company when running planning procedures
4	**HR** Key personnel shortages Personnel misconduct	Providing comfortable working environment and development opportunities for employees Using modern talent search and recruitment tools Developing and using retaining tools	High	=	**HR** Key personnel shortages Personnel misconduct	Improving employer brand Using modern talent search and recruitment tools Developing and using retaining tools Introducing new training tools
5	**Technology** Business interruptions due to key infrastructure failures	Improving reliability and developing the network infrastructure	High	=	**Technology** Business interruptions due to key infrastructure failures	Access network upgrade projects to reduce maintenance costs and failures; developing network failure monitoring systems Import substitution programme
6	**Legal** Unfavourable regulatory changes	Monitoring regulatory changes Assessing equipment requirements and drafting a list of initiatives required to comply with applicable laws and regulations Assessing investment requirements of approved initiatives	Low	↑	**Legal** Unfavourable regulatory changes	Monitoring regulatory changes Cooperating with market partners; participating in industry working groups
7	**Suppliers/contractors**	New risk included in the Risk Management Programme	High	↑	Missed deadlines, overpricing, low quality of services and work performed by suppliers or contractors	Improving approval, procurement, and project control processes

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 Raiffeisenbank.

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

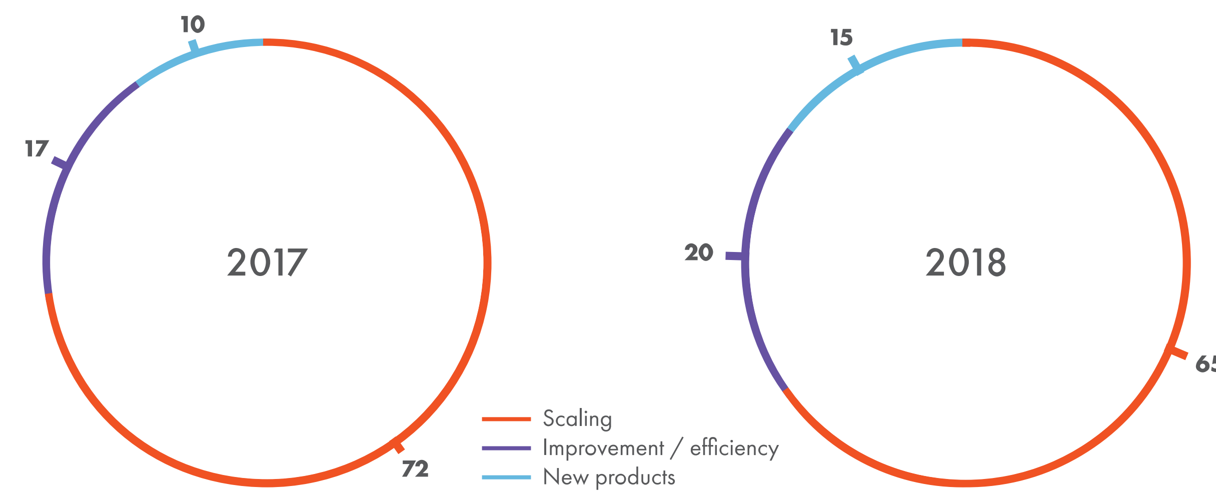
Capital Investment

In December 2018, the Board of Directors approved the Company's budget for 2019,[1] including the Capital Investment Programme.[2]

Capital investment areas	2017	2018	2019F	Major projects
Scaling (Expansion of the existing business), %	72	65	55	Construction of networks for residential and business customers, installations and CPE, last mile and IP/MPLS network projects
Efficiency improvement projects, %	17	20	22	IT development and deployments, IT hardware replacements, transition from copper to fibre, real estate portfolio optimisation
New products, %	10	15	22	Data centres and cloud services, industry-specific services, e-services for state agencies, cyber security solutions
Actual/planned capital investment (CAPEX) excluding government-sponsored programmes, RUB million (according to the cash flow statement)	57,322	55,855	58,993	

Major capital investment projects in 2018
- Expanded IP/MPLS data network
- Completed hardware and software upgrades of IPTV/OTT platform
- Expanded the Transit Europe-Asia high-speed backbone cable system
- Carried video coverage of the 2018 Russian presidential election
- Deployed and upgraded automated CRM systems for B2B and B2C segments
- Upsized network operations centres
- Developed the Smart Transit Shelter project
- Built data centre physical infrastructure at the Kalininskaya NPP
- Launched back-up data centre infrastructure services for the e-government infrastructure
- Carried out a comprehensive upgrade of Moscow's video surveillance system

FIG. 23. CAPEX: FOCUS ON NEW STREAMS AND EFFICIENCY, 2017–2018, %



1. Approved by the Board of Directors on 10 December 2018; dated 10 December 2018, Minutes No. 13.
2. Information on major projects within the Capital Investment Programme for 2018–2019 is available in Appendix 9 Additional Information on PJSC Rostelecom to this Annual Report.

M&A Activities

Rostelecom strives to execute on good acquisition opportunities, buying high-quality assets that help strengthen its market position.

Major transactions in 2018: [1]

- Acquired 75% stakes in LLC Open Mobile Platform and LLC Votron, the copyright holders of Sailfish Mobile OS RUS and Sailfish OS mobile operating systems
- Acquired a 100% stake in LLC Solar Security, a technological leader in the Russian information security market
- Acquired a 100% stake in CJSC Netris and LLC Netris Group, a leading Russian video surveillance software developer serving government customers, businesses and telecoms operators
- Acquired a 99.92% stake in LLC Start2Com, a Russian developer of automated billing systems

Operating Review

Key product and segment highlights

42%
revenue growth in VAS[2] and cloud services

55%
revenue from content and digital services

8%
growth of blended ARPU in retail

1.2 million
MVNO subscribers

1.2 million
customers installed Wink

40%
growth in revenue from Virtual Data Centre/IaaS

A twofold growth in Corporate TV sales

A twofold growth in Federal Wi-Fi sales

A fourfold growth in information security service sales

5,870
data centre racks (up 11% year-on-year)

1. The full list of completed transactions is available in Appendix 9 Acquisition and Disposal of Interests in Other Companies to this Annual Report.
2. Value-added services.

FIG. 24.1 REVENUE BREAKDOWN IN 2017, %

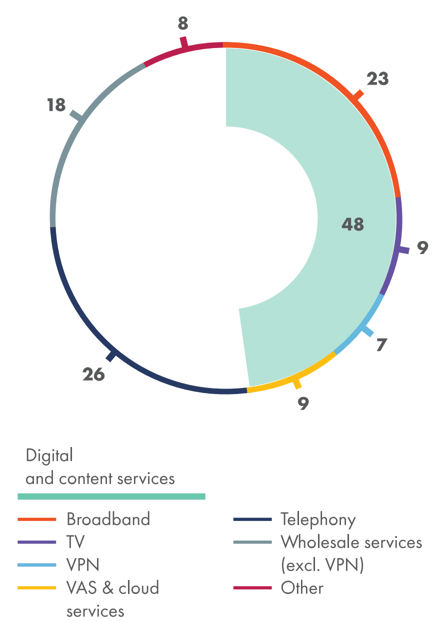
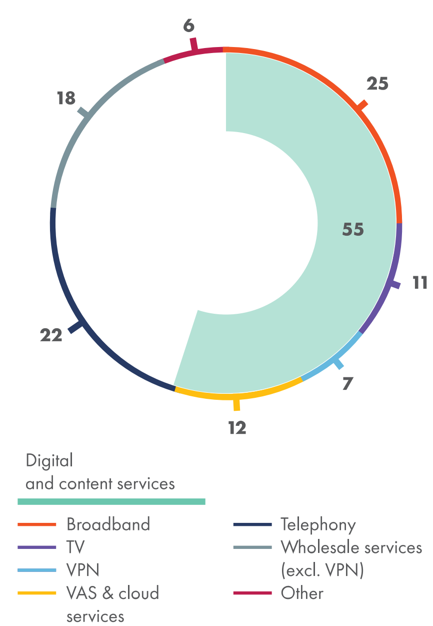


FIG. 24.2 REVENUE BREAKDOWN IN 2018, %



Developing product ecosystems & improving customer experience

Rostelecom's strategic priorities include, above all, developing and offering digital services for families, business, and government customers while continuously improving customer service.

We build convenient, robust ecosystems providing a wide range of services to every customer segment, including households (B2C), corporate (B2B), and government (B2G) customers, and other telecoms operators (B2O).

Rebranding and repositioning

A key highlight of 2018 was the presentation of our new positioning and brand. The Company launched its new development strategy, and presented new digital services and tariff lines driven by market changes and the Company's priorities. Our refreshed brand reflects the ongoing changes within the Company and was relaunched to:

- raise our profile as a an advanced IT company;
- develop a universal visual language, easy to use across digital interfaces;
- communicate the new strategy to employees and market participants.

The Company is increasingly refocusing from technology to consumer needs, putting people and their emotions at the heart of our new brand, which emphasizes Rostelecom's status as an advanced digital company that relates to every customer – from gamers to government organisations. The brand's diverse graphics and colours reflect the wide range of opportunities we are creating for people, businesses, and the country.

All functions and business units of the Company were involved in the rebranding effort, which included launching Rostelecom's new site – www.rt.ru, boosting conversion by 25%. We have also seen growth across other key metrics, including the subscriber base.

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Customer ecosystems

Households

B2C

FIG. 25. CREATING AN ECOSYSTEM FOR HOUSEHOLDS

+22 %
Growth in MVNO subscriber base

MVNO subscribers, million
2018 0.8
2017 0.7

+78 %
Quarter-on-quarter growth in sales of the Smart Home. Video Surveillance service in Q4 2018

+60 %
Subscriber base growth for the Gaming tariff plan

1.2 million
Customers downloaded Wink app on their mobile and SmartTV devices

2.4x
Growth in the Antivirus service revenue

Rostelecom offers a wide range of services and products, building a digital environment around every family. Our digital services in entertainment, education, healthcare, data storage, management, and security bring value to customers and are essential for today's consumers.

Approximately half of Rostelecom's revenue is generated by the retail segment, making it a major driver of the Company's overall performance. In 2018, the household segment grew by 1% to RUB 137 billion.

Anchor services: broadband and Pay TV

The Company continues to attract new customers, growing its subscriber base and ARPU for key anchor services – broadband and Pay TV.

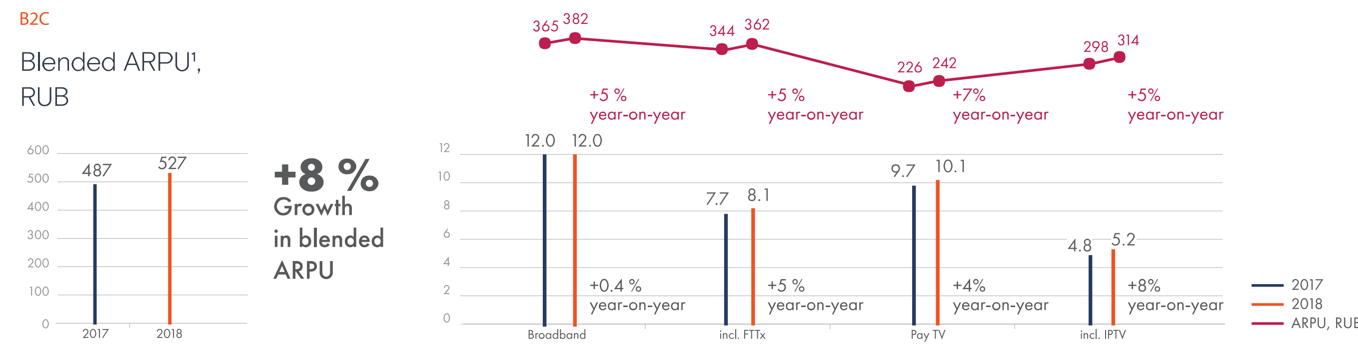
Rostelecom is consistently strengthening its position in the internet access market. Subscriber numbers for our most popular fibre plans are increasing at a rapid pace – up by 5% in 2018. ARPU is also growing, driven among others by our promotions of attractive tariff options (Gaming tariff, Broadband + Antivirus, Parental Control, Turbo Acceleration, etc.).

Customers increasingly take up broadband bundled with Rostelecom's another basic retail service – Interactive TV. This consumer behaviour pattern contributes to boosted sales of bundled offers. Moreover, the Interactive TV product is often a driver that prompts customers to trade up to premium broadband plans, as streaming requires higher connection speeds for the best viewing experience. As a result, our Pay TV subscriber base grew by 4% in 2018 to 10.1 million households. In 2018, the Company passed the milestone of 10 million users in its subscriber base, driven by an 8% increase in the IPTV retail customer base to 5.2 million.

Successful promotion of digital products in our core broadband and Pay TV markets contributes to the achievement of our long-term strategic goal of increasing blended ARPU per household, with the metric growing by 8% in 2018.

Digital service revenue has continued to replace the gradually declining fixed-line revenue. In 2018, Rostelecom implemented a number of tariff initiatives in the fixed-line market to bolster the appeal of voice services.

FIG. 26. FOCUS ON ARPU GROWTH FOR ANCHOR SERVICES



[1] Blended ARPU includes revenue from broadband, IPTV, and digital cable TV.

Advanced digital services for a household ecosystem

Rostelecom develops advanced digital services for millions of Russian families. Today, access to technology alone is no longer a critical factor, what matters is the opportunity it provides to improve quality of life and make it more comfortable. Therefore, the Company is shifting its focus from gross adds to the quality and reach of digital service ecosystems covering all spheres of life.

In 2018, new products, including Smart Home Video Surveillance, demonstrated strong performance. Our Gaming tariff and Antivirus product have continued to gain traction. MVNO continues growing at a good pace, and a fixed-mobile converged service has been launched to complement the traditional mobile telephony.

The launch of Rostelecom's OTT video product family under the Wink brand has bolstered the active promotion of new services:[1] in 2018, over 1.2 million customers installed the app on their mobile devices and Smart TVs.

Smart Home

> The Smart Home service launched in 2017 allows our customers to remotely control home appliances, power consumption and other home services, which makes life much safer and more convenient.

One year after the launch of the Smart Home Video Surveillance service in 2017, its monthly sales increased 13-fold. During 2018, the system's functionality was significantly improved, a 24/7 technical support was launched for the Smart Home service, the range of available cameras was expanded, and new payment options and security services were added.

Rostelecom aims to become a leader in the Russian market for Smart Home solutions by 2020 and plans to continue enhancing the product. In particular, we are planning to integrate video surveillance and Smart Home with IPTV products, and significantly expand our smart ecosystem and the fleet of available customer premises equipment, by aggressively selling our Wi-Fi router with the embedded Smart Home solution. Key focus areas include increasing the profitability of Smart Home services through new tariff plans and options, and bundled offers.

Antivirus

> Rostelecom offers its internet-connected subscribers good deals on highly popular antivirus solutions.

In 2018, revenue from our Antivirus product grew by 142%, with the subscriber base up by 166%.

Rostelecom migrated to a new technology platform in 2018, enabling more stable service delivery, Rostelecom-side tariffing, and an expanded mix of sales channels. The Company is now able to quickly launch new software anc electronic products. Additionally, we have launched tariff plans bundled with an antivirus subscription.

Priority growth areas include direct interaction with platforms operated by antivirus vendors, product launches of existing partners and new vendors, as well as enhancing the sales channels.

MVNO

> The MVNO model complements our product portfolio with mobile telephony, enabling us to offer converged solutions to customers.

In 2018, MVNO revenue in the retail segment grew by over 100%. 2018 highlights:

- The active subscriber base increased by 57%
- The share of active users grew by 13 pp
- Subscriber activity increased by 50% during the second month after the service launch due higher quality sales

1. For more details on the brand see wink.rt.ru.

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To improve the customer service component of mobile telephony and make the product more attractive, the following projects were launched in 2018:

- Online TV promotion: free access to the Light Promo package in the Wink app
- Mobile Programme promotion: mobile telephony as a gift to customers taking up the Home Internet and Interactive TV services
- Welcome promotion: a 20% discount for six months for customers transferring their mobile number to Rostelecom
- A pilot convergent service project within the area covered by the North-West Macroregional Branch, with the service share in broadband sales rising to 30%
- Mobile telephony development plans for 2019 include launching value-added services such as Yandex.Disc, Antivirus, and Find My Kids.

Integrated solution for new-build properties

> In 2018, Rostelecom made progress as a provider of ecosystem products for developers, property management companies, and residents of new build homes.

Towards the end of 2018, we launched sales of our first smart intercom and CCTV systems. Priority areas for further growth include launching national sales of the Smart Home service platform for residents and property management companies, and full rollout of CCTV and smart intercom solutions, as well as other related services.

E-learning services

> Rostelecom is developing e-learning services to make quality education accessible for every Russian citizen.

Rostelecom Lyceum

The Rostelecom Lyceum service has been developed as part of our advanced digital service offering, allowing families across the country to use educational resources via both Rostelecom's services and partner services, while staying at home. In 2018, we launched the Rostelecom Lyceum educational marketplace[1] and a subscription model based on partner products.

Rostelecom Lectorium

Under the Rostelecom Lectorium project, we launched a Learning section based on the Wink multimedia platform. We signed agreements with Netology online education centre and Babystep online resource to place educational content on the Wink platform.

Corporate and government customers

B2B/G

Rostelecom builds digital ecosystems for business and government customers. The Company offers a wide range of digital solutions for various industries and is a reliable contractor in government-sponsored initiatives at the regional and federal levels.

In 2018, our revenue from the corporate and government segments grew by 11% to RUB 122 billion, driven largely by the implementation of the Smart City and video surveillance projects, and the promotion of data centres and cloud solutions, as well as other digital services which became popular both among a wide range of major corporate and government customers, and SMEs.

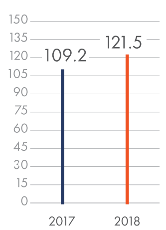
In 2018, we continued to focus on rolling out and enhancing services for corporate customers both in the traditional mobile and broadband segments, and in cloud and platform solutions, as well as video surveillance, analytics, and other advanced digital solutions.

FIG. 27. STRONG B2B/G PERFORMANCE DRIVEN BY THE DEVELOPMENT OF KEY SERVICES

B2B / G

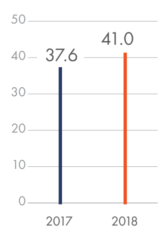
+11 % Growth in revenue in the B2B/G segment

Revenue B2B/G, RUB bn



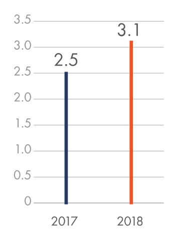
+9 % Growth in revenue from broadband and VPN

Broadband and VPN, RUB bn



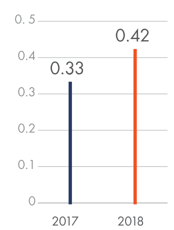
+24 % Growth in revenue from Data Centre services

Data centres[1], RUB bn



+27 % Growth in the fibre broadband subscriber base

Fibre broadband subscribers, million



The growth figures show 2018/2017 change unless otherwise indicated.
[1] Excluding virtual data centers.

1. For more details on the marketplace see https://lc.rt.ru/ (in Russian).

Rostelecom also worked on strategic projects within the Digital Economy programme, including internet access for healthcare centres, and access points in small communities within the BDD project. A key highlight of 2018 was video surveillance of the Russian presidential election, with thousands of Rostelecom specialists working in mobile teams to ensure the smooth operation of all systems. The success of this project has once again emphasised Rostelecom's strong expertise and raised its profile as a reliable partner.

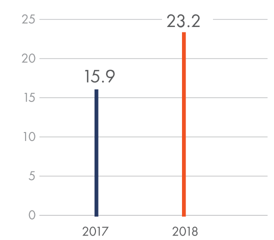
We also continued to foster cooperation with government agencies, implementing multiple local initiatives in Russian regions.

As part of our ecosystem-based approach, we seek to provide a single access point for digital services and products helping business and government customers with any task. Rostelecom made significant progress in information security, and promotion of Corporate TV, Federal Wi-Fi, virtual PBX, and cloud-based IaaS solutions.

FIG. 28. DIGITAL ECONOMY PROJECTS DRIVING THE REVENUE

+46 % Growth in revenue year-on-year from Smart City projects in 2018

Revenue, RUB bn



8,200 Communities passed with fibre under the BDD project (59,000 km of fibre)

8,900 Healthcare centre connected to fibre (37,900 km of fibre)

86 million Public services (e-government) portal users (2x growth year-on-year)

Video surveillance services for Russia's presidential election

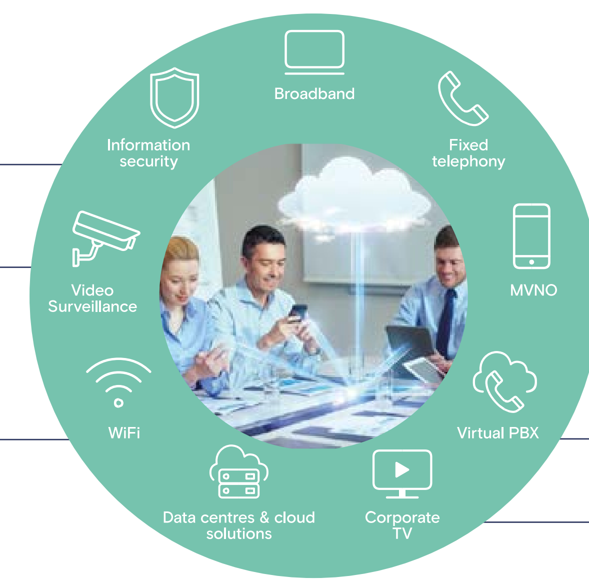
Construction of the submarine fibre-optic cable link (SFOCL) to the Kuril Islands completed

FIG. 29. ONE-STOP SHOP SOLUTIONS FOR BUSINESS

4x Growth in revenue from information security services (including consolidation of Solar Security)

+39 % Growth in revenue from Cloud-based Video Surveillance services (25,000 cameras at 10,000 companies)

2x Increase in Wi-Fi revenue (27,500 thousand hotspots)



2.2x Growth in MVNO subscriber base

MVNO subscribers, million
2018 0.4
2017 0.2

+72 % Growth in revenue from Virtual PBX (used by over 60 thousand companies)

2x Growth in revenue from Corporate TV

Internet access services

High-speed broadband is our key anchor product for corporate customers, as we develop broadband as an essential basic product to support business needs.

Rostelecom has further strengthened its leadership in the corporate segment: the number of subscribers using our internet access services grew by 6% to 1 million connections, with the number of subscribers connected to fibre rising by 27% to 416 thousand.

Corporate TV

Rostelecom is focused on the corporate TV segment, including interactive TV for corporate entities and Hotel TV. In 2018, we launched a new product – the Rostelecom.Screens platform, enabling remote visual content marketing via video walls which can be integrated into a single network and used to promote services.

Revenue from the service grew by 117% to RUB 320.5 million. In 2018, one of the key projects in interactive television for corporate entities was selling commercial TV panels bundled with the service. Revenue from sales of equipment exceeded RUB 50 million in 2018. Over 80 hotels were connected in the hotel TV segment.

Our new product, Rostelecom.Screens, has already gained traction with customers, with a number of key projects launched in 2018. Going forward, we plan to ramp up the take-up rates for the product.

Wi-Fi for business

Businesses taking up our Wi-Fi for Business service can better serve their customers through offering free Wi-Fi. Rostelecom has the required technical capabilities to quickly set up the service and scale it up to match the needs of the customer.

Our Wi-Fi service is highly popular among a wide range of corporate customers, with the number of hotspots offered via the Federal Wi-Fi service reaching 27,500 in 2018, doubling our revenue from the service.

Another major project was the Company's support for the 2018 FIFA World Cup. Rostelecom provided Wi-Fi access service for eight stadiums and five fan parks. We also provided a FAN ID-based user authorisation service for the World Cup guests, making the authorisation procedure much simpler for foreign visitors.

In 2018, we also launched a Wi-Fi authorisation service in a third party channel (Wi-Fi OTT).

Plans for 2019 include a number of major projects, including Wi-Fi access on the Tele2 Russia's retail network, at the venues of the 29th Winter Universiade in Krasnoyarsk in 2019, and at branches of Pochta Bank and VTB. We are also planning to launch new services for the Managed Wi-Fi and Wi-Fi Radar products.

Plans also include launching the updated platform 2.0 – an integrated approach comprising the range of existing solutions within a single federal platform. Plans for 2020 include migrating all existing solutions to the platform 2.0.

Virtual PBX

One of our priorities during 2018 was a nationwide customer migration from fixed-line to IP telephony. We are a leader in the geographical coverage of the Virtual PBX service.

In 2018, we made considerable progress in developing and promoting Virtual PBX in the B2B segment. The Company's revenue from the service grew by over 70% year-on-year in 2018, while the customer base tripled.

During 2018, we launched the service in 80 new cities, now offering Virtual PBX in 360 cities across the country.

Technical support optimisation and a more than tenfold reduction in response times were among the major highlights of 2018. We also developed a monitoring system which includes continuous interrogation of macroregional branches and Virtual PBX testing to ensure smooth operation of all platform components and the overall seamless delivery of the service.

We also launched the FMC service[1] within the Virtual PBX, enabling seamless integration of office and mobile voice services into a single communication space to make short code dialling available for both incoming and outgoing calls of any employee.

The key initiatives implemented in 2018 include integrating the Virtual PBX and CRM solutions – we developed a universal open API to integrate the Virtual PBX with customers' CRM systems.

In 2018, the Power Dialler service was added to the Virtual PBX, providing a major advantage of generating call statistics with final call outcomes. The new service is relevant to virtually any business.

Plans for 2019 and 2020 include the rollout of new, sophisticated innovative features such as speech analysis and call tracking, and further service automation.

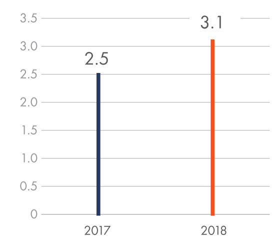
Data centres

We have continued expanding our robust network of data centres supporting the delivery of a full range of services to design, maintain and deploy IT systems, and provide software/hardware and access to networks and internet exchange points.

1. Fixed Mobile Convergence is a technological solution at the junction of different type networks – fixed-line and mobile, enabling the use of same short codes for fixed-line and mobile phones within a single network.

FIG. 30. MARKET LEADER IN DATA CENTRES AND CLOUD SOLUTIONS

Data Centre revenue, RUB bn



+24 % Growth in revenue from Data Centre services[1]

+11 % Growth in data centre racks (to 5,900)

40 % Growth in revenue from the Virtual Data Centre/IaaS service

+33 % Growth in revenue from CDN

The growth figures show 2018/2017 change unless otherwise indicated.
[1] Excluding virtual data centers.

Under the Digital Economy of the Russian Federation programme, Rostelecom implemented a number of activities to support the expansion of data centres:
- We developed a range of measures to develop the data centre and cloud industries, including building a Virtual Economic Zone
- We designed a data centre classification model to support further development of a national classification standard and certification framework for data centres
- We conducted a study of data storage and processing infrastructure in the Russian Federation, the results of which will be used as inputs in developing an interactive Blueprint for Developing Telecommunications Networks and Data Storage and Processing Infrastructure in the Russian Federation for 2019–2024

The total capacity of Rostelecom's data centre network reached 5,870 racks in 2018, consolidating our leadership in the market for commercial data centre services. In 2018, Rostelecom commissioned two data centre modules in Udomlya and a new hall in Data Centre M9. Our market share was approximately 15% as at the year-end 2018.[1]

We have continued to actively grow our business segment of regional data centres, commencing the design and construction of data centres in Saint Petersburg, Novosibirsk, and Yekaterinburg in 2018, scheduled for commissioning in 2019–2020. Rostelecom commenced FEED on its data centre projects in Nizhny Novgorod and Rostov-on-Don and is selecting a site for a project in the Far Eastern Federal District.

MSK-IX (part of Rostelecom Group) operates the largest internet exchange network in Russia and CIS countries, with over 500 members connected to MSK-IX's network, including operators based in Russia, CIS states, and Baltic countries, content providers, research and educational networks, financial institutions, and government organisations.

A medialogistics platform, built by MSK-IX in 2018, has significantly simplified access to TV channels for authorised operators. MSK-IX has successfully protected the Russian segment of the internet against cyber attacks during the Russian presidential election.

Cloud services

Rostelecom's cloud services help our customers build a virtual working environment without additional investment in hardware.

The core product in our cloud service offering is the Virtual Data Centre service, with its revenue increasing by 40% in 2018.

Rostelecom also implemented a number of key projects based on cloud technology in 2018.
- Based on VDI modules[2] of TIONIX Cloud Platform, we launched a project for the Federal Tax Service of Russia with 16 thousand users. As part of the project, we built an IT infrastructure for over 40 thousand online cameras with video data storage capacity of 4.8 PB.
- We built a dedicated architecture independent platform for the Service Quality Management service, a solution to monitor the quality of internet access services.
- We designed and deployed infrastructure for Rostelecom's Unified Biometric System.
- Rostelecom successfully developed a digital transformation concept and ran pilot digital projects for the Prosecutor General's Office of the Russian Federation.
- We built a dedicated infrastructure to host the Direct Line with the President information system.
- We launched a virtual infrastructure for the E-Government subsystem collecting feedback on the performance of the E-Government information systems. We also installed a backup capacity for the E-Government services and migrated the existing infrastructure to the oVirt virtualisation management system.[3]
- We built a backup data centre to support the Unified State Register of Immovable Property and provide IaaS services[4] for the Federal Service for State Registration, Cadastre, and Cartography (Rosreestr).

1. Rostelecom and iKS-Consulting estimate the total size of the Russian data centre market in 2018 at 39,900 racks.
2. VDI – Virtual Desktop Infrastructure.
3. oVirt is a free cross-platform virtualisation solution.
4. Infrastructure as a service (IaaS) is a cloud computing service model delivering essential IT resources to subscribers.

- With support from the Technical Centre of Internet (part of the Rostelecom – Data Processing Centres centre of excellence), we started servicing .RU, .РФ, and .SU domains. We also started to provide Content Delivery Network (CDN) services based on solutions by NGENIX.
- In 2018, Rostelecom rolled out CDN NGENIX solutions for the Group's retail OTT business.
- 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 video broadcasting from the polls. We also leveraged CDN technologies to ensure quality internet broadcasting of the FIFA World Cup events.

Cyber security

Rostelecom is an undisputed leader in the market for information security services. We have the technological potential and management talent pipeline to retain leadership in our new markets and grow revenue.

In 2018, Rostelecom's proprietary information security solutions and services were used across all industries of the Russian economy:

- In the public sector, we were involved in ensuring cyber security for federal digital transformation projects of ministries and agencies, and in protecting the digital infrastructure of a number of regional executive authorities
- In the fuel and energy sector, we implemented projects on protection from internal threats, and cyber attack monitoring and response
- At financial institutions, we implement projects on protection against cybercrimes and attempts to steal money from enterprise information systems
- In the military and defence industries
- In heavy industry, retail. and agricultural sector

Rostelecom also maintains leadership in the market for DDoS protection services. Rostelecom-Solar, our DDoS protection solution, deflects denial-of-service attacks against networks, applications, and web services. We use continuous monitoring to detect spurious traffic and re-route it to special fault-tolerant cleaning systems.

In 2018, Rostelecom detected and successfully deflected a 450 Gbps DDoS attack that lasted over 15 hours.

Launch of Rostelecom-Solar

A major highlight of 2018 was the establishment of Rostelecom-Solar, a nationwide provider of service and technology solutions for information asset protection, target monitoring, and information security management. The company was set up based on Solar Security, a technological leader in the Russian information security market acquired in May 2018. The deal has allowed Rostelecom to grow its foothold in the market by leveraging popular, well established products and services.

The company employs over 350 cyber security experts and combines classical information security services with around-the-clock proactive cyber threat monitoring and response. The successful protection of the 2018 FIFA World Cup events against cyber attacks was the most illustrative example of our 2018 projects in the B2B segment. The nationwide operator is focused on three main areas.

Services	A range of information security services from Russia's first and leading commercial Security Operations Centre Solar JSOC, including incident monitoring and response, protection of external internet services, and other services
Proprietary solutions	Development of new cyber security technologies and products, and enhancing and promoting existing Rostelecom-Solar solutions
Integrated cyber security solutions	Integrated projects such as deploying Security Operations Centres (SOC), corporate and departmental centres of the State System for Detecting, Preventing, and Mitigating Computer Attacks (GosSOPKA), ensuring security of critical information infrastructure, and building and operating integrated turnkey data protection systems

The key challenge for the company going forward is strengthening its leadership in the cyber security market.

Unified Cyber Security Platform

In 2018, Rostelecom launched its Unified Cyber Security Platform, which delivers network and cyber security services directly through Rostelecom's communications channels. The platform is based on the innovative software-defined networking (SD-WAN) technology and is unique in Russia.

The unified platform of cyber security services is targeted at the mass B2B segment and uses virtualisation to ensure full manageability, rapid scalability, and support of geographically distributed networks.

The basic service package includes protection from network attacks (Unified Threat Management), e-mail protection (Secure Email Gateway), and web application security (Web Application Firewall). By the end of 2019, the number of services will be more than doubled.

Protection of critical information infrastructure of the Russian Federation

In 2018, Rostelecom implemented its first projects to protect the critical information infrastructure of the Russian Federation in the public and energy sectors, and completed a number of major projects to provide information security services for government authorities.

Unified Biometric System

In June 2018, Rostelecom launched its Unified Biometric System. The new digital platform enables delivery of new commercial and public digital services to citizens. The system was designed at the request of the Central Bank of the Russian Federation and the Ministry of Digital Development, Communications, and Mass Media of the Russian Federation. Rostelecom is the developer and operator of the system.

The Digital Economy of the Russian Federation national programme was the key driver behind the development of the system. The programme aims to make digital services more accessible for people in remote areas and mobility impaired people. The programme's objectives can only be achieved if the highest standards of information security are ensured.

The Unified Biometric System enables banks to open an account or extend a loan to a customer without physical presence and only needs the user's public service portal login and password. The solution thus allows banks to fully digitise this customer journey while providing consumers with the opportunity to sign documents remotely.

FIG. 31. UNIFIED BIOMETRIC SYSTEM

PROGRAMME'S PARTNERS
150
banks

COVERAGE
4,000
branches

FOOTPRINT
450
cities

EARLY ADOPTERS
Sberbank, VTB, Gazprombank, ALFA-BANK, Raiffeisenbank, Otkritie, Tinkoff Bank, Sovcombank, and others

APPLICATIONS
Financial sector, healthcare, education, retail and e-commerce, public and municipal services

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Digital Profile

Rostelecom is developing the Digital Profile project jointly with the Russian Ministry of Digital Development, Communications and Mass Media, and the Bank of Russia. The project is focused on ensuring secure mobile storage of information contained in documents issued by government authorities (SNILS (individual insurance account number) certificate, passport, driving licence, marriage certificate, degree certificate, or record of employment). Digital documents will be as valid as paper documents and viewed as an equivalent to a personal visit when submitted online.

In 2019, a pilot project will be launched with member banks of the FinTech Association, moving the loan application process online. The Digital Profile service will enable customers to log in to the bank's mobile app and provide the bank with access to required documents. The bank will automatically fill in the profile and issue a loan online. These improvements will reduce the costs of collecting and checking documents and thus speed up the service delivery, making it more attractive.

Digital Profile will also provide control over customer data sharing. The mobile application, scheduled for development in 2019, will provide visibility into who and when has been authorised to access personal data and allow cancelling the access in one click once the service has been provided.

In future, Digital Profile can be rolled out to other economic sectors to digitize and simplify processes as well as to improve the customer experience.

Geodata

Geoinformation resources support practical tasks related to spatial data use cases in the economy, construction industry, environmental protection, area planning and public services.

In 2018, Rostelecom continued to build up its capabilities in geodata and spatial data.

In January 2018, the Arkhangelsk Region launched Zemlya, an integrated GIS (Geodata Information System), designed by Rostelecom under a Public Contract with the Government of the Arkhangelsk Region. The system was developed to provide geoanalytical support to the authorities of the Arkhangelsk Region, including for integrating legacy IT systems into a single information space.

Rostelecom continued to improve its RusGIS platform during the year – a new version of the platform was created, featuring an improved interface and data loading tools. We also upgraded the data storage structure, integrated a dynamic control mechanism, and designed a style editor. As a result, data loading time was reduced tenfold.

The Centre Macroregional Branch launched a RusGIS platform-based network planning service, enabling a real-time analysis of spatial information for improved SME connectivity.

In 2018, we signed an agreement on strategic partnership between RusGIS and Rusagro, and developed a product concept for collecting and updating data locally through a partnership with the Russian Post and with support from Sberbank of Russia. As part of our efforts to further enhance RusGIS, we also signed a two-year contract to develop the Leningrad Region Spatial Data Fund and integrated RusGIS with System 112 in the Saratov, Kemerovo, and Murmansk Regions.

Video surveillance

We have been actively developing cloud-based video surveillance and analytics. The service enables subscribers to build a capex-free intelligent video surveillance system to ensure security and improve their business performance.

In 2018, we invested in enhancing our cloud-based video surveillance platform and expanded its functionality.

During the year, Rostelecom also launched cloud-based video analytics based on our proprietary modules and partner solutions for corporate customers. The service enables processing records from surveillance cameras, presenting the results as charts, reports, and diagrams which can then be used for addressing business tasks across a number of industries – forecasting sales, assessing the performance of advertising and marketing campaigns based on customer behaviour, monitoring employee behaviour at work, and task tracking in transport and logistics.

In 2018, Rostelecom became a leader in the B2B cloud-based video surveillance segment with 25 thousand connected IP cameras across more than 10 thousand organisations in all Russian regions.

We are planning to move to industry solutions supporting integration with ACS systems, smart gate bars, cash registers, and HR record keeping systems.

TABLE 8. MAJOR PROJECTS IN 2018

AN AMBITIOUS PILOT PROJECT WITH THE RUSSIAN POST	VIDEO SURVEILLANCE FOR THE UNIFIED STATE EXAM (USE)	VIDEO SURVEILLANCE AT THE RUSSIAN PRESIDENTIAL ELECTION
to connect 1,200 cameras in over 400 branches across Russia	involving over 117 thousand cameras. The footage totalled 2.6 million hours, 89,500 text messages were sent out, and the number of portal visitors exceeded 21,900	in March 2018, involving 92 thousand cameras. The total number of visitors to the election website nashvybor2018.ru exceeded 1.6 million. Over 500 TB of video were saved at data centres during the voting day

In 2018, we ran a major upgrade of our cloud-based Video Surveillance platform. In addition to the popular "Byt v plyuse" ("Plus Account") bundle, subscribers now have access to new tariffs, a new recording option, and an extended list of supported devices and channels. This has been made possible through Rostelecom's expertise and know-how in implementing online and offline video streaming projects of any complexity, which is unique for Russia.

In 2019–2020, we are planning to design a proprietary video player and promote our video analytics services. We will also continue to develop our web portal branding service and a mobile application on a white label basis as well as building an open-source API for integrating the video surveillance platform with customer external systems.

Smart City

Rostelecom has continued to focus on the Smart City project covering integrated solutions in energy efficiency, transport, security, and environmental protection.

Energy efficiency of grids

We are involved in an ambitious energy efficiency project, including by installing individual electricity meters with remote control and data collection optionality provided through GSM channels of Tele2 Russia or Rostelecom (MVNO).

Rostelecom has expanded the coverage of its energy efficiency projects, rolling them out to the Chelyabinsk Region, Perm Territory, and the Republic of Tatarstan in 2018. During the year, we installed over 100 thousand meters integrated into an intelligent automated metering system. The more important outcomes of our energy efficiency programme include lower commercial losses of electricity and improved payments by customers.

Street Lighting

Our new, smart street lighting system is an element of the Smart City project which enables setting and flexibly adjusting the lighting mode depending on the time of day or climatic conditions as well as providing for automatic metering of energy supplies, monitoring equipment loads and condition online, and remotely monitoring metering data.

In 2018, we designed projects to deliver additional energy savings at facilities that simultaneously employ different generation lighting systems. A project involving these solutions was first launched in Kirov, with similar projects started or implemented across 20 Russian regions by the end of 2018.

In 2019, we will complete the upgrade of our Street Lighting product, with plans to add new services, including infrastructure inventory, integration with a computer-aided design system, lighting level simulation, monitoring of energy service projects, and online energy consumption monitoring.

Safe City

The Safe City hardware/software solution was created to promote public safety and security pursuant to the Russian President's Instruction dated 29 June 2007 and the Russian Government's Decree dated 20 October 2010 (State Programme: Information Society, 2011–2020).

In 2018, Safe City solutions were rolled out in six regions, with 11 more solution deployment contracts signed by the Company.

Rostelecom's System 112 projects have made the most progress during the year. We have created new solutions as well as upgraded and provided maintenance for the existing systems, with similar projects implemented in almost all Russian regions.

In 2018, our priorities also included projects on emergency warning systems. In particular, we continued to roll out and upgrade our Automated Centralised Public Address System (ACPAS) across regions. The KSEON emergency warning system[1] was also introduced in four regions.

Photo and video enforcement

PJSC Rostelecom is a leader in deploying information and telecommunication technology to enforce traffic safety rules. By leveraging its unique infrastructure of telecommunications and computing capacities, Rostelecom ensures secure data transfer within these projects.

As at the end of 2018, Rostelecom installed 1,932 traffic enforcement cameras (both photo and video) across 30 Russian regions.

We are planning to participate in designing the activities of the federal programme, Road Safety Improvement in 2013–2020.

Weight and dimension compliance

Rostelecom is implementing regional weight and dimension compliance projects. The system comprises automatic weigh stations, traffic enforcement cameras, an information system for issuing special permits, a monitoring centre, and a data processing and storage centre.

In 2018, Rostelecom implemented several weight and dimension compliance projects at regional motor roads. Rostelecom's investment programmes also focus on WIM systems implemented as automatic weigh stations. They are equipped with enforcement cameras and enable real-time measurement, storage, and transmission of data about a vehicle's type, speed, total weight, weight per axis, number of axes, and wheelbase as a vehicle passes a measurement spot without slowing down the vehicle. During the year, the project was implemented in 13 regions, with a total 47 automatic weigh stations installed.

Rostelecom is currently working on an integrated project that includes the adoption of an automated special permit system and integration between the regional and federal special permit systems.

Education

Rostelecom's platform integrating library and information centre resources is an integrated and automated IT solution designed to build a regional educational ecosystem. The system features a wide range of features enabling e-learning opportunities.

Rostelecom has developed software solutions to automate educational processes, including a network of school library and information centres, an e-learning authoring tools, and a distance learning system.

A particular focus is made on general education programmes. The library catalogue includes over 2,000 fiction books, over 1,000 digital textbooks, and more than 300 e-learning materials.

As at the end of 2018, the solutions were rolled our across 11 Russian regions. A total of 3,500 schools and over 1,000,000 students and teachers have access to the educational content hosted by Rostelecom. In 2018, over 2,000 independent observers were trained through the platform's services to monitor the Unified State Exam 2018. About 1,000 lessons were designed for the Russian E-School using e-learning authoring tools.

In 2019 and 2020, Rostelecom is planning to maintain its focus on the platform development while expanding its geographic footprint, adding upskilling courses for educators into its educational content portfolio, and augmenting the scope of content for secondary vocational education institutions.

MVNO

MVNO model enables integrated sales of B2B and B2G services.

With a 56% market share, Rostelecom is the leader in the B2B segment among MVNO operators by revenue.[2]

373 thousand active SIM cards were sold in 2018.

By the end of 2018, our base of active SIM cards reached 390 thousand.

In 2018, the active subscriber base grew by 124% to 390 thousand subscribers, driven largely by strong sales across a number of key segments and a stronger focus on customer service level. The construction of base stations for Rostelecom's customers was another growth driver for the segment.

1. KSEON is an element of an emergency public address system, comprising a suite of software and hardware solutions used in public address systems and in natural and manmade hazard monitoring systems, and designed to inform and alert authorities responsible for the Single State Emergency Management System and the general public about emergencies in an automatic and/or automated mode.
2. Source: TMT Consulting.

Network infrastructure management

In 2018, Rostelecom rebranded the product previously known as Managed Communications Services to make it simpler and more intuitive for both external and internal customers.

During the year, we significantly expanded the range of supported and leasable equipment and enabled the construction of networks relying exclusively on Russia-made solutions.

For customers handling personal or sensitive data, we offer the service based on equipment certified in line with statutory requirements.

Rostelecom also offers analysis of equipment power supply status, enabling fast and reliable identification of over 70% of all incidents caused by unavailability of communication channels. We can now manage and support not only baseband equipment, but also customers' local networks up to user workstation level. The upgrade and rebranding considerably increased our revenue from the product in 2018, up 71% year-on-year.

Industrial Internet of Things (IIoT)[1]

Rostelecom promotes the IIoT at the institutional level through forming roadmaps, and participating in international industry associations, as well as in practice through pilot projects implemented across various industries.The priorities for the Industrial Internet project management office include providing IIoT services in the power sector, launching product initiatives through partnerships, engaging with regulators, and participating in IIoT industry associations and consortiums.

Rostelecom's pilots in the power sector, oil production, and public utilities are implemented through partnership with the Industrial Internet Consortium (IIC). We are developing a cloud data storage and transmission solution as part of rolling out Rosseti Group's unified smart metering and information system.

Services for operators

B2O

Rostelecom's growth as an Operator for Operators serving mobile and fixed-line operators, as well as improving the telecommunications infrastructure and growing our footprint and market share in international routes, is part of our strategic vision. Rostelecom is planning to extensively leverage the segment's potential to enter new niches and work in existing markets.

In 2018, our revenue from the B2O segment was up 2% to RUB 56 billion.

Rostelecom's revenue from the Operator for Operators project launched in 2017 tripled during the year to RUB 1.1 billion. We are planning to ramp up the revenue to RUB 2.2 billion in 2019.

FIG. 32. DEVELOPING AN INFRASTRUCTURE OPERATOR

3x	90 % / 80 %	20.3 Tbps	+1 Tbps
growth of revenue from the O2O project (RUB 1.1 bn in 2018)	of Tele2 Russia DLD/ILD traffic secured by Rostelecom	IP/MPLS network capacity (up 31% year-on-year)	capacity expansion of the Transit Europe–Asia (TEA) backbone network between the EU and China and Japan

1. The Industrial Internet of Things (IIoT) is a concept of building an ICT infrastructure to connect any commercial devices, equipment, sensors, and integrate these elements between each other enabling the emergence of new business models to create and deliver products or services to consumers.

NaaS project

As part of the Naas project launched in 2018, Rostelecom offers mobile operators infrastructure and technical solutions for mobile coverage of smaller communities and adjacent highways.

Rostelecom is connecting villages to its own fibre networks, including those built under the Bridging the Digital Divide (BDD) federal project. Contracts with MTS, MegaFon, and Tele2 Russia were signed for nine communities in 2018, with 60 more communities planned for connection during 2019.

Expanding transit backbone infrastructure

Rostelecom sees the expansion of backbone networks as a priority since they enable us to access international markets and grow our footprint.

In 2018, we connected and commercially launched three 100 Gbps lines within the Transit Europe–Asia (TEA) cable system linking Europe to China via Mongolia. Rostelecom also completed a project to expand the TEA's capacity by an additional 1 Tbps on sections between: Mongolia and China, the Russian boundary and China, and Russia and Japan via RJCN.[1] Contracts have been signed for two new 100 Gbps lines out of the ten newly built lines. The remaining capacity is planned to be contracted in 2019–2020.

Cooperation with Tele2 Russia

Rostelecom and Tele2 Russia have teamed up for a number of projects to derive synergies from joint delivery of services, joint procurement, shared network infrastructure, and a number of other areas.

In 2018, cooperation between Rostelecom and Tele2 Russia reached a new level: 90% of domestic long-distance (DLD) traffic and up to 80% of international long-distance (ILD) traffic was migrated to Rostelecom's network. A considerable amount of international and domestic long-distance voice traffic of MVNO operators using Tele2 Russia's infrastructure to operate their licences is also routed via Rostelecom's network using the lines and equipment at our sites.

Rostelecom revamped its regional telecommunications networks, which enabled migrating 155 lines to our network from other operators' networks, generating RUB 38.5 million in savings.

The IP transit service was launched for Tele2 Russia in Novosibirsk, Yekaterinburg, and Nizhny Novgorod, with the revenue from the service totalling RUB 43 million in 2018. Our plans for 1H 2019 include providing internet access services in Moscow and Saint Petersburg where Rostelecom is working on exclusive technical solutions for Tele2 Russia.

Customer service excellence

Rostelecom seeks to best meet the requirements and needs of its customers, which puts focus on customer excellence high on our agenda.

We have been consistently delivering customer service improvements across all customer segments.

In 2018, Rostelecom achieved significant progress in improving its customer service.

- The Online Customer Account (OCA) penetration increased by 71% while the number of automatic payments made by customers through OCA grew by 50% in 2018.
- Our partner network within our Bonus loyalty programme doubled during the year, and Rostelecom's points can now be earned and used with more than 50 partners, including Ozon, M.video, Wildberries, Litres, and Netprint.
- In 2018, Rostelecom won a Loyalty Award Russia with The Secret of the Enchanted Tower game created for our customer loyalty programme.
- Rostelecom set up a network of self-service terminals installed across more than 300 Pension Centres. In 2018, over 40% of Rostelecom – Retail Systems' payment traffic was migrated to the terminals, with the share of non-cash payments reaching 46% by the year-end.
- During the year, we offered our customers new payment services through ApplePay and MasterPass. In 2019, we are planning to launch GooglePay and SamsungPay payment options.
- Rostelecom extensively focused on m-commerce service in 2018, in particular by extending the mobile payment service to 20 more merchants, including Moscow Parking, Odnoklassniki, and VKontakte. In 2019, we are planning to continue expanding our partner network and launch payments from a fixed-line account.
- Scoring models were developed and launched to predict customer churn, with the percentage of churn-prone customers increased on average by 56% through improved model accuracy.
- Up to 4,000 customers use the Moving Online service every month to benefit from a seamless relocation experience within the area covered by the same Macroregional Branch. The service is planned to be further scaled up in 2019.

Online chat

Rostelecom continues to design tools for improving customer experience and measuring customer satisfaction. In 2018, we offered our customers an online chat service available in the customer account and in the mobile apps of the Smart Home and Online services, customer account of the Interactive TV service, on the web portal and in the customer account of Rostelecom Lyceum, as well as in the Sale Offices section at RT.RU.

When rating our customer service in chats, 85% of customers score our service as very good or excellent – 4 or 5 on a one-to-five scale.

The number of inquiries via the chat doubled year-on-year.

1. The Russia–Japan Cable System is a 1,800 km network of submarine cables between Russia and Japan.

Customer satisfaction surveys

Since 2017, Rostelecom has been measuring NPS (Net Promoter Score) against eleven metrics. Compared to 2017, our NPS showed growth in nine out of the eleven metrics.

In addition to NPS scores for basic products such as data and TV, we extended the survey to recently launched products, including: Smart Home, Video Surveillance, Antivirus, and Wink. This list will further be extended in 2019.

In 2018, Rostelecom adopted Heat Maps for online customer service metric monitoring and an SQM (Service Quality Management) system to measure customer service in real time. Our customers now have access to our services via social media and UGC[1] platforms across all macroregional branches. We have also ensured seamless inquiry routing between macroregional branches.

Technology platform upgrade

We see continuous upgrade and improvement of our IT systems and infrastructure as a strategic growth area. The technology platform upgrade implies an extensive expansion of the fibre network and renewal of the copper network as well as centralising the IT landscape to significantly reduce maintenance costs and improve the overall network manageability.

Network infrastructure expansion

Rostelecom provides transmission services for any data format via cable, radio relay, or satellite links. Our digital network is based on dense wavelength division multiplexing (DWDM) technology and covers virtually all of Russia.

In 2018, we designed, built and launched additional networks to expand our network infrastructure capabilities. We leveraged them to implement a number of large-scale projects

- organised video surveillance at the Russian presidential election
- constructed the Sakhalin–Kuril Islands submarine fibre-optic cable link (SFOCL)
- connected a number of healthcare centres to fibre
- prepared the information infrastructure for the 29th Winter Universiade in Krasnoyarsk in 2019
- commissioned a TelcoCloud (SDN and IT security services) and vIMS[2](telephony) platforms.

Network infrastructure

Rostelecom's network infrastructure includes the following elements.

BACKBONE NETWORK

Moscow–Novorossiysk, Moscow–Saint Petersburg, and Moscow–Khabarovsk fibre lines are designed to accommodate 80 optic lines with a capacity of up to 100 Gbps each. The capacity of our backbone network increased to 20.3 Tbps.

REGIONAL BACKHAUL NETWORK

Fibre lines connecting large population centres and linked to the backbone network. Our customers can lease Nx64 Kbps lines using flexible access multiplexers.

INTERNATIONAL NETWORKS

Our international fibre lines provide connections to Azerbaijan, Belarus, Georgia, Kazakhstan, China, Latvia, Lithuania, Mongolia, Poland, Ukraine, Finland, Sweden, Estonia, and Japan.

ACCESS NETWORKS (FTTB, PON)

Rostelecom develops its access networks based on advanced GPON (gigabit-capable passive optical network) and FTTB (fibre-to-the-building) technologies that can carry the signal to a specific building and farther to a customer's apartment or office.

INTERNATIONAL POINTS OF PRESENCE

Our international points of presence (POPs) are located in Stockholm, Frankfurt, Tokyo, and Hong Kong. A high-speed transit route is maintained to provide connectivity between Europe and Asia through Russia.

1. User Generated Content – any meaningful content created and posted by users in various media.
2. Vital Information Management System.

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The high quality and reliability of our services are secured through:

- redundancy of communications equipment and lines
- route separation
- setting up cross-border passages and gateways for several independent foreign operators in each relevant international market to minimise traffic loss risks and consequences of outages.

In 2018, our unified backhaul resource management system was scaled up to macroregional branches to plan, build, and manage backbone and regional backhaul networks.

SDN/NFV solutions[1]

> SDN/NFV solutions enable better network control and reduce operation costs.

In 2018, we started to offer services based on the TelcoCloud platform as part of our NFV project. As a result, we were able to virtualise the most popular network security services for our corporate customers.

The successful pilot operation of a regional network segment based on an SDN solution by Brain4Net was an important step in growing this segment in 2018. The project's success confirmed the technical excellence of SDN-based Metro Ethernet architecture enabling improved automation of this network segment.

Voice ICT network

> Our voice ICT network provides for telephony and traffic transfer at the local, intra-zone, domestic long-distance, and international levels; audio- and videoconferencing; Integrated Services Digital Network (ISDN) and intelligent communication network (ICN) services; virtual PBX services; and signalling traffic transfer.

In 2018, Rostelecom continued to construct combined DLDTN/IZTN/ESISLN/ECPN[2] nodes based on vIMS infrastructure located in each region of Russia covered by PJSC Rostelecom's network. These nodes are regional sites within the new ICT Platform we use to standardise our technical solutions and optimise our network infrastructure in line with PJSC Rostelecom's common network development principles.

Data transport network

> Rostelecom's IP/MPLS[3] data network comprises backbone and regional data networks, and supports the delivery of a range of services, including:broadband access, IPTV, and TV content managementinterconnection and internet traffic transitvirtual private networks data centre services.

In 2018, our IP/MPLS backbone network capacity was increased by 31% to 20.3 Tbps.

TABLE 9. SEGMENTS OF THE VOICE ICT NETWORK

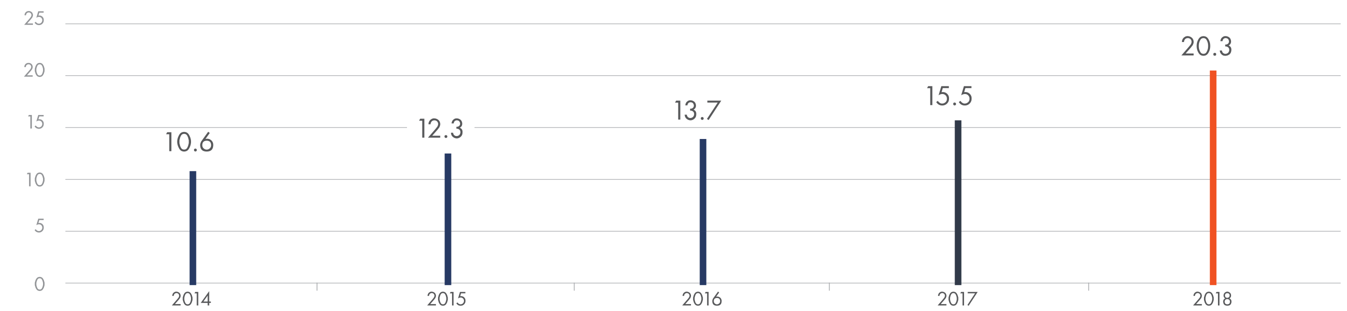
INTERNATIONAL TELEPHONE NETWORK	DOMESTIC LONG-DISTANCE TELEPHONE NETWORK	INTRA-ZONE TELEPHONE NETWORK	LOCAL TELEPHONE NETWORK
210,600 lines	1,055,600 lines	1,581,000 lines	31,837,600 subscriber lines
Level of digitalisation 100 %	Level of digitalisation 100 %	Level of digitalisation 100 %	Level of digitalisation 88 %

TABLE 10. LOCAL TELEPHONE NETWORK DIGITALISATION, %

2014	2015	2016	2017	2018
82	84	86	87	88

1. SDN (software-defined network) is a data network where the network control plane is separated from the forwarding plane and is directly programmable. NFV (network function virtualisation) is a concept of network architecture virtualisation at the network node level.
2. Domestic long-distance transit node/inter-zone transit node/end system and intermediate system local node/emergency call processing node.
3. IP/MPLS (multiprotocol label switching) is a technology that enables fast packet switching in multiprotocol networks through labelling.

FIG. 33. IP/MPLS BACKBONE NETWORK CAPACITY, TBPS



Access networks

> In 2018, Rostelecom continued to upgrade its access networks to provide customers with high-quality digital services through advanced fibre technology.

We offer fast and stable internet access, as well as access to any other digital services, for both private customers and all other customer groups.

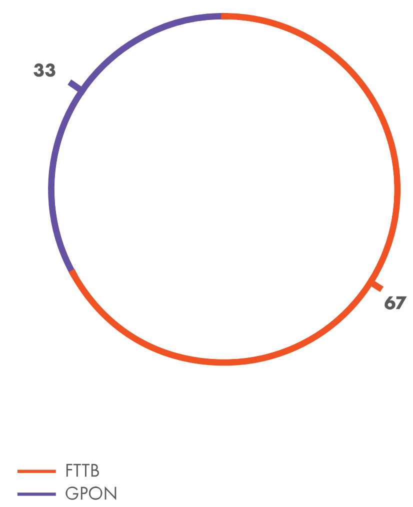
We have launched a number of projects to support this commitment. Our special project, Bridge, is designed to upgrade our last mile infrastructure through replacing copper networks with advanced fibre access solutions. We seek to maximise our disposal proceeds while cutting operating expenses on network infrastructure maintenance through releasing redundant property and reducing property maintenance costs. As part of the Bridge project in 2018, we migrated 37,200 telephone ports to VoIP[1] and launched four new VIMS[2] Edge sites in Irkutsk, Krasnoyarsk, Chelyabinsk, and Saint Petersburg.

Since 2014, Rostelecom has been successfully operating its Hermes platform designed to automate network design and construction processes. According to Hermes data, 14,900 km of fibre were constructed in 2018 to connect B2B customers.

We maintain a focus on constructing access networks for social infrastructure facilities while bringing high-speed internet access to small communities. Examples of such projects include Bridging the Digital Divide and connecting healthcare centres across the country to the internet. A total of 8,200 communities and 8,900 healthcare centres were connected by installing 59,000 km and 37,900 km of fibre, respectively, within these projects in 2018.

We expanded our access networks, with 35.0 million households passed with fibre as at the end of 2018, up by 1.7 million from 2017, including 1.2 million households connected to FTTB and 0.5 million households to GPON.

FIG. 36. HOUSEHOLDS BY ACCESS TECHNOLOGY AS AT 1 JANUARY 2019, %



1. VoIP – Voice over Internet Protocol or IP telephony.
2. vIMS(virtual IP-multimedia subsystem) is a function of the network core responsible for transmitting multimedia data (over the IP).

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FIG. 34. HOUSEHOLD COVERAGE BY TECHNOLOGY IN 2014–2019, MILLION HOUSEHOLDS

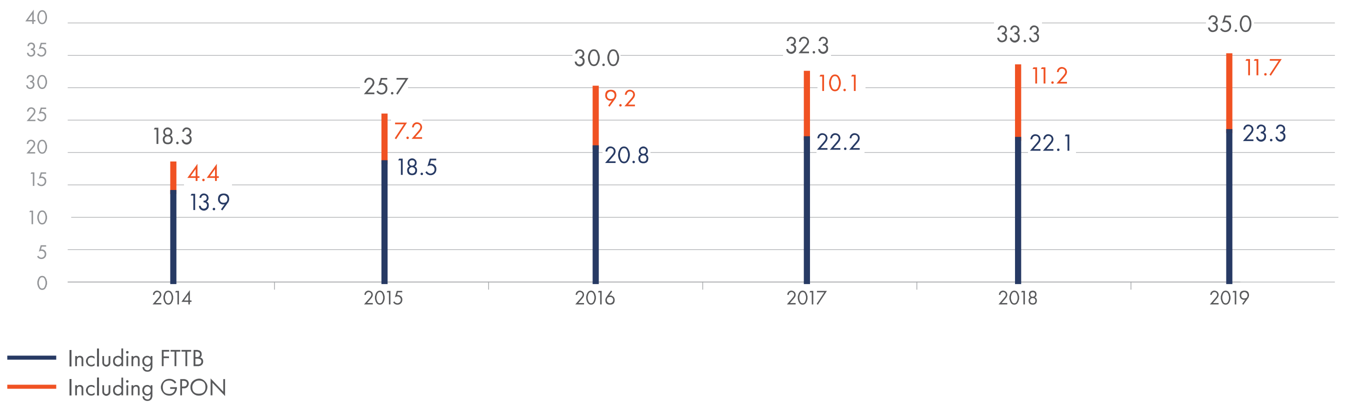
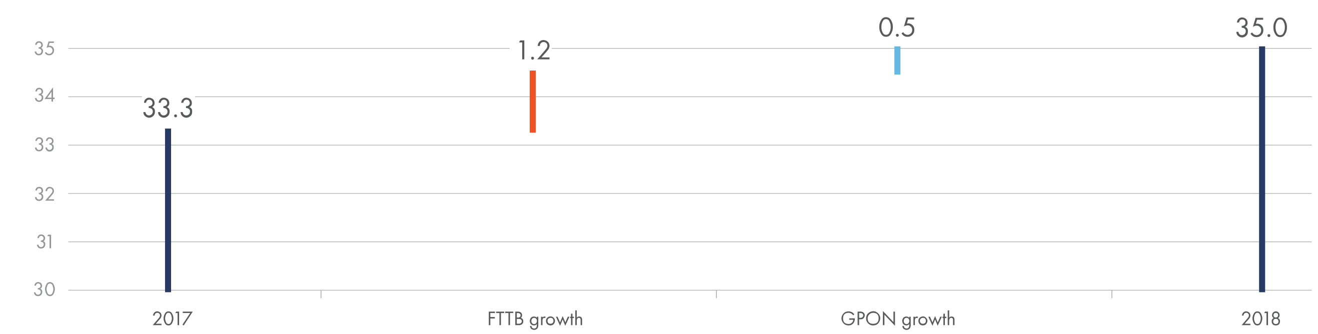


FIG. 35. HOUSEHOLD COVERAGE IN 2017–2018, MILLION HOUSEHOLDS



Submarine cables

Submarine cables provide additional connectivity between Russia and other markets to expand and upgrade Rostelecom's international telecommunications capacity. Rostelecom has an indefeasible right of use in the Fibre-Optic Link Around the Globe global project links between UK-Middle East-Japan and South-East Asia-Middle East-Western Europe.As the owner of core capacities in international submarine FOCLs, Rostelecom holds a 67% stake in the Georgia-Russia link and 50% in the Russia-Japan link.

In December 2018, Rostelecom completed the construction of the Yuzhno-Sakhalinsk-Kurilsk-Yuzhno-Kurilsk-Krabozavodskoye Submarine FOCL as part of the federal targeted programme, Socioeconomic Development of the Kuril Islands (Sakhalin Region) for 2016–2025. The submarine fibre link spanning over 766 km offshore and 65 km onshore uses 40 Gbps DWDM equipment with an OSN Optix 880 multiplexing system. We have also built points of presence integrating the island-based infrastructure of the Kuril Islands with the interlinked communications network of mainland Russia.

Satellite communications

Rostelecom's backbone satellite network complements its terrestrial digital network by connecting hard-to-reach locations with no access to FOCLs. In a number of areas, satellite communications also serve to back up land infrastructure.

Utilisation of our satellite communications network in areas along our backbone lines has been gradually decreasing as we continue commissioning submarine FOCLs to connect Magadan and Petropavlovsk-Kamchatsky. In 2018, Rostelecom upgraded its satellite links in the Kamchatka Territory, Magadan Region, and other hard-to-access areas.

TV infrastructure development

In 2018, Rostelecom continued to develop its TV infrastructure, including upgrading its interactive TV platform and launching the new Wink video service and other new products.

The software and hardware upgrade of the interactive TV IPTV/OTT infrastructure completed during the year enabled us to ensure technical readiness for IPTV, OTT, and Freeview services.

During the year, we deployed a new version of the DRM Verimatrix system and a new centralised CAS Conax Contego solution.

In September, Rostelecom launched a new video service, Wink, offering access to interactive TV from any device or network. We also launched our DVB-C Hotel TV product and a 4K (UHD) broadcasting system. 35 new TV channels were added to the network.

During the year, we connected 27 sites of Federal State-Owned Enterprise Russian Television and Radio Broadcasting Network (RTRN) to receive signals of TV channels with statutory public access. As a result, we have considerably improved the quality of TV channels broadcast within our Interactive TV service package.

Mobile networks

Rostelecom cooperates with Russian operators of terrestrial mobile networks to extend the range of high-quality network services, including national and international roaming.

As at the end of 2018, the Company was routing international calls for 754 mobile networks in 203 countries. Rostelecom continues to build up its mobile network capacity across Russian regions.

IT infrastructure expansion

In 2018, Rostelecom focused on enhancing the performance of its IT function, including improvements to IT architecture and optimisation of internal and external business processes.

Streamlining the IT landscape

As part of streamlining the IT landscape, Rostelecom has been implementing its strategic Target OSS/BSS Architecture Programme (the Basis programme). In 2018, we redesigned the programme to expand its functionality and launch new projects, including at macroregional branches.

Ensuring transparency and agility

In late 2017 and early 2018, we launched a number of critical initiatives to enhance the performance of our IT function, including:

- transforming IT function capabilities
- optimising procedures for cooperating with the IT function
- increasing transparency into decision making and external communications of the IT function
- educating external stakeholders about the IT function's activities
- adapting a new IT culture, including through creating a specialised IT cluster, applying advanced methods, and developing a plan for building a digital community within the organisation to improve agility in finding and adopting new solutions.

Developing the information environment to improve customer relations

To use data more effectively, the Group has launched its Single Reporting and Master Data Management Framework programme, which provides for improvements to the data storage centre as well as to customer and reference data management.

In 2018, the Group made progress on all major areas of the programme. Specifically, we reduced data submission times, integrated the basic functionality to harmonise customer data, and launched a reference data unification process.

Human capital development

With a headcount of 129 thousand employees, Rostelecom Group ranks among Russia's largest employers. Rostelecom views human capital development as a top strategic priority. Achieving the Group's long-term goals requires a high level of engagement and satisfaction as well as opportunities for professional and personal growth of each employee.

We are committed to building a working environment that encourages talent development. Customising all processes and services around the employee and his or her interests is a key focus area for us. Considering Rostelecom's strategic goals and trends in the labour market, the Group has been focusing on strengthening its HR brand, integrating Generation Z into business processes, and enhancing labour productivity.

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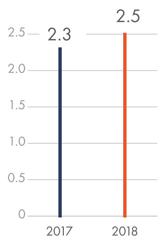
FIG. 37. FOCUS ON WORKFORCE PRODUCTIVITY

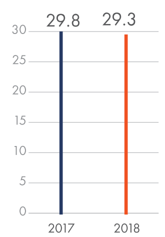
+9 %
Increase in productivity

Revenue per employee, RUB m



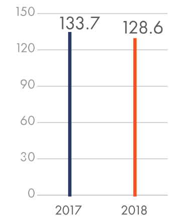
–0.6 pp
Decrease in payroll share of revenue

Payroll to revenue ratio, %



–4 %
Headcount optimisation

Headcount, thousand employees



Targets 2018–2022

Productivity
+40 %

Decrease in payroll share of revenue
– 2 pp

Headcount
115–120 thousand employees

Incentives

We focus on engaging employees on the Company's success by creating a positive environment that encourages enhanced performance. Rostelecom has in place several incentive programmes covering a wide range of employees or targeting specific employee groups.

In 2018, we approved Rostelecom's Long-Term Incentive Programme for 2020–2022, a logical extension of our Long-Term Incentive Programme for 2017–2019.

For more details on our employee incentive and remuneration programmes see the Corporate Governance section.

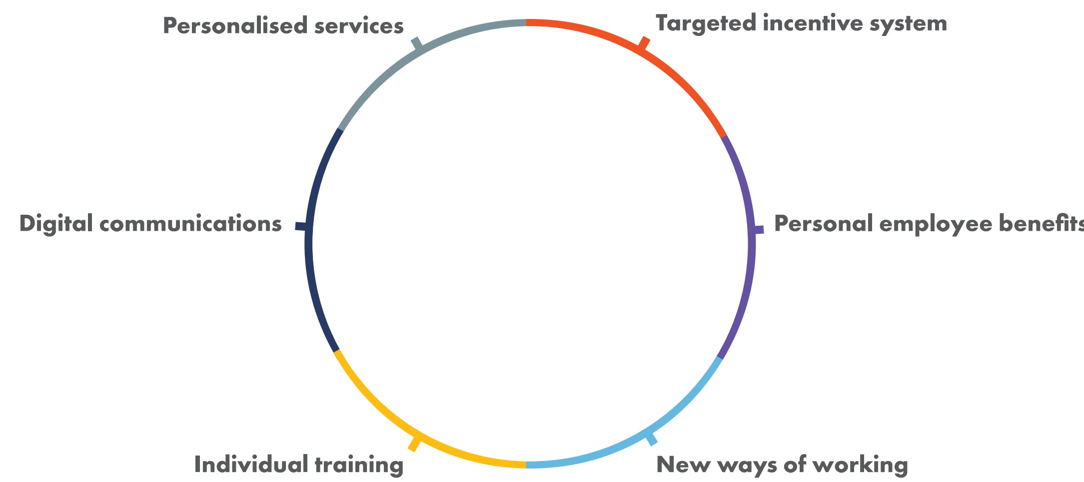
Education and development

Rostelecom places a particular emphasis on training its employees. Our training programmes involve over 50 thousand employees. In 2018, we continued to develop our corporate training platform by expanding its functionality and adding The Basics of the Digital Economy and IMBA courses.

We aim to build a positive working environment for our employees from their very first day at work. All our new employees are provided with a ready-to-use workplace and access to a corporate mobile application on their first day of employment.

We offer our employees a mentoring programme to expand their career opportunities. Rostelecom also builds a talent pool, counting 415 employees in 2018.

FIG. 38. POSITIVE CORPORATE ENVIRONMENT



Engaging the youth

We believe that by 2022 20% to 25% of our employees will belong to Generation Z,[1] who are known for their high mobility and agile decision making. To ensure a solid talent pipeline for the future, Rostelecom has already started promoting its HR brand among young people.

In 2018, Rostelecom launched a leadership programme for students, Internship 365°, covering 25 major Moscow universities. Following the programme, 15 students started an internship with the Company.

We also continued offering externships for students as part of our relations with universities. In 2018, about 4,000 students underwent externships at Rostelecom, with 17 offered an employment at the Company as a result, while another 27 continued working with us on a project basis.

For school students, Rostelecom launched a range of Information Security programmes. The programmes covered a 3 million audience, with 1,500 most active participants included in our talent pool.

1. Generations of people born approximately after 1995 according to the generational theory by William Strauss and Neil Howe.

Focus on productivity

As part of its digital transformation, Rostelecom has been automating its operations to right size the headcount. We plan to increase the share of digital experts on our staff to 25% by 2022 while downsizing the total headcount to 115–120 thousand. The headcount restructuring will improve our performance. For example, in 2018 our revenue per employee grew by 10% to RUB 2.49 million.

Recognising its social responsibility, Rostelecom aims to minimise the negative impact of rightsizing by offering upskilling courses to its employees as well as an outplacement programme to help the exiting employees find a new job.

Internal communications

Rostelecom is committed to building a bilateral dialogue between employees and managers across the corporate hierarchy. To this end, we launched the Online Reception service in 2018, enabling employees to ask questions of top managers. We also launched a mobile application for employees, which features contact details of their colleagues and other useful information.

Apart from integrating our proprietary solutions into internal communications, we also have corporate channels in messengers and representation in social media.

Focus on corporate culture

The core values of Rostelecom's corporate culture detailed in its Code of Corporate Conduct are: openness, responsibility, expertise, innovation, and continuity.

In building our corporate culture, we rely on our employees. Every year, Rostelecom runs engagement surveys, using the feedback to improve corporate projects. In 2018, our employee engagement score was 69%, up 14 pp from 2016.

In 2018, employee engagement score was 69%, up 14 pp from 2016.

The Group implemented a number of initiatives to promote its refreshed brand among its employees. The rebranding led to changes in visual elements of all communication tools.

Support for employees

Rostelecom has in place a collective bargaining agreement outlining the benefits and social guarantees offered to employees. In 2018, we approved a new collective bargaining agreement for 2019–2021.

The list of benefits is divided into two groups: basic benefits and the Cafeteria Plan. Basic benefits comprise voluntary health insurance, a housing programme, a corporate pension plan, and other benefits. The Cafeteria Plan was launched in 2018. The new service enables employees to manage their portfolio of benefits by selecting what they need the most and leaving out what they need less.

For more details on the Company's HR management see Rostelecom's Sustainability Report 2018.

Operational excellence

Internal operational efficiency will remain the Company's top priority throughout 2022. The key areas to drive efficiencies include production system enhancement,[1] further implementation of our operational excellence programme (OEP), improved decision making, and real estate portfolio optimisation.

Rostelecom's production system

Total savings in 2018
RUB 918.0 m

Rostelecom's production system (RPS) is an essential tool driving our operational excellence.

The RPS aims at higher efficiency and profitability of our business without attracting additional resources. In 2018, we continued our RPS projects, including Orion,[2] RPS in RRS,[3] RPS in Call Centre, RPS in IT, RPS in B2B, and RPS in SSSCs.[4] In 1H 2018, two centralised RPS projects were launched: RPS in Sales Support Centres and RPS in B2O.

In addition to the eight centralised RPS projects, multiple local projects are run at the MRF level. As at the year-end 2018, RPS teams were active in 43 regional branches.

The hard benefits[5] of the solutions implemented through our RPS projects and local initiatives totalled RUB 219.3 million while the soft benefits[6] totalled RUB 698.7 million.

1. Rostelecom's production system is a continuous improvement engine driving change across the corporate governance framework, business processes, and corporate culture in every unit or business process of the Company. The RPS was designed with a mission to make Rostelecom a better company for its customers and employees while avoiding stretching our existing resources.
2. The Orion project, launched in July 2016, aims to reduce customer technical support costs and improve the customer experience.
3. Rostelecom Roznichnye sistemy.
4. Single Settlement and Service Centres.
5. Hard benefit is the outcome of optimising a process, measured as the difference between income/expenses from an activity after a Practice was adopted, and financial income/expenses from the activity before the Practice adoption less the expenses on adopting the Practice.
6. Soft benefit is the outcome of optimising a process representing the amount of resources released within the process or a unit and/or elimination (mitigation) of the risk of financial losses and/or the risk of lost profit (opportunity).

TABLE 11. RPS IN NUMBERS

Training and development
› 40,000 employees have taken basic RPS training. › Over 3,000 specialists and managers trained in RPS tools. › Over 300 RPS champions are being trained at the RPS Academy, our new transformational, educational initiative.
› In August 2018, we launched the Best Practice Portal, a platform for regional branches to post and share their implemented solutions recognised as best practice. › In 2018, over 400 solutions were posted on the portal. › These solutions have been replicated more than 1,500 times overall.
› Our specialists and managers submitted a total of 2,309 ideas during 2018. › As many as 567 proposals were implemented, with 63 of them generating over RUB 30 million in savings for the Company. › At the year-end, the implemented ideas accounted for 24.5% of total submissions, up from 9.2% in early 2018.

2018 highlights of Rostelecom's Production System

Orion project (B2C technical support)

The Orion project aims to improve the customer experience. Seven lean laboratories continued their operation in 2018, developing over 60 local solutions.

Problem solving case study: Installer control tools: on-line acceptance module in the Siberia MRF

Description: the new online acceptance module developed for the Company provides detailed data on completed installations and possible errors, 80% of which are corrected within 24 hours.

RPS in B2B

The project aims to improve technical support. In 2018, the number of lean laboratories was increased to nine, with over fifty local solutions developed.

Problem solving case study: Increasing the proportion of requests closed by First and Second Line Technical Support

Description: we have developed an optimal sequence of steps for operators to identify and solve customer issues through diagnostic tools. With the solution rolled out across the Company, the proportion of closed incidents increased throughout all macroregional branches.

RPS in RRS (Rostelecom Roznichnye sistemy)

In 2018, the project focused on improving the customer experience by developing employee professional skills, reducing queues, and cutting average routine service times. Four new lean laboratories joined the project to run diagnostics of the existing service and sales processes.

Problem solving case study: Savings on consumables: receipt length

Description: Rostelecom spends over RUB 500 thousand every year per one centimetre of a receipt. We have cut this expense item significantly by reducing our receipt length by 10 cm with smaller font size and software updates.

RPS in Call Centres

The project aims to cut the costs of B2C service channel, while maintaining the high quality of customer service. Throughout 2018, the project team focused on improving our first call resolution rates for customers in the B2C segment.

Problem solving case study: Billing via text messages with links to a web platform detailing the charges, and providing the opportunity for customers to manage service delivery, monitor progress, and track the activation request status

Description: workload on the call centre operators has been reduced by 4,000 man-hours on an annualised basis through developing functional requirements for a web form that allows customers to manage service delivery and customer service.

RPS in IT

The project aims to enhance linear development processes for OSS[1] IT systems and reduce lead times for implementing IT improvements. Three macroregional branches joined the project in 2018.

Problem solving case study: Standardising and classifying change requests

Description: we have migrated to a single system managing requests for linear improvements to OSS IT systems, and developed and implemented technical requirements for integration of the Company's request management systems.

RPS in Single Settlement and Service Centres

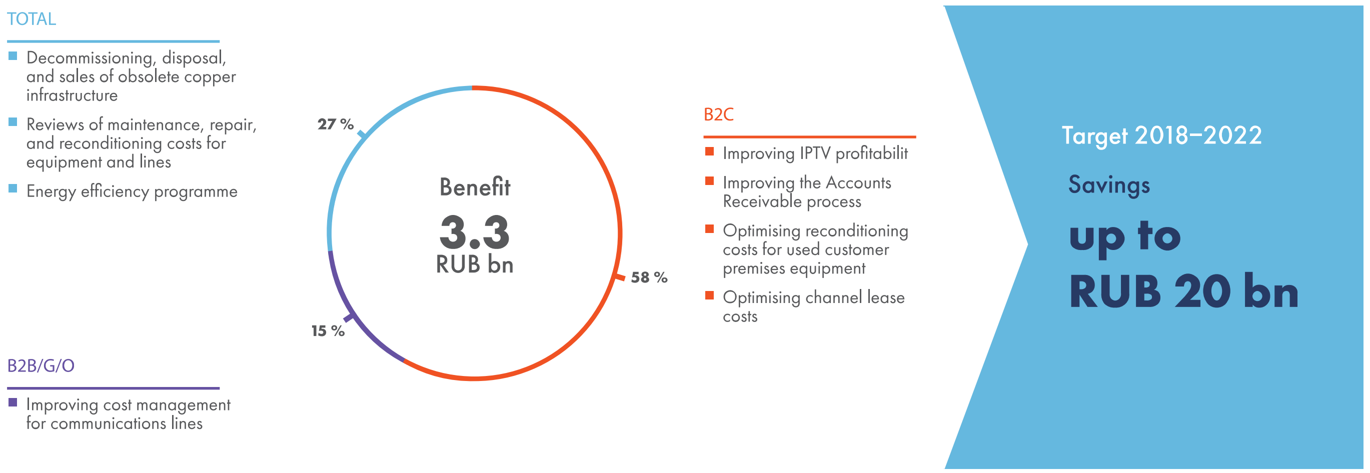
Launched in December 2017, the RPS in SSSC project aims to improve business processes within the Company's Single Settlement and Service Centres while also increasing the volume of operations handled by SSSC operations without hiring more staff or compromising on the quality of customer service.

Problem solving case study: Automated data processing for adjustment registers

Description: the rollout of our Toki software solution has removed manual steps from data processing procedures for payment and accrual adjustment registers. The automation initiative has released four Volga SSSC FTEs for other important tasks.

1. OSS/Operation Support Systems – software solutions interacting with telecoms infrastructure – telecoms networks, switching equipment, PBXs, and hardware. They are used to support operating processes related to the development and operation of telecoms infrastructure.

FIG. 39. OPERATIONAL EXCELLENCE



Operational excellence programme (OEP)

Comprising dozens of initiatives, our operational excellence programme (OEP) is a long-term strategic priority for the Company through 2022. The 2018 OEP's priorities included upgrading segment-specific internal processes, rolling out the Margin Control System (MCS 2.0) for leased channels, diagnostics of subsidiaries and affiliates, and optimising operations in regions. Operational efficiency improvements are expected to generate up to RUB 20 billion in savings through 2022.

Segment-specific RPS projects

B2C

The combined benefit for 2018 totalled RUB 1.9 billion.

In 2018, savings were mostly generated through our initiatives to optimise business processes in retail. Below are some of the more significant projects.

Increasing margins for IPTV products

During 2018, we significantly reduced our content costs per subscriber for a number of TV channels. In addition, we negotiated fixed FX rates for a number of contracts, thus reducing the risk of higher content costs in the second half of 2018 due to movements in the rouble/US dollar exchange rate. Another focus was on revising the content of TV packages to optimise costs.

Benefit: RUB 750 million

Accounts receivable

To improve collection of receivables and encourage timely payments from our retail customers, we put in place a single penalty scheme across our macroregional branches.

Benefit: RUB 700 million

Optimising reconditioning costs for used customer premises equipment

The Company discontinued in-house reconditioning of used customer premises equipment, contracting a third party instead, which raised the quality of reconditioned equipment and reduced the cost of purchases of new customer premises equipment.

Benefit: RUB 380 million

Channel lease terminations

The Company audited its leased communications channels and updated the list of channels for our B2C subscribers based on the audit results.

Benefit: RUB 102 million

B2B/G and B2O

The combined benefit for 2018 totalled RUB 500 million.

Margin Control System (MCS 2.0)

In 2018, our optimisation efforts in B2O, B2G, and B2B were focused on rolling out the Margin Control System (MCS 2.0).

With the MCS 2.0 IT solution in place, we can now analyse and control margins for the lines with last mile leased from other operators. The initiative aims to mark up or discontinue unprofitable tariff plans. The MCS 2.0 rollout enabled the Company to improve the effectiveness of channel-specific cost management.

THE MCS 2.0 ROLLOUT

Mission	Objective	Description	Impact
Ensuring the rational use of Company resources	Establishing control over acquired resources throughout their life cycle	Creating an automated system to track resource procurement and control margins for acquired channels, contracts, and projects	RUB 500 m of savings generated in 2018

Function-specific projects

The combined benefit for 2018 totalled RUB 590 million.

In 2018, the Company implemented projects to drive operational efficiencies across its functions. The most impact so far has been achieved by our technical function, as described below.

Decommissioning, disposal, and sales of obsolete copper infrastructure

In 2018 the Company installed approximately 70 thousand km of urban and long-distance (intra-zone) fibre, a calendar-year record. This success allowed us to decommission more copper infrastructure and sell nearly twice as many decommissioned copper lines as we had planned.

Additional income: over RUB 310 million

Reviews of maintenance, repair, and reconditioning costs for equipment and lines

Optimising our installed equipment fleet is the key cost reduction lever within this initiative. In addition, we have renegotiated unit cost reductions, including with vendors, revised the scope and volume of FOCL maintenance contracts, and successfully negotiated higher discounts on technical maintenance, repair, and reconditioning services.

Benefit: RUB 243 million

Energy efficiency programme

The long-term programme comprises over 30 initiatives optimising consumption and keeping down operating expenses on fuel and energy. The programme is expected to generate RUB 5 billion in savings within a decade.

It includes cost control, switching to optimal electricity tariffs driven by the facility-specific consumption profile, replacing obsolete, low-efficiency power equipment with more advanced solutions, and optimising heat, fuel, and lubricant consumption. In 2018, an initial positive impact of RUB 37 million was achieved from a range of measures to track and monitor GPS-equipped vehicle locations via a satellite link. The programme is expected to gain momentum and generate significantly higher impact in 2019.

Benefit: RUB 37 million in 2018

Regional projects

In addition to the centralized projects designed by the headquarters, we implement regional initiatives to drive efficiencies in business processes. Within these initiatives, macroregional branches and subsidiaries are looking for ways to improve their internal efficiency. The most notable examples of such projects are given below.

OEP in macroregional branches (MRFs)

Combined benefit: RUB 165 million

Our Ural, Far East, and North-West Macroregional Branches are carrying out the Area Master project aimed to reinforce accountability for local service delivery within the local governance framework. The initiative empowers line section and line support facility managers and makes them accountable not only for network quality but also for revenue and income performance within their areas.

Each line section and line support facility were set 2018 revenue and OIBDA targets broken down by segment. To achieve the targets, managers and staff of line sections and line support facilities focused on driving revenue and optimising costs. To this end, the relevant branches were implementing targeted fibre link projects for B2C and B2B customers, optimising security costs, removing idle equipment from buildings for subsequent lease or sale, optimising utility expenses, and reducing vehicle fleets.

FIG. 40. AREA MASTER OEP PROJECT

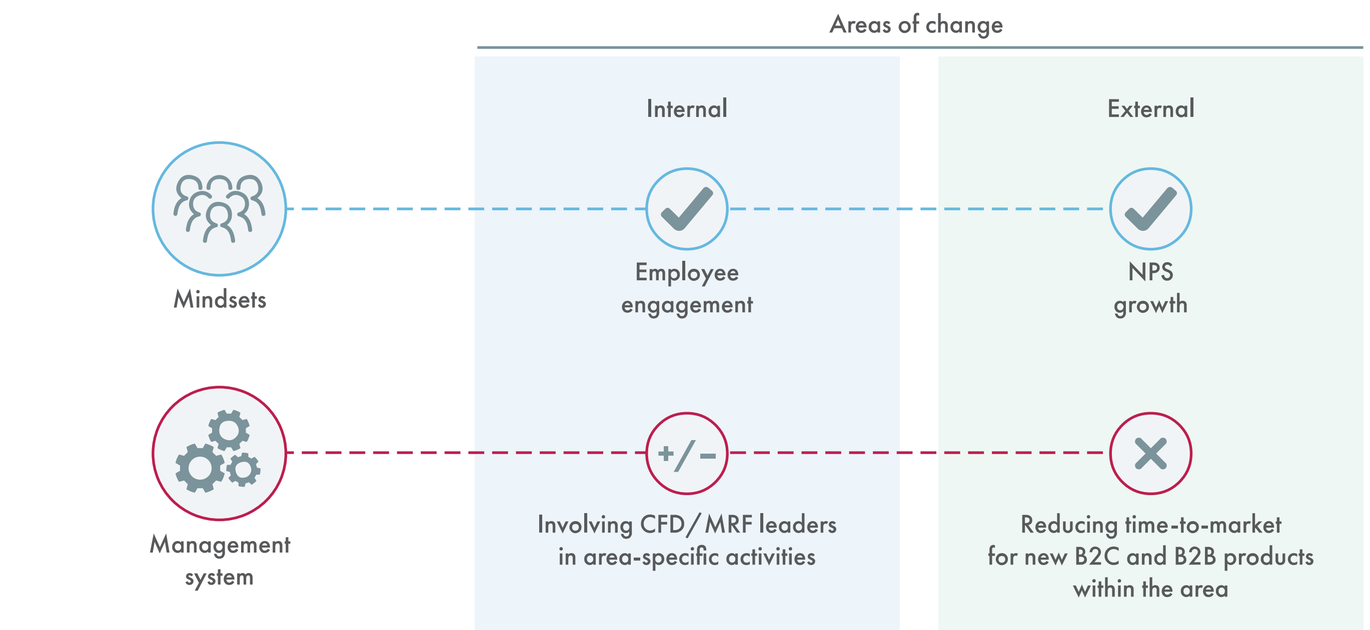
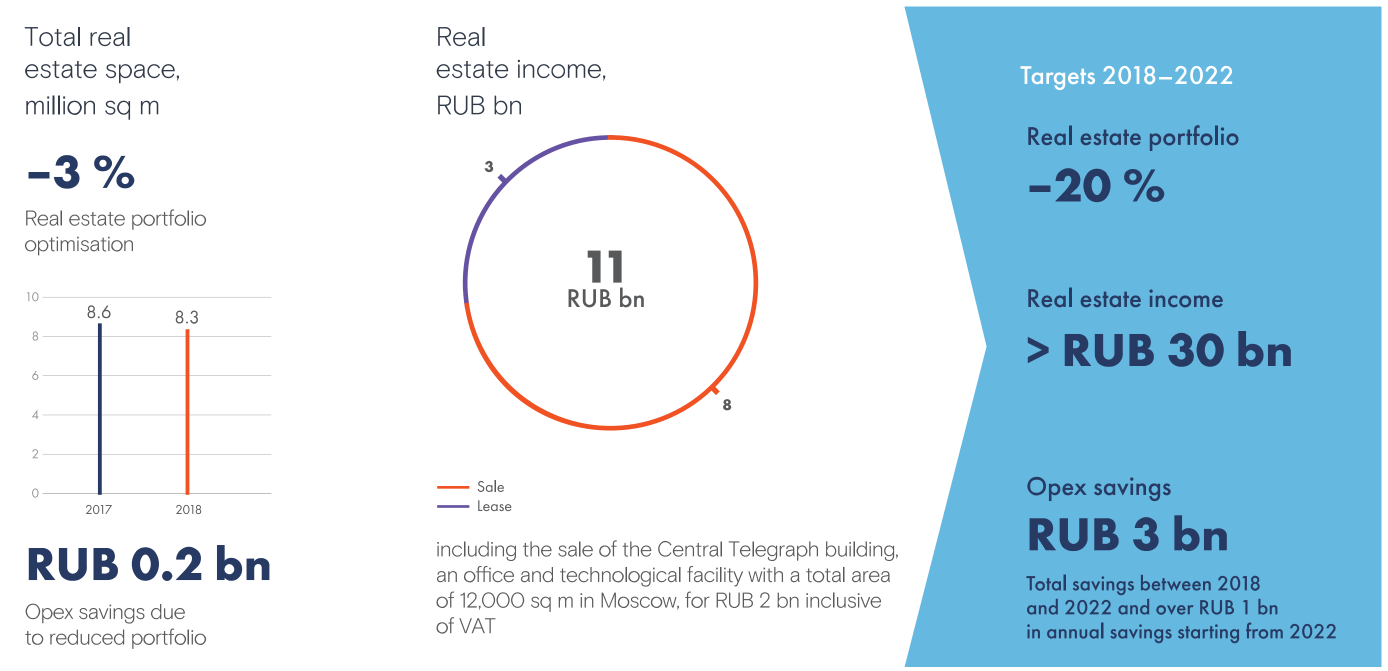


FIG. 41. REAL ESTATE PORTFOLIO OPTIMISATION



Operational excellence programme in subsidiaries and affiliates

Combined benefit: RUB 160 million

A series of internal audits were carried out across Rostelecom subsidiaries and affiliates in 2018 to optimise their investment and operating expenses, increase income, sell non-core assets, and identify synergies from cooperation with Rostelecom. Following the audits, we designed operational excellence initiatives for subsidiaries and affiliates. The biggest impact so far has been achieved in two of the subsidiaries, PJSC Bashinformsvyaz and JSC Severen-Telecom.

Bashinformsvyaz

Joint acquisition of content with Rostelecom was the principal source of savings generated by Bashinformsvyaz.

Benefit: RUB 90 million

JSC Severen-Telecom

The key sources of operational efficiency for Severen-Telecom were sales of Rostelecom's new services to existing and new customers, identifying customer churn predictors and deploying retention tools used by Rostelecom, optimising the organisational structure in subsidiaries and affiliates, following which a decision was taken to shift to centralised MRF contracting for post-warranty maintenance, and equipment and software procurement.

Benefit: RUB 70 million

Real estate portfolio optimisation

Real estate portfolio optimisation, focused on more efficient use of the Company's properties, is a top priority in Rostelecom's efforts to improve internal efficiency. According to the current strategic plan, our real estate income will exceed RUB 30 billion between 2018 and 2022 while the total opex savings from portfolio optimisation initiatives are expected to exceed RUB 3 billion.

Rostelecom's real estate portfolio includes more than 21 thousand properties. Almost half of the Company's total real estate space is located in cities with a population in excess of 100 thousand people, including Moscow and Saint Petersburg. In 2018, Rostelecom successfully reduced the size of its real estate portfolio by 3%, or 0.3 million sq m, to 8.3 million sq m, with additional income from property sales at RUB 8 billion. The total income from real estate management, including rental income, reached RUB 11 billion in 2018. The total opex impact from our real estate portfolio optimisation efforts in 2018 was RUB 200 million in savings.

One of the larger 2018 deals was the sale of the Central Telegraph building, an office and technological facility with a total area of 12 thousand sq m in Moscow, for RUB 2 billion inclusive of VAT.

Financial Overview

Key financial highlights

Rostelecom's financial performance in 2018 is testament to the Company's stability and demonstrates good prospects for further development. The digital segment expansion and internal efficiency improvement proved to be the key drivers of the Group's performance.

In 2018, Rostelecom's revenue rose by 5% to RUB 320.2 billion, OIBDA increased by 4% to RUB 100.9 billion, and net profit grew by 7% to RUB 15.0 billion. Digital service development was the key driver of financial growth. Digital services grew by 7 pp and accounted for 55% of the Company's revenue.

Item[1]	2016	2017	2018	2018 vs 2017, %
Revenue, RUB m	297,446	305,329	320,239	+ 5
OIBDA, RUB m	96,771	96,688	100,900	+ 4
% of revenue	32.5	31.7	31.5	–
Operating profit, RUB m	39,836	37,885	35,800	– 6
% of revenue	13.4	12.4	11.2	–
Net profit, RUB m	12,249	14,050	15,012	+ 7
% of revenue	4.1	4.6	4.7	–
CAPEX, RUB m	61,857	60,752	73,179	+ 20
% of revenue	20.8	19.9	22.9	–
Net debt, RUB m	177,481	181,594	186,712	+ 3
Net debt/OIBDA	1.8	1.9	1.9	–
FCF,[2] RUB m	13,298	20,385	14,751	– RUB 5,634 m

FIG. 42. REVENUE BREAKDOWN, %

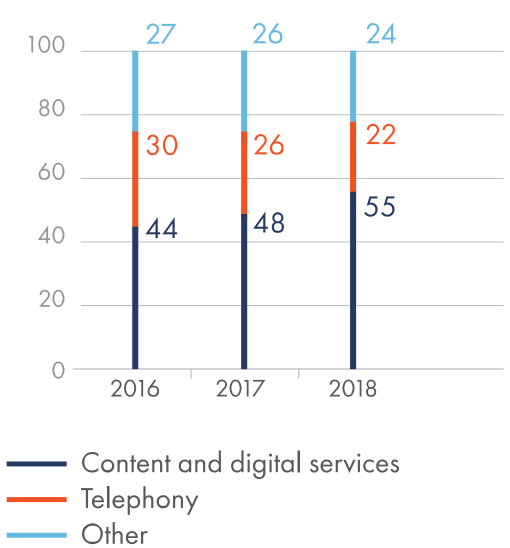


FIG. 43. REVENUE, RUB M

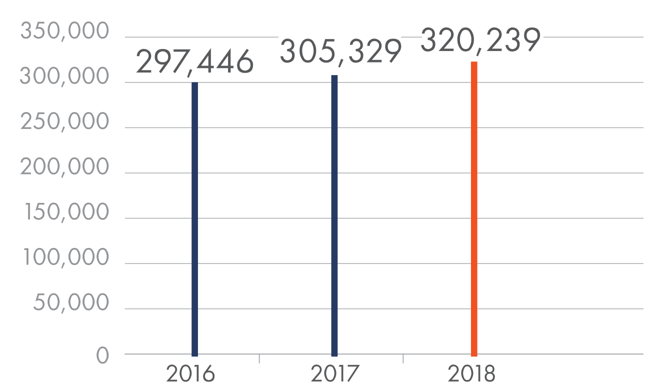


FIG. 44. NET PROFIT, RUB M, AND NET PROFIT MARGIN, %

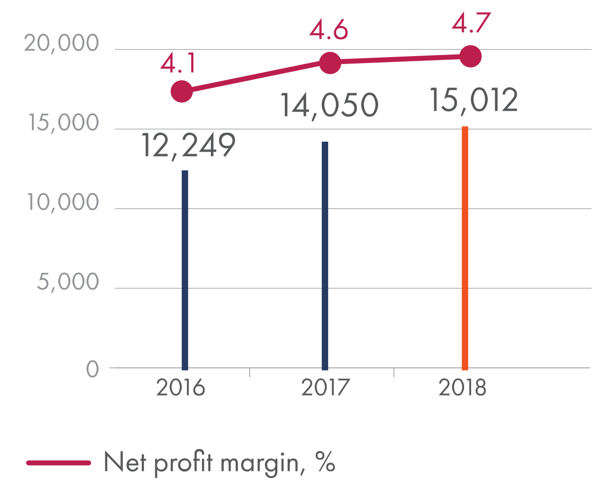


FIG. 46. FREE CASH FLOW (FCF), RUB M

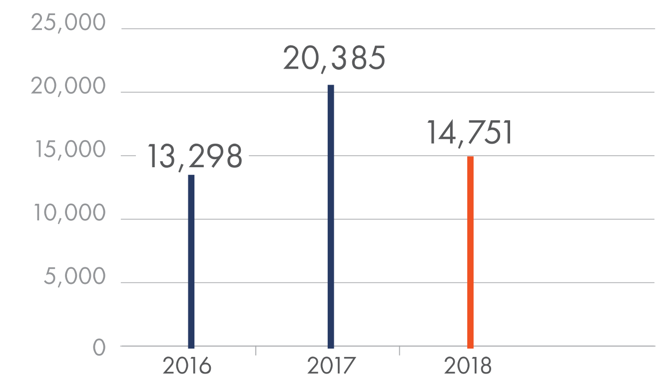


FIG. 45. OIBDA, RUB M, AND OIBDA MARGIN, %

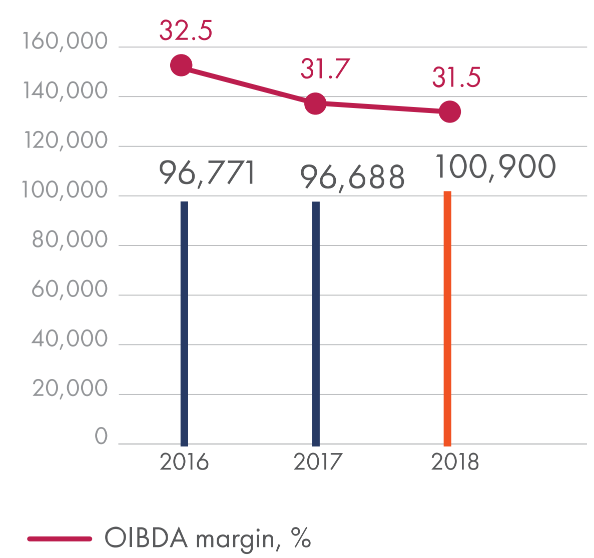
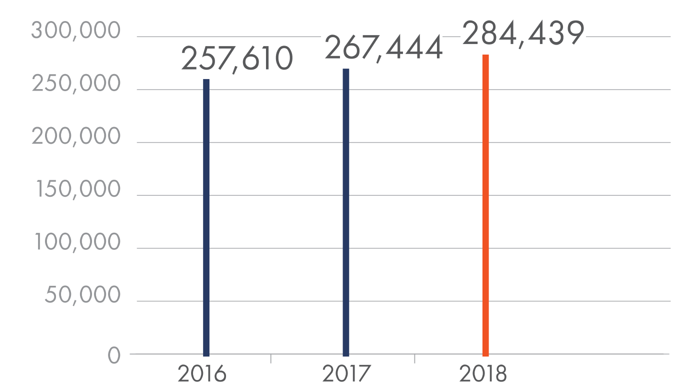


FIG. 47. OPERATING EXPENSES, RUB M



1. Taking into account the impact of the new IFRS standards. The Group initially adopted IFRS 15 and IFRS 16 using the modified retrospective approach. Under this approach, the comparative information is not restated. The Group applied IFRS 9 from 1 January 2018 and has not restated comparative information for 2017 for financial instruments in the scope of IFRS 9.
2. Starting from 2018, free cash flow is calculated based on the statement of cash flows as the net cash from operating activities, net of CAPEX, plus proceeds from sale of property, plant and equipment and intangible assets, plus interest received. Free cash flow for 2017 and 2016 is presented as reported in the corresponding period.

FIG. 48. NET DEBT, RUB M, AND NET DEBT/OIBDA

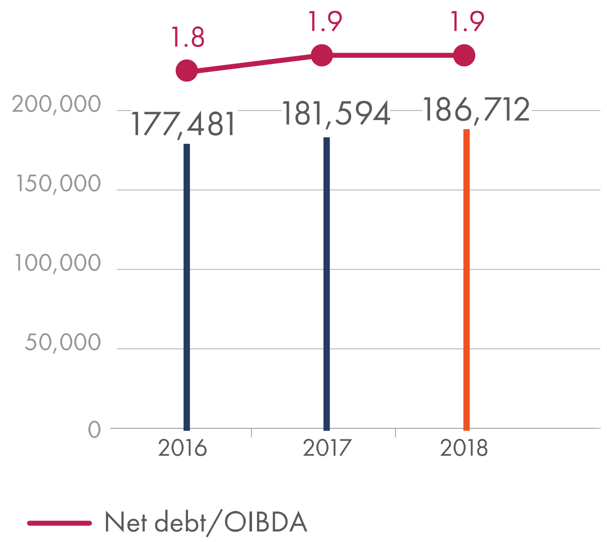


FIG. 50. CAPEX, RUB M AND % OF REVENUE

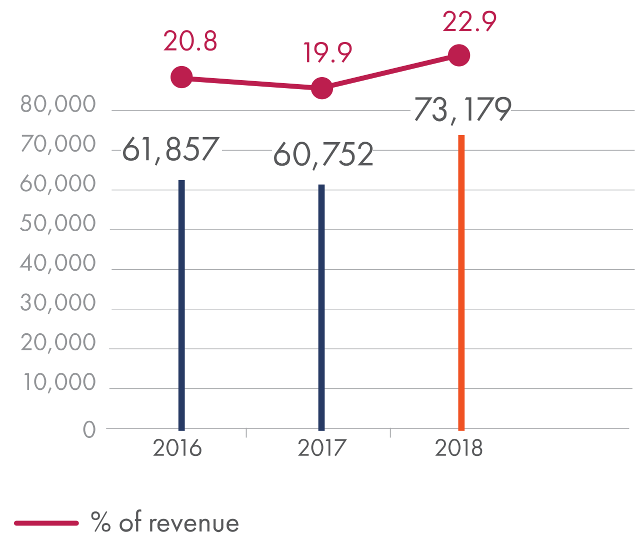
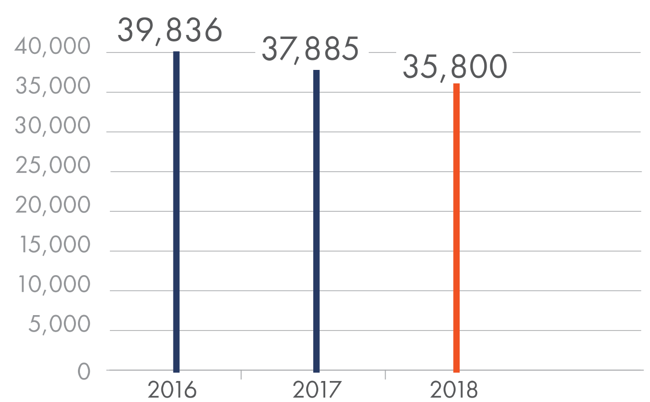


FIG. 49. OPERATING PROFIT, RUB M



Revenue breakdown

In 2018, Rostelecom's revenue grew by 5% to RUB 320.2 billion. The B2C and B2B/G segments were the main contributors to the revenue, accounting for 43% and 38% of the revenue respectively. B2B/G demonstrated the highest growth rate with an 11% revenue growth, while other segments experienced almost no revenue growth.

Broadband (RUB 9.3 billion), TV (RUB 7.1 billion), and VAS and cloud services (RUB 10.9 billion) were the biggest contributors to the revenue growth by type of service. VAS and cloud services showed the highest year-on-year growth rate of 42%. Rostelecom continued reducing the share of fixed-line services in the Company's total revenue – in 2018, it accounted for less than 22%.

In 2018, the following drivers contributed to revenue growth:

- Development of VAS and cloud services including the Smart City project, video surveillance, promotion of cloud services and data centres
- Broadband promotion: subscriber base expansion and ARPU growth, internet access for hospitals and out-patient clinics
- Pay TV promotion, Interactive TV subscriber base expansion and ARPU growth
- Development of wholesale services

TABLE 12. REVENUE BY SEGMENT, RUB M

Segment	2016	2017	2018	2018 vs 2017, %
B2C	133,917	136,304	137,745	+ 1
B2B/G	102,195	109,209	121,509	+ 11
B2O	56,851	55,061	56,389	+ 2
Other revenue	4,483	4,755	4,596	– 3

TABLE 13. REVENUE BY TYPE OF SERVICE, RUB M

Type of service	2016	2017	2018	2018 vs 2017, %
Broadband	66,771	70,785	80,042	+ 13
TV services	23,599	27,348	34,464	+ 26
Fixed-line telephony	87,703	78,445	69,983	– 11
Wholesale services:	79,010	77,525	79,593	+ 3
Lease of channels	10,538	9,437	9,582	+ 2
Interconnection and traffic transfer	35,102	33,253	33,256	0
VPN	20,823	21,981	23,433	+ 7
Lease and maintenance of telecommunications infrastructure	12,546	12,855	13,322	+ 4
VAS and cloud services	18,245	26,013	36,902	+ 42
Other telecommunications services	14,352	16,854	12,076	– 28
Other non-telecommunications services	7,767	8,359	7,179	– 14

Operating expenses

In 2018, Rostelecom's operating expenses grew by 6% to RUB 284.4 billion. All of Rostelecom's operating expenses increased, with interconnection charges demonstrating the highest growth of 10%.

The following key drivers impacted operating expenses in 2018:

- For interconnection charges – growing channel lease and traffic transfer expenses accompanied by higher income, including under contracts with major businesses and government organisations, as well as from network infrastructure synergies with Tele2 Russia
- For other operating expenses – video surveillance during elections, equipment delivery as part of various B2B/G projects, and growing service promotion expenses
- Option programme expansion

TABLE 14. OPERATING EXPENSES, RUB M

Operating expenses	2016	2017	2018	2018 vs 2017, %
Personnel costs	(90,340)	(93,381)	(97,350)	+ 4
Depreciation, amortisation, and impairment losses	(55,589)	(56,628)	(60,329)	+ 7
Interconnection charges	(52,161)	(52,762)	(58,293)	+ 10
Materials, repairs and maintenance, utilities	(24,917)	(25,926)	(26,183)	+ 1
Gain on disposal of PPE and intangible assets	4,556	5,344	7,184	+ 34
Impairment loss of financial assets measured at amortised cost	(2,775)	(2,776)	(4,057)	+ 46
Other operating income	12,948	13,444	13,579	+ 1
Other operating expenses	(49,332)	(54,759)	(58,990)	+ 8
Operating expenses	(257,610)	(267,444)	(284,439)	+ 6

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OIBDA

In 2018, Rostelecom's OIBDA grew by 4% to RUB 100.9 billion. In the reporting period, Rostelecom changed OIBDA calculation methodology by excluding expenses related to private pension fund programme from Q3 2018 onwards.

TABLE 15. OIBDA BREAKDOWN, RUB M

Item	2016	2017	2018	2018 vs 2017, %
Operating profit	39,836	37,885	35,800	– 6
Add: depreciation	55,589	56,628	60,329	+ 7
Add: non-cash expense under the long-term incentive programme	1,347	2,344	3,638	+ 55
Add: expense under the private pension fund programme	–	(170)	1,133	–
OIBDA[1]	96,771	96,688	100,900	+ 4
OIBDA/revenue, %	32.5	31.7	31.5	– 0.2 pp

Debt

By the end of 2018, Rostelecom's total debt increased by 2.3% to RUB 204.3 billion. Rostelecom's net debt was up 3% to RUB 186.7 billion, while the net debt to OIBDA ratio remained flat at 1.9. Over 99% of the Company's total debt is rouble-denominated.

TABLE 16. KEY METRICS

	2016	2017	2018	2018 vs 2017, %
Total debt, RUB m	187,105	191,372	204,279	+ 7
Net debt, RUB m	177,481	181,594	186,712	+ 3
Net debt / OIBDA	1.8	1.9	1.9	–

1. OIBDA is not an indicator calculated under US GAAP or IFRS. The Company calculates OIBDA as operating profit before depreciation and non-cash expenses.

FIG. 52. DEBT BREAKDOWN BY MATURITY, %

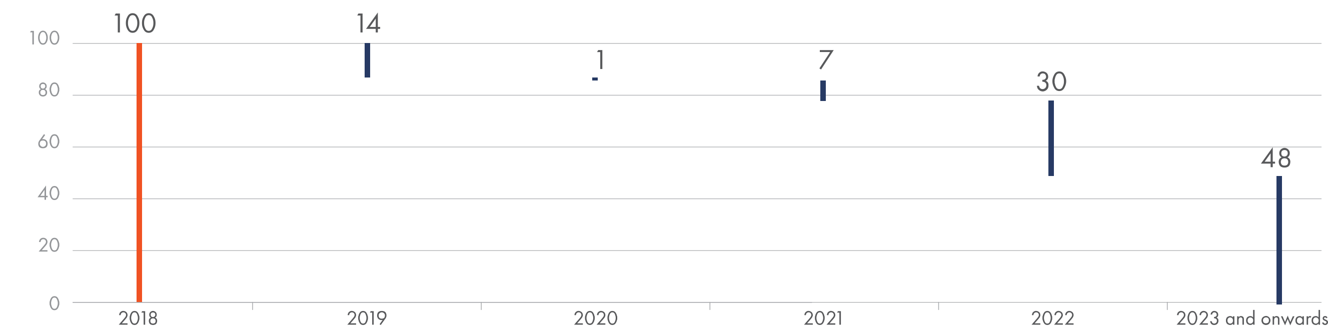
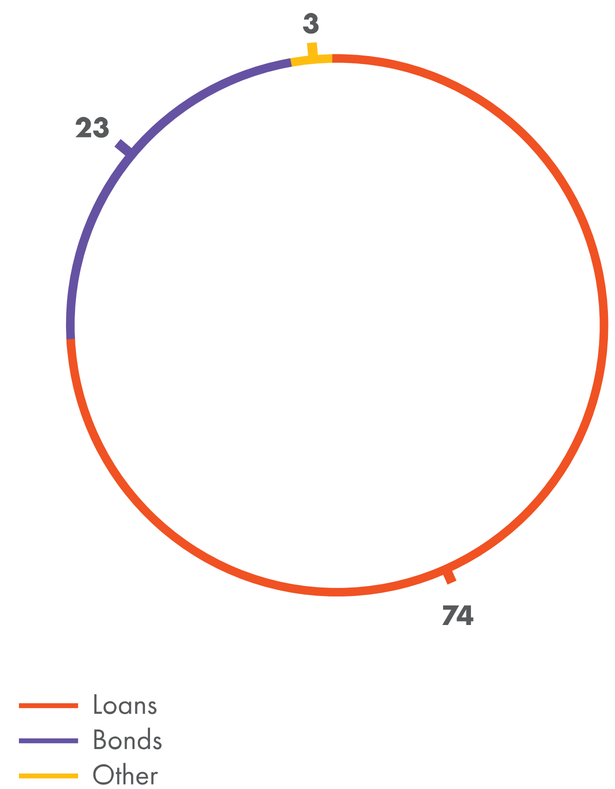


FIG. 51. DEBT BREAKDOWN BY INSTRUMENT, EXCLUDING INTEREST, %



Outlook

We expect our key financial indicators to grow, which allows us to set the following goals for 2019:

- Revenue and OIBDA growth of at least 2.5%
- CAPEX in the range of RUB 65 billion to RUB 70 billion, including RUB 7 billion of regulatory CAPEX and excluding the implementation of government programmes

CORPORATE GOVERNANCE

E-GOVERNMENT

Rostelecom ensures the smooth operation of the e-government infrastructure providing citizens with digital access to public services.

With Rostelecom launching a back-up data centre in 2018, the system has become even more reliable. The back-up data centre will ensure the uninterrupted operation of the infrastructure in the event of incidents in the Federal Data Centre.

The e-government services are rapidly gaining traction, with the number of public services (e-government) portal users growing to 86 million in 2018, the number of visits up by 30 % year-on-year, and the volume of payments reaching RUB 52.6 billion.

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Corporate Governance

Rostelecom has an efficient corporate governance framework in place, in line with Russian laws, the Rules of the Moscow Exchange, and best practices. We consistently enhance our corporate governance while ensuring the protection of shareholder and other stakeholder rights.

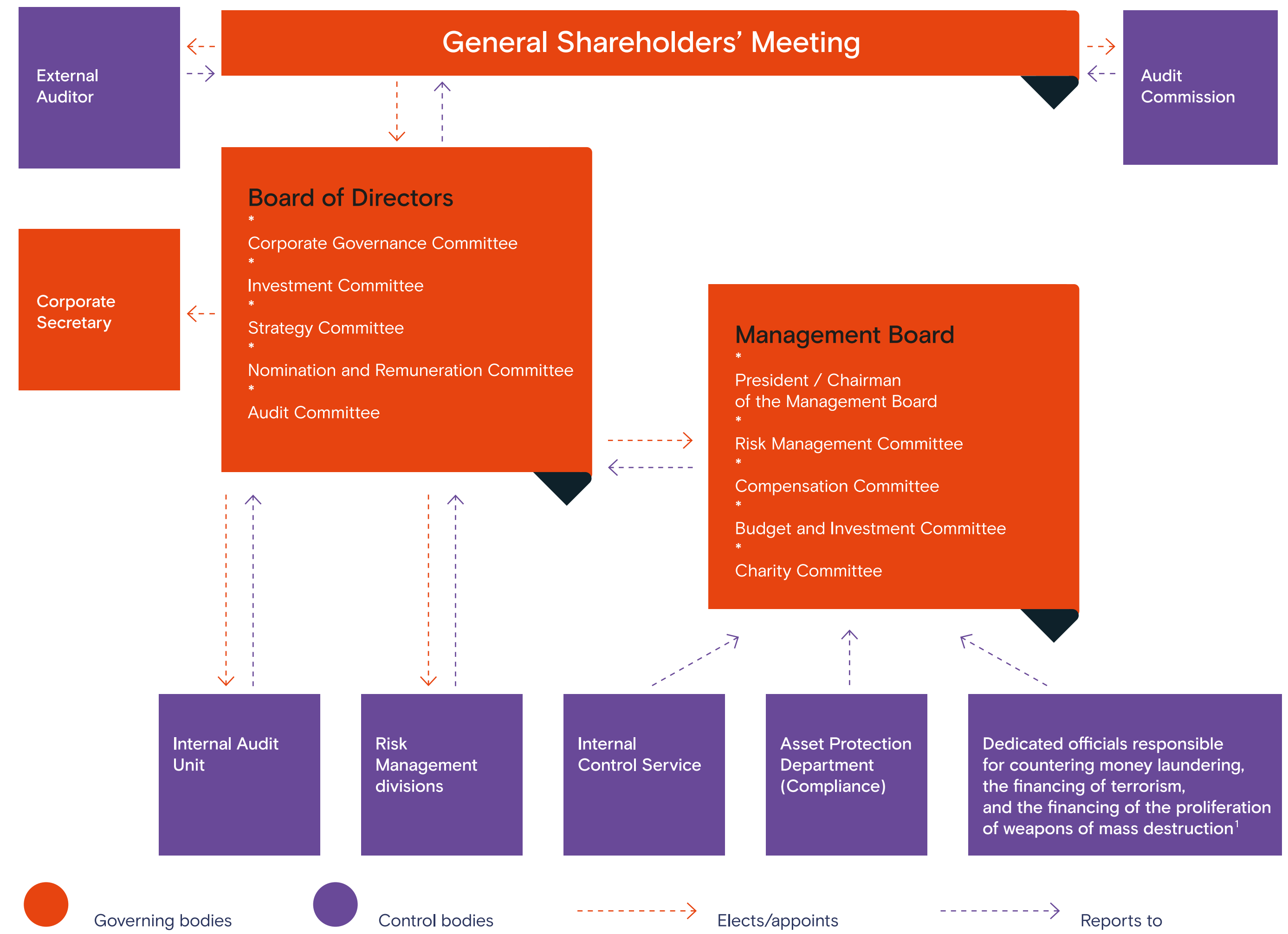
Corporate Governance Framework

Principles	Priorities	Enhancement focus
Balance between the interests of shareholders, management, and stakeholders	Focus on stakeholder interests and relations	Effective internal controls and audit
Equal treatment of all shareholders and protection of their rights	Compliance with business conduct and ethics	Continuous improvement of the corporate governance practice
Accountability of the Board of Directors, the President, and the Management Board to shareholders	Timely and accurate information disclosure	Electronic voting at General Shareholders' Meetings
Informational and financial transparency	Corporate social responsibility	Introduction of an IT system to automate the Management Board's and its Committees' processes

PJSC Rostelecom's Corporate Governance Structure

In accordance with the Charter, Rostelecom is governed by:
- the General Shareholders' Meeting
- the Board of Directors (elected by the General Shareholders' Meeting to guide the Company's strategic management)
- the President and the Management Board (appointed by the Board of Directors to manage the Company's day-to-day operations).

FIG. 53.



Key Improvements in 2018

We particularly focused on the integration of the following advanced electronic solutions into shareholder relations:
- We arranged for an e-voting option at our annual and extraordinary shareholders' meetings
- We became the first issuer to provide shareholders[2] with electronic ballots on the public services (e-government) portal to facilitate voting at the Extraordinary General Shareholders' Meeting
- VTB Registrar, responsible for the register of our registered securities, arranged shareholder access to their online accounts where they can monitor their personal account data and vote at Rostelecom's General Shareholders' Meetings
- We launched the Management Board portal for remote discussion and e-voting at the meetings of the Management Board and its Committees

1. Dedicated officials responsible for the implementation of internal controls to counter the legalisation (laundering) of criminally obtained incomes, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction.
2. This service was available to shareholders who signed in to the online account on the public services portal and activated the online delivery of registered mail.

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Corporate governance self-assessment results

Since 2015, Rostelecom has been self-assessing[1] its corporate governance[2] by benchmarking its standards against the key provisions of the Corporate Governance Code[3]. In 2018, the assessment scored our corporate governance at 93%, much higher than the minimum 65% requirement of the Federal Agency for State Property Management (Rosimushchestvo).

FIG. 54. CORPORATE GOVERNANCE LEVEL, %

Corporate governance rating

Corporate governance rating assigned by the Russian Institute of Directors (RID):[4] 7++ (advanced corporate governance practice)

Plans to improve corporate governance

Rostelecom plans to further enhance its corporate governance. In particular, we plan to update our Charter in 2019. The amendments will allow us to send ballots for voting at general meetings to shareholders' e-mails, which will notably speed up ballot delivery.

1. The benchmark used the Guidelines for Corporate Governance Self-Assessment for Partially Government-Owned Companies developed by Rosimushchestvo.
2. For more details see Appendix 1 Report on Compliance with the Corporate Governance Code Recommended by the Bank of Russia to this Annual Report.
3. The Corporate Governance Code approved by the Board of Directors of the Bank of Russia on 21 March 2014.
4. Rating was assigned in March 2019.

Governing Bodies

General Shareholders' Meeting

The General Shareholders' Meeting is the Company's supreme governing body; its activities are regulated by Russian laws, Rostelecom's Charter,[1] and the Regulations on the General Shareholders' Meeting.

In 2018, Rostelecom's Annual General Shareholders' Meeting[2] was held on 18 June, and the Extraordinary General Shareholders' Meeting[3] was held on 24 December[4].

Board of Directors

The Board of Directors is a collective governing body responsible for the Company's growth strategy and general management. The powers of the Board are detailed in the Charter and the Regulations on the Board of Directors[5].

Assessment of the Board of Directors' performance[6]

In May 2019, the Board of Directors self-assessed its 2018 performance. The self-assessment comprised the overall assessment of the Board of Directors, the assessment of its Committees and each member of the Board in particular, including the Chairman.

In April 2019, an independent consultant, JSC VTB Registrar, assessed the overall performance of the Board of Directors, the performance of its Committees and each member of the Board, including the Chairman. The average score for the Board of Directors' performance assessment was 4.96 out of 5.

Induction of Board members

We have in place induction procedures for newly elected members of the Board of Directors. New members get familiar with all of the Company's internal documents regulating the proceedings of the Board, and hold meetings with members of the Management Board as well as internal and external auditors.

Key functions and tasks of the Board of Directors

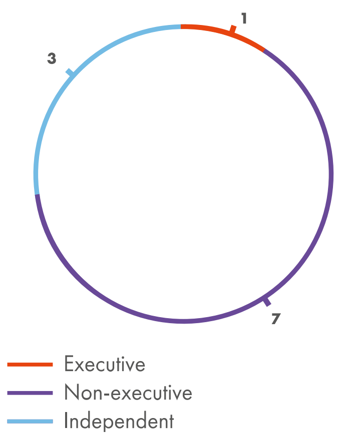
- Set up and advance business objectives and strategic goals of the Company
- Protect the rights and legitimate interests of shareholders
- Ensure integrity, reliability, and fairness of public information about the Company

Key principles of the Board of DirectorsMake decisions based on reliable information on the Company's operations

- Ensure the Company's adherence to long-term interests of its shareholders and receipt by shareholders of all relevant information on the Company's operations
- Balance the interests of various groups of shareholders and make most objective and well-balanced decisions for the benefit of all shareholders
- Interpret ambiguities in the rules of any laws and regulations in favour of enhancement of the rights and legitimate interests of shareholders

The Board of Directors is annually elected with 11 members. The average age of directors is 50 years and the average tenure of the Company's directors is 4.3 years. Five committees function under the Company's Board of Directors.

FIG. 55. DIRECTOR INDEPENDENCE



1. Version No. 18 was approved by the Company's AGM on 18 June 2018; Minutes No. 1 dated 20 June 2018. The full text of the new version is available at https://www.company.rt.ru/en/ir/corporate_governance/docs/Charter_ver18_eng.pdf.
2. Minutes No. 1 dated 20 June 2018: https://www.company.rt.ru/en/ir/agm/events/gosa_en/detail/2017/.
3. Minutes No. 2 dated 26 December 2018: https://www.company.rt.ru/en/ir/agm/events/vosa_en/detail/vosa_dec2018/.
4. For more details on key resolutions passed by the Annual and the Extraordinary General Shareholders' Meetings see Appendix 2 Governing and Control Bodies (in Russian) to this Annual Report.
5. Version No. 16 was approved by the Company's AGM on 18 June 2018; Minutes No. 1 dated 20 June 2018. The full text of the new version is available at https://www.company.rt.ru/en/ir/corporate_governance/docs/Regulations_BoD_ver16_eng.pdf.
6. For more details on the assessment of the Board of Directors' performance see Appendix 2 Governing and Control Bodies (in Russian) to this Annual Report.

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Membership of the Board of Directors

For detailed biographies of all members of the Board of Directors see Appendix 2 Governing and Control Bodies to this Annual Report.

Sergey B. Ivanov

Special Presidential Representative for Nature Protection, the Environment, and Transport

Member of the Board of Directors since 2015 (four years)

Ch

Alexander A. Auzan

Dean of the Department of Economics of Lomonosov Moscow State University

Member of the Board of Directors since 2015 (four years)

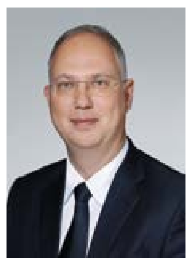
SID AC SC IC NRC

Ruben A. Aganbegyan

Advisor to the CEO of InfraVEB, JSC

Member of the Board of Directors since 2013 (six years)

ID AC NRC SC



Kirill A. Dmitriev

General Director of JSC RDIF Management Company

Member of the Board of Directors since 2014 (five years)

Anton A. Zlatopolsky

General Director of Rossiya TV Channel

Member of the Board of Directors since 2011 (eight years)

CGC IC

Nikolay A. Nikiforov

Chairman of the Board of Directors of LLC Diginavis

Member of the Board of Directors since 2018 (one year)

CGC

Konstantin Yu. Noskov

Minister of Digital Development, Communications, and Mass Media of the Russian Federation

Member of the Board of Directors since 2018 (one year)

Mikhail E. Oseevsky

President of PJSC Rostelecom

Member of the Board of Directors since 2017 (two years)

SC CGC Sh

Mikhail I. Poluboyarinov

First Deputy Chairman of VEB.RF

Member of the Board of Directors in 2010–2011 and since 2014 (six years)

Vadim V. Semenov

Chairman of the Supervisory Board of State Company Russian Highways (Avtodor)

Member of the Board of Directors since 2011 (eight years)

ID AC CGC NRC

Alexey A. Yakovitsky

General Director of JSC VTB Capital

Member of the Board of Directors since 2017 (two years)

SC NRC

Mikhail E. Oseevsky has a stake in charter capital of the Company in the amount of 0.0735%. The remaining members of the board of directors do not have stakes in the charter capital of the Company. For more details on share transactions see Appendix 2 Governing and Control Bodies to this Annual Report.

Ch Chairman of the Board of Directors
SID Senior Independent Director
ID Independent Director
AC Audit Committee
CGC Corporate Governance Committee
NRC Nomination and Remuneration Committee
SC Strategy Committee
IC Investment Committee
Sh Shareholding

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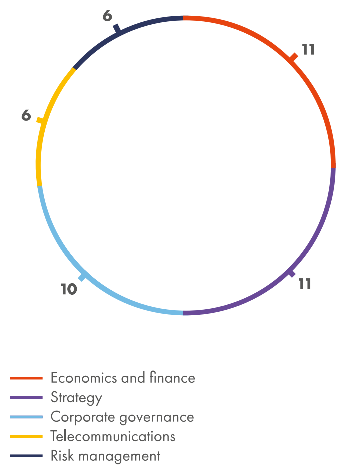
Qualifications of the Board of Directors

FIG. 56. MEMBERS OF THE BOARD OF DIRECTORS QUALIFIED TO PERFORM RESPECTIVE ROLES



The liability of the Company's directors was insured for EUR 150 million, with the additional insurance coverage of EUR 920 thousand for independent directors.

No conflicts of interest involving members of the Board of Directors were identified in 2018.

Board of Directors' and its Committees' performance report[1]

The Board of Directors held 27 meetings, including 3 in person and 24 in absentee form, 199 matters were discussed.

Board of Directors

Key 2018 results

Approved the following documents:
- Updated PJSC Rostelecom's Strategy 2022
- New Dividend Policy

Arranged for the first independent assessment of the Board of Directors' performance.

Delivered on the 2018 tasks within the key strategic projects:
- Bridging the Digital Divide
- Arranging for Video Surveillance and Ensuring the Operation of the Broadcasting Portal during the Elections in Russia
- Providing Internet Access for Hospitals and Out-Patient Clinics
- Launching the Unified Biometric System
- Installing the Sakhalin–Kuril Islands Submarine FOCL.

Plans for 2019

Monitoring the implementation of the overall strategy and strategic projects:
- Digital Economy of the Russian Federation nationwide programme
- 5G deployment
- Data centre network expansion
- Cyber security provision.

Approving the action plan for the Company's migration to predominantly Russian software.

Updating the Programme for Disposal of Non-Core Assets.

Electing the Management Board.

Audit Committee

Key 2018 results

6 meetings (1 in person), 26 matters

Enhanced the Risk Management Programme.

Monitored the quality of internal controls and audit.

Positively assessed the internal and external audit.

Plans for 2019

Strengthening control over technology risks related to import substitution programmes.

Nomination and Remuneration Committee

Key 2018 results

5 meetings (2 in person), 16 matters

Developed the Long-Term Incentive Programme for 2020–2022.

Plans for 2019

Monitoring the implementation of the Long-Term Incentive Programme.

Reviewing the existing approaches to, and policies on, the remuneration of members of the Board of Directors, executive bodies, and other key executives of the Company.

Strategy Committee

Key 2018 results

7 meetings (4 in person), 8 matters

Developed the updated Strategy 2022 and updated the Long-Term Development Programme accordingly.

Developed the new Dividend Policy.

Based on the recommendations of the Committee, the Company paid out interim dividends for 9M 2018 for the first time.

Plans for 2019

Closer monitoring of M&A transactions, reviewing the efficiency of the acquired asset integration.

Corporate Governance Committee

Key 2018 results

1 meeting in absentia, 1 matter

Reviewed the compliance with the Company's Information Policy.

Plans for 2019

Monitoring of compliance with the Company's Information Policy.

Enhancing corporate governance standards.

Investment Committee

No meetings of the Committee were held in 2018.

1. For more details on voting of members of the Board of Directors and its Committees at the 2018 meetings held in person/in absentia, as well as on the matters discussed at the meetings of the Board of Directors and its Committees see Appendix 7 Information on Meetings of the Board of Directors and Its Committees to this Annual Report.

Corporate Secretary

The Corporate Secretary facilitates the coordination between the Company and its shareholders, and assists the Company's governing bodies in corporate governance. The Corporate Secretary reports to the Board of Directors and is elected by a simple majority of votes cast by its members.

Ekaterina S. Mironova has been the Company's Corporate Secretary since 2011[1].

President and Management Board

The Management Board consists of 9 members, whose average age is 44.2 years. In 2018, 21 board meetings were held, including 20 in person and 1 in absentia. The average tenure of the Management Board is 5.3 years.

Management Board's performance report

TABLE 17. KEY AGENDA ITEMS

Operations and operational excellence	• Reports on budget performance and drafting the budget for 2018
	• Enhancement of the corporate project management
	• Implementation status and key priorities of Rostelecom's production system
	• Procurement optimisation
	• Monitoring of the progress on key strategic projects:
	  • Bridging the Digital Divide
	  • Providing Internet Access for Hospitals and Out-Patient Clinics
	  • Installing the Sakhalin–Kuril Islands Submarine FOCL
	  • Arranging for Video Surveillance and Ensuring the Operation of the Broadcasting Portal during the Elections in Russia
	  • Launching the Unified Biometric System
	• Decommissioning of analogue network equipment
	• Changes in the organisation of the Company's branches

The Company's growth	• Strategy 2022 • Strategy of business segments and key subsidiaries • Target IT architecture development and transformational solutions for telecoms networks
Risk management	• Progress of the Risk Management Programme
Enhancement of corporate governance standards	• Development and approval of the Risk Management Programme • Internal control development concept
Preparation of materials and matters referred to the Board of Directors	• Preview of related party transactions
Social responsibility	• Charity and sponsorship initiatives

1. For more details on the Corporate Secretary see Appendix 2 Governing and Control Bodies to this Annual Report.

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Membership of the Management Board

Mikhail E. Oseevsky

Chairman of the Management Board, President

Joined the Company in 2017

Stake in charter capital[1]: 0.0735 %

Alexander E. Abramkov
(until 7 March 2019)

Advisor to the President

Joined the Company in 2013, left the Company in 2019

Stake in charter capital: 0.032 %

Sergey N. Anokhin

Senior Vice President and CFO

Joined the Company in 2017

Stake in charter capital: 0.027 %

Vladimir S. Kirienko

First Vice President

Joined the Company in 2016

Stake in charter capital: 0.033 %

Kirill A. Menshov

Senior Vice President for IT

Joined the Company in March 2018

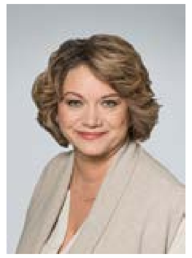
Stake in charter capital: 0.0067 %

Dmitry V. Proskura

Vice President and Director of the Volga Macroregional Branch

Joined the Company in 2011

Stake in charter capital: 0.031 %



Galina V. Rysakova

Senior Vice President for Organisational Development and Human Resources

Joined the Company in 2001

Stake in charter capital: 0.039 %

Alexey V. Sapunov

Senior Vice President for Technical Infrastructure

Joined the Company in 2013

Stake in charter capital: 0.012 %

Anna V. Shumeyko

Senior Vice President, Chief of Staff of Rostelecom's President

Joined the Company in 2017

Stake in charter capital: 0.025 %

No conflicts of interest involving members of the Management Board were identified in 2018.

Committees of the Management Board[2]

To improve the performance of the Management Board, the Company has in place four committees:
- Budget and Investment Committee
- Compensation Committee
- Risk Management Committee
- Charity Committee

1. For more details on share transactions see Appendix 2 Governing and Control Bodies to this Annual Report.
2. For more details on the Committees' activities see Appendix 2 Governing and Control Bodies to this Annual Report.

Control Bodies[1]

Internal Audit Unit

Key roles
- Internal audit based on a risk-oriented approach and best practices
- Independent assistance in the enhancement of risk management, internal controls, and corporate governance
- Ensuring efficient operation of the Ethics Hotline.

Key 2018 results
- Executed the audit action plan, achieved economic benefit
- Provided recommendations to increase risk manageability, and proposals to receive additional income and cut costs
- Began implementing the continuous audit model developed earlier
- Integrated IT solutions into audit.

Risk Management divisions

Key roles
- Building, monitoring, and maintaining the risk management system (RMS).

Key 2018 results
- Implemented projects to automate the RMS:
  - Online risk reports for managers
  - Risk indicator dashboard for business processes (pilot)
- Initiated changes in the procurement management process following the RMS automation development projects
- Adopted simulation in risk assessment
- Included risk modelling and risk response measures verification procedure in the Regulations on the Corporate Project Management
- Initiated the Single Point of Contact for Project Management to obtain information on the project management and product launch risks
- Approved the Risk Management Programme
- Approved the Action Plan to mitigate the risks of business interruption due to sanctions.

Asset Protection Department (Compliance)

Key roles
- Corporate culture development in terms of anti-corruption, prevention of embezzlement and the conflict of interest, and compliance with ethical standards
- Analysing and monitoring the activities of the Company and its subsidiaries and affiliates related to asset protection
- Maintaining a hotline and an anti-corruption portal.

Key 2018 results
- Launched an automated system to resolve conflicts of interest
- Developed and implemented the Company's 2018 compliance programme
- Held in-person and remote compliance trainings
- Introduced anti-corruption programmes at 30 subsidiaries and affiliates.

Dedicated officials responsible for the implementation of internal controls to counter money laundering, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction

Key roles
- Protecting the Company from criminally obtained incomes
- Mitigating the risk of money laundering and the financing of terrorism
- Monitoring compliance with the requirements for subscriber identification
- Identifying and terminating criminal/dubious activities.

Key 2018 results
- Appointed dedicated officials responsible for internal controls in all macroregional branches
- Created teams headed by security directors in all regional branches
- Appointed employees responsible for subscriber identification
- Automated subscriber inspection for invalidated passports and engagement in extremism and terrorism
- Assessed the risk of legalisation of criminally obtained incomes by customers
- Arranged for trainings on countering money laundering, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction.

Internal Control Unit

Key roles
- Assisting the top management in building an efficient internal control system (ICS).

Key 2018 results
- Reviewed the ICS across the key processes and the Company's macroregional branches to develop recommendations and take actions to enhance its efficiency.

1. For more details on control bodies' activities see Appendix 2 Governing and Control Bodies to this Annual Report.

Audit Commission

Key roles

- Monitoring financial and business operations between General Shareholders' Meetings.

Key 2018 results

- Audited the financial and business performance of the Company in 2018, including the annual report and annual accounting statements.

External audit

We annually engage an external auditor for independent assessment of the accuracy of the Company's financial statements.

In 2018, following the procurement procedure, LLC Ernst & Young was selected as PJSC Rostelecom's auditor of both IFRS and RAS financial statements for 2H 2018 and 1H 2019, with the fee for audit-related services totalling RUB 70.95 million[1].

The auditor confirmed the accuracy of the 2018 financial statements.

Compliance and anti-corruption efforts

Rostelecom is committed to the principles of openness, transparency, and integrity. The Company and all its employees are required to comply with the anti-corruption laws as well as principles of ethical business conduct.

Key regulations on anti-corruption compliance procedures:
- Anti-Corruption Policy (developed in 2014, updated in 2018)[2]
- Code of Ethics[3]
- Code of Corporate Conduct
- Code of Supplier Business Ethics
- Regulations on the Conflict of Interest Management
- Regulations on Giving and Receiving Gifts
- Regulations on Donations and Charitable Aid

The procedures ensuring compliance with anti-corruption laws are also stipulated in the Company's business process regulations.

Key anti-corruption focus areas in 2018:[4]
- Employee training
- Feedback channels
- Conflict of interest management
- Subsidiary relations

Employee training

Rostelecom regularly holds anti-corruption trainings for its employees. All new employees pass a mandatory online course on the key principles set out in the Code of Ethics. In January 2018, we launched a new version of the course with more exercises and relevant examples.

In March 2018, an advanced online Corruption Prevention course was developed for the Company's employees in positions with a higher corruption risk. In 2018, 480 employees of Rostelecom and 420 employees of its subsidiaries passed classroom compliance training.

Feedback channels

In line with the new strategy of digital coverage of Rostelecom's anti-corruption efforts, a dedicated anti-corruption portal (www.nocorruption.rt.ru , in Russian) is in place and is constantly improved. The portal comprises Rostelecom's anti-corruption internal regulations, compliance tests for employees and suppliers, materials on corruption prevention, and the information on all feedback channels that can be used to report instances of corruption.

Anti-corruption portal (in Russian):
www.nocorruption.rt.ru

Hotline:
+7 800 181 1811

Conflict of interest management

In June 2018, Rostelecom launched an automated system to resolve conflicts of interest. Any Rostelecom's employee with a conflict of interest, as well as employees in positions exposed to a higher corruption risk regularly complete electronic declarations. Using pre-determined criteria, the system automatically identifies employees who should submit the declarations, and monitors timely completion of declarations by these employees, thus excluding the human factor from mandatory disclosures.

For 2019, we have scheduled the integration of the conflict of interest management system with automated internal and external systems, as well as the expansion of the system's functions.

Anti-corruption efforts development at PJSC Rostelecom's subsidiaries and affiliates

In 2018, Rostelecom developed anti-corruption processes at 30 subsidiaries and affiliates in which it has an effective interest of over 50%.

1. For more details on the auditor's fee see Appendix 2 Governing and Control Bodies (in Russian) to this Annual Report.
2. For more details on Rostelecom's Anti-Corruption Policy see the Company's website at https://www.company.rt.ru/en/ir/corporate_governance/docs/anticorruption_policy_Rostelecom_en_v2.pdf
3. For more details on Rostelecom's Code of Ethics see the Company's website at https://www.company.rt.ru/ir/corporate_governance/docs/%D0%A1ode_of_Ethics_2014_06_26_Eng.pdf
4. For more details on Rostelecom's other anti-corruption focus areas see Appendix 2 Governing and Control Bodies to this Annual Report.

Remuneration

Board of Directors

Fixed annual remuneration payable to each member of the Board of Directors

4

RUB million

Annual remuneration payable to members of the Audit Committee of the Board of Directors

440

thousand RUB

Annual remuneration payable to members of other Committees of the Board of Directors

320

thousand RUB

Factor applied to the Chairman of the Board of Directors

1.5

Factor applied to the Board of Directors' Committee Chairmen

1.25

FIG. 57. REDUCTION OF REMUNERATION DUE TO ABSENCE FROM MEETINGS HELD IN PERSON OR IN ABSENTIA, %

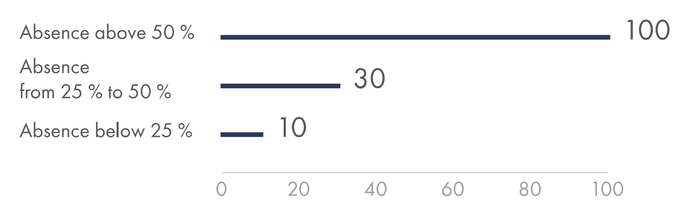
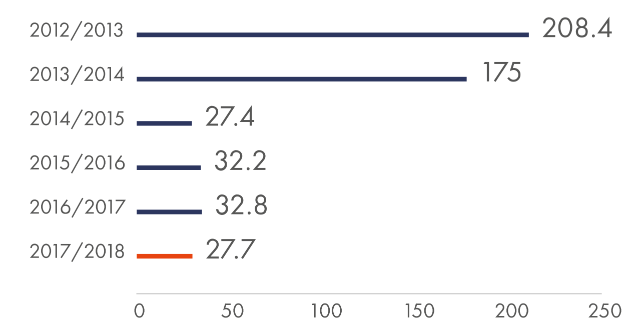


FIG. 58. REMUNERATION PAID TO THE BOARD OF DIRECTORS IN 2013–2018, RUB M[1]



No reimbursement of expenses or other payments were made to members of the Board of Directors in 2018, no loans (credit facilities) were granted.

In 2018, members of the Board of Directors who were not employed by the Company did not participate in the long-term incentive programme for the Company's management.

1. Paid to a member of the Board of Directors not later than one month after holding the Annual General Shareholders' Meeting for the year when he/she was elected to the Board of Directors.

TABLE 18. INDIVIDUAL PAYMENTS TO MEMBERS OF THE BOARD OF DIRECTORS, RUB

Name	Remuneration for serving on the Board of Directors	Remuneration for serving on the Audit Committee	Remuneration for serving on the Strategy Committee	Remuneration for serving on the Nomination and Remuneration Committee	Remuneration for serving on the Corporate Governance Committee
Ruben A. Aganbegyan	4,000,000	400,000	320,000	400,000	0
Alexander A. Auzan	4,000,000	400,000	288,000	320,000	0
Kirill A. Dmitriev	4,000,000	0	0	0	0
Anton A. Zlatopolsky	0	0	0	0	0
Sergey B. Ivanov	0	0	0	0	0
Sergey B. Kalugin	0	0	0	0	0
Mikhail E. Oseevsky	0	0	0	0	0
Mikhail I. Poluboyarinov	4,000,000	0	0	0	0
Alexander A. Pchelintsev	4,000,000	0	0	0	400,000
Vadim V. Semenov	4,000,000	500,000	320,000	320,000	0
Alexey A. Yakovitsky	0	0	0	0	0
TOTAL, by type of payment	24,000,000	1,300,000	928,000	1,040,000	400,000
GRAND TOTAL					27,668,000

No annual remuneration is paid to the members of the Board of Directors holding public offices or employed by the Company, or to the members who renounced their remuneration.

President and Management Board

The President's compensation package is determined in his contract approved by the Board of Directors.

Furthermore, in line with the Board of Directors' resolution, the President's pay may include an annual bonus for good-faith performance of his duties and performance against budget targets.

No special remuneration is payable to Management Board members for serving on the Management Board.

Severance is paid upon termination of employment by the Company in line with the Labour Code of the Russian Federation. The severance pay does not exceed the employee's triple average monthly earnings.

TABLE 19. COMPONENTS OF REMUNERATION PAYABLE TO MEMBERS OF THE MANAGEMENT BOARD

	Salary	Short-term incentives	Long-term incentives
Type of remuneration	Basic salary	Annual bonus	Long-term incentive program
Objective	Attract and retain professional managers by offering competitive salaries	Achieve annual business KPIs[1]	Achieve long-term KPIs: Net profit, FCF, and ROIC
Target ration of remuneration components	50%	50%	The multi-year programme is based on a share matching plan and offers shares as remuneration

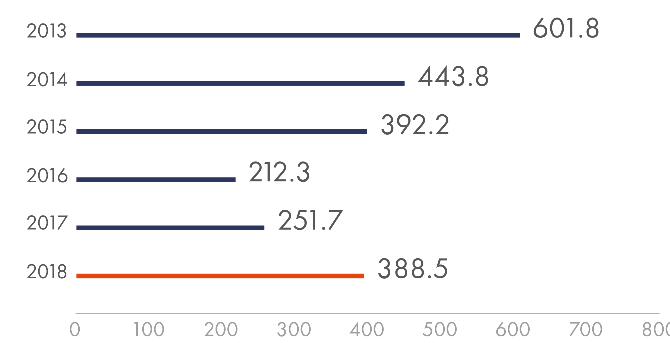
1. For more details see the Incentive Programmes section below.

TABLE 20. PAYMENTS TO THE MANAGEMENT BOARD AND THE HIGHEST PAID EMPLOYEES IN 2018, RUB

Payment type	Payments to Management Board members	Payments to Top 5 highest paid employees (key executives)
Salary	241,829,207.98	153,998,454.25
Bonuses, including:	718,146,788.02	489,678,079.17
short-term incentives	146,698,529.02	101,808,137.17
long-term incentives	571,448,259.00	387,869,942.00
Fees	0	0
Benefits	0	0
Reimbursement of expenses	0	0
Other	0	0
TOTAL	959,975,996.00	643,676,533.42

No loans (credit facilities) were granted by the Company to members of the Management Board.

FIG. 59. REMUNERATION PAID TO THE MANAGEMENT BOARD, EXCLUDING LONG-TERM INCENTIVES, RUB M



The higher overall remuneration paid to the Management Board in 2018 was mainly driven by an increase in the Board's size to nine people (until 16 May 2017, six people; until 27 October 2017, eight people; currently, nine people), and changes in the composition of the Board.

Audit Commission

Annual remuneration payable to members of the Audit Commission

800

thousand RUB

Factor applied to the Chairman of the Audit Commission

1.3

Factor applied to the Secretary of the Audit Commission

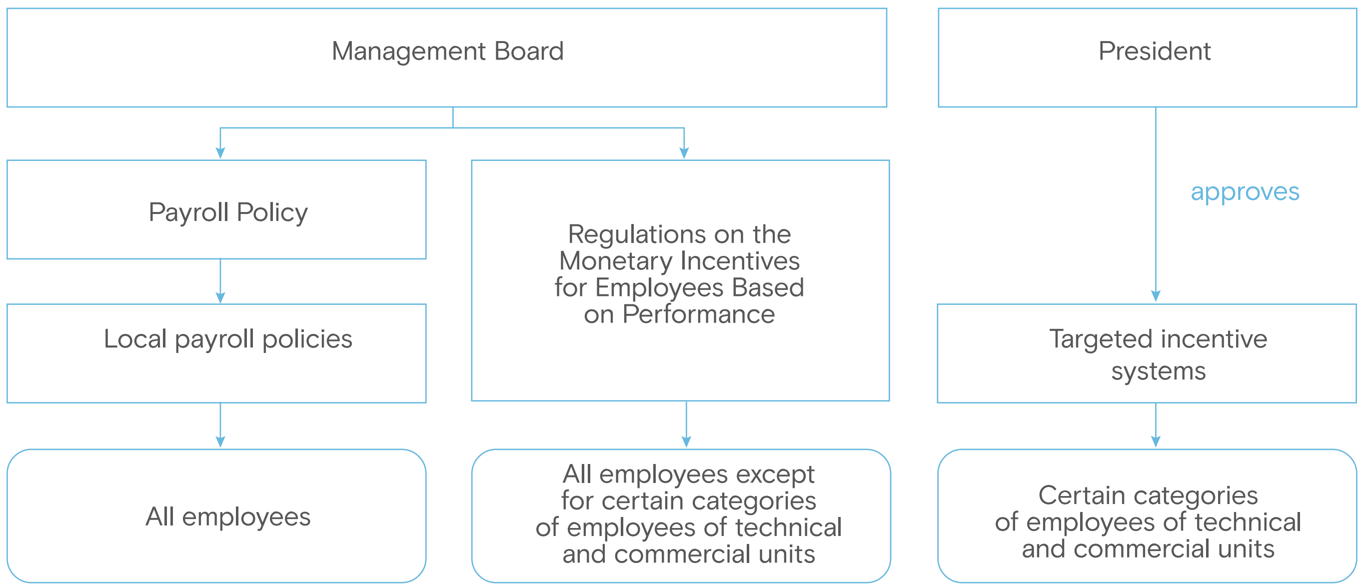
1.1

TABLE 21. PAYMENTS TO MEMBERS OF THE AUDIT COMMISSION IN 2018, RUB

Name	Remuneration for serving on the Audit Commission	Salary
Valentina F. Veremyanina	800,000.00	0
Anton P. Dmitriev	0	0
Ilya I. Karpov	0	0
Mikhail P. Krasnov	880,000.00	0
Oleg A. Musienko	390,136.99	0
Alexander S. Ponkin	0	0
Alexander V. Shevchouk	1,040,000.00	0
TOTAL	3,110,136.99	0

No annual remuneration is paid to the members of the Audit Commission holding public offices.

Incentive programmes



Rostelecom has in place a number of policies and regulations for employee incentives.

The Company regularly participates in salary and HR policy reviews. Remuneration and financial incentives for Rostelecom's management are on par with the market.

Rostelecom does not use non-cash incentives except for the Long-Term Incentive Programme. Local incentive systems in place in Rostelecom's subsidiaries and affiliates are adapted to keep in line with the Company's incentive system.

Severance may be paid to the Company's employees upon retirement by mutual agreement of the parties. The severance pay may not exceed the employee's triple average monthly earnings.

Long-term incentives

Rostelecom's Long-Term Incentive Programme has been approved by the Board of Directors and is based on a share matching plan. The Programme is open to employees in grades 6 to 11 if they choose to use a portion of their variable remuneration to buy Rostelecom securities. In this case, the employee is entitled to additional remuneration in the form of Rostelecom shares depending on his or her position, amount of investment, and individual and corporate performance.

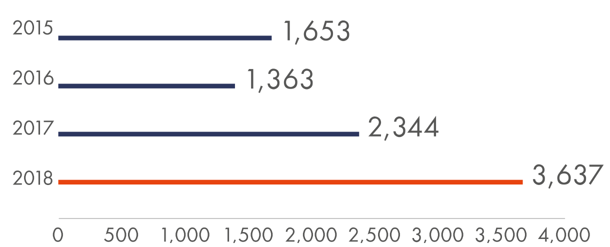
The Programme includes three cycles, which are launched annually: in 2017, 2018, and 2019. The maximum total number of shares owned by Programme participants may not exceed 6% of the Company's charter capital. The maximum number of shares owned by Programme participants in each cycle may not exceed 2% of the Company's charter capital.

The Programme is based on both individual performance and achievement of corporate KPIs applicable to the Programme:

- Free cash flow (FCF)
- Net profit
- Return on invested capital (ROIC)

The Programme is implemented via RTC-Development, a closed-end unit investment fund.

FIG. 60. EXPENSES ON THE LONG-TERM MANAGEMENT INCENTIVE PROGRAMME WITHIN THE STATEMENT OF PROFIT OR LOSS, RUB M[1]



In 2018, Rostelecom's Board of Directors approved the Company's Long-Term Incentive Programme for 2020–2022. The terms and conditions for participation remained the same.

1. Salary expenses, other payments, and social charges, including personal income tax and social charges. The 2017 data were adjusted for the amount of returned expenses associated with the Long-Term Incentive Programme effective until 2017.

Short-term incentives

The Company has an annual bonus scheme for top and middle managers.

We are also working to improve employee motivation. In 2018, targeted incentive schemes and KPIs for B2C and B2B segments and the Technical Infrastructure Unit based on 2017 performance were finalized.

Yet another employee motivation tool used by Rostelecom is quarterly assessments of in-house services. Such assessments improve cross-functional communication. Their results are used to enhance in-house services. Methodology of the survey was changed in 2018 to introduce a more sensitive response scale, expand assessment criteria, and add a feedback form.

System of KPIs

The Company has in place a KPI system, where KPIs depend on employee's position and scope of responsibility. Bonuses paid to employees depend on the achievement of corporate, business, and individual targets.

FIG. 61. CORPORATE KPI

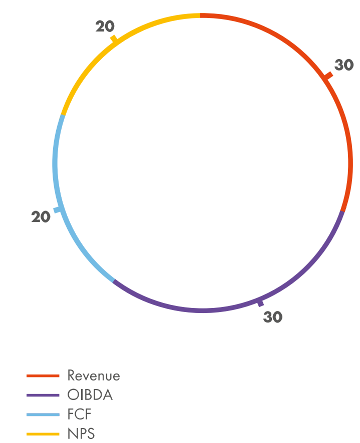


FIG. 62. BUSINESS KPI: PRESIDENT AND MEMBERS OF THE MANAGEMENT BOARD

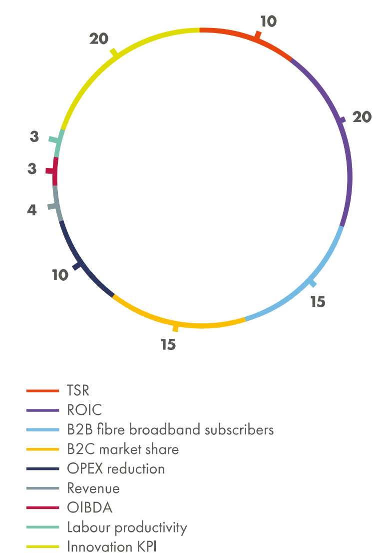


FIG. 63. BUSINESS KPI: MANAGERS OF KEY BUSINESS SEGMENTS (B2C, B2B/B2G, AND B2O)

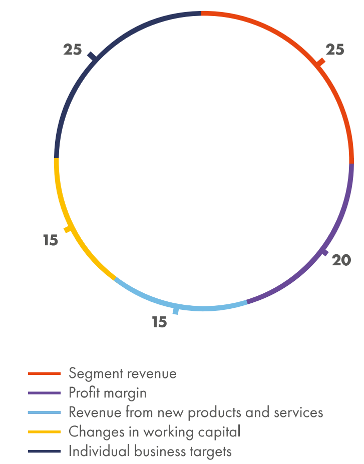
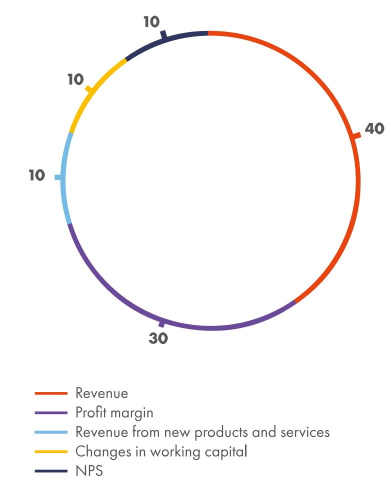


FIG. 64. BUSINESS KPI: VICE PRESIDENTS – DIRECTORS OF MACROREGIONAL BRANCHES



Information Disclosure

Aiming to improve its investment appeal and maintain a trust-based dialogue with its stakeholders, Rostelecom discloses information in line with:
- Russian laws
- requirements and recommendations of the Bank of Russia
- requirements of the Moscow Exchange
- internal documents.

The Board of Directors establishes the rules of, and approaches to, disclosures, which are formalised in Rostelecom's Regulations on the Information Disclosure Policy.

Key objectives of these Regulations are to:
- enhance openness and build trust
- improve transparency
- determine the Company's disclosure framework.

Key principles of the information policy are:
- timely, consistent, and prompt provision of information
- accessibility, objectivity, completeness, accuracy, and comparability of disclosed information
- equal rights of all stakeholders to obtain information in compliance with all applicable laws, standards, and regulations
- information disclosure regardless of specific individual or group interests
- reasonable balance between the Company's transparency and protection of its business interests
- confidentiality of information that constitutes a state secret or a trade secret in accordance with the Company's internal documents
- control over the use of insider information.

The Company discloses information on its official website www.rt.ru and on the corporate information disclosure website run by Interfax www.e-disclosure.ru (in Russian).

Securities and Shareholder and Investor Relations

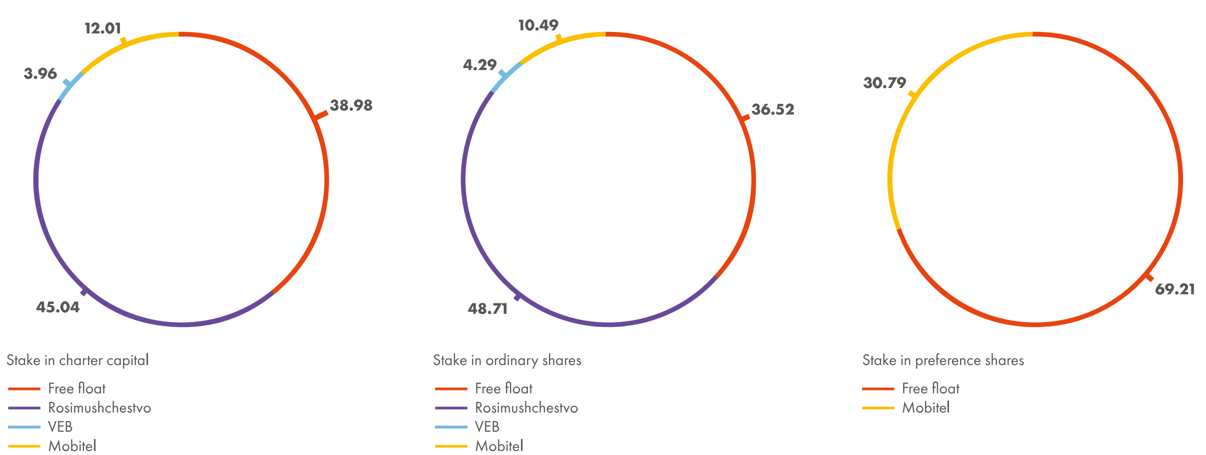
Securities

Shares

PJSC Rostelecom's charter capital is RUB 6.96 million divided into 2,574,914,954 ordinary and 209,565,147 preference shares. A total of 45.04% is owned by the Russian Federation represented by the Federal Agency for State Property Management (Rosimushchestvo), with 38.98% of the charter capital in free float. As at 31 December 2018, the total number of Rostelecom shareholders was 153.3 thousand: 700 legal entities and 152.6 thousand individuals.[1]

PJSC Rostelecom ordinary and preference shares (tickers RTKM and RTKMP) are admitted to the Level One quotation list of the Moscow Exchange and to the non-quotation section of Saint Petersburg Exchange's list. PJSC Rostelecom shares are also included in the FTSE Emerging Markets and MVIS indices.

FIG. 65. SHARE CAPITAL STRUCTURE



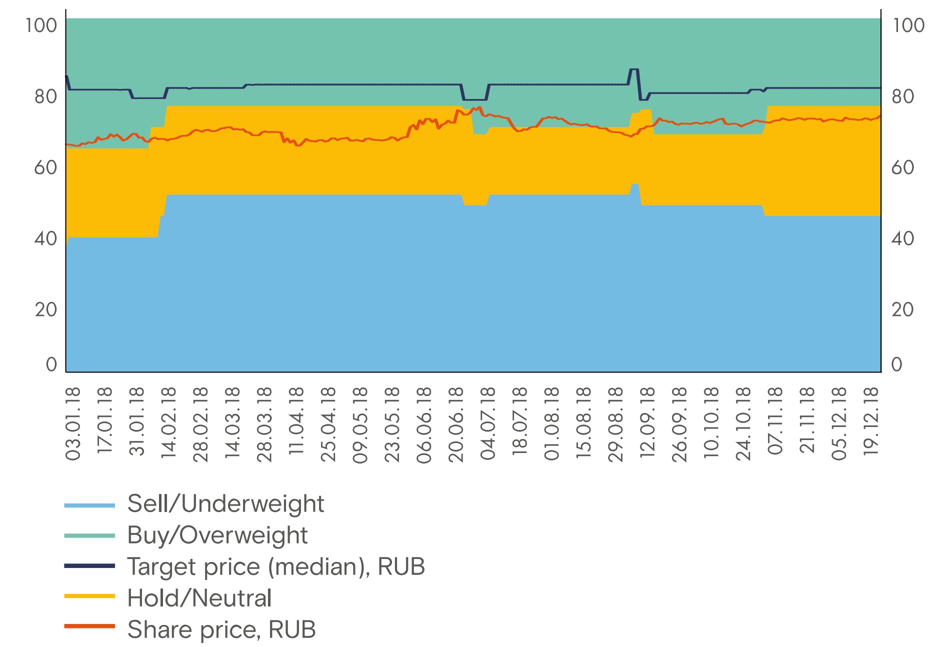
1. Excluding disclosure of shareholders whose shares are held by nominee shareholders.

TABLE 22. KEY PERFORMANCE HIGHLIGHTS OF PJSC ROSTELECOM SHARES ON THE MOSCOW EXCHANGE[1]

Item	Ordinary shares, RUB	Preference shares, RUB
Price as at 29 December 2017	63.9	55.95
Annual low (2018)	63.6	55.8
Annual high (2018)	74.9	66
Price as at 28 December 2018	72.33	60.45

Ordinary and preference share trading volume totalled RUB 55,476 million and RUB 4,472 million[2], respectively, in 2018. The bulk of trade in PJSC Rostelecom shares was on the Moscow Exchange.

FIG. 66. ANALYST RECOMMENDATIONS FOR ORDINARY SHARES OF PJSC ROSTELECOM, %



1. Source: Bloomberg.
2. Source: Bloomberg.

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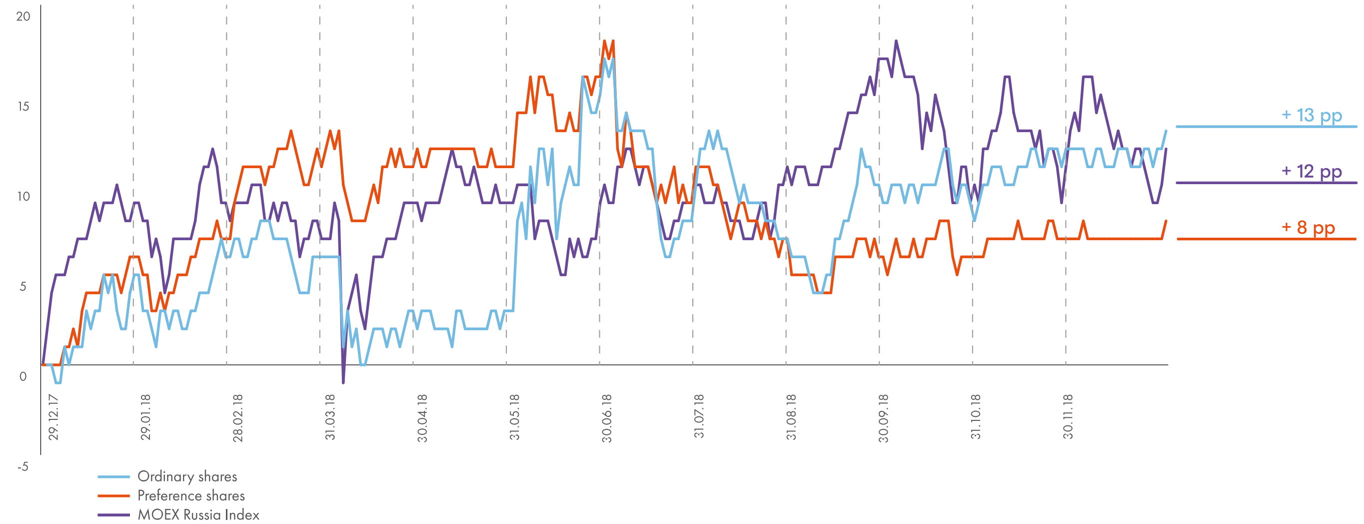
FIG. 67. PJSC ROSTELECOM ORDINARY AND PREFERENCE SHARE PRICE AND MOEX RUSSIA INDEX PERFORMANCE



Source: Bloomberg

Depositary receipts

PJSC Rostelecom launched an American Depositary Receipt (ADR) programme for its ordinary shares in February 1998.[1] One ADR stands for six ordinary shares. Currently, the ADRs are traded on the OTCQX trading platform, as well as on London, Frankfurt, and other foreign stock exchanges under unlisted trading privileges. As at 31 December 2018, 19.7 million ADRs were issued, or 4.6% of its total outstanding shares.

Bonds

In 2018, Rostelecom issued 10-year exchange-traded bonds for a total of RUB 10 billion, with a six-year put option, at 7.15% p.a. The proceeds were used to refinance the Company's existing debt and did not change its overall leverage.

As at 31 December 2018, the total value of the Company's outstanding bonds amounted to RUB 45.9 billion, or 22.47% of its debt portfolio.

TABLE 23. OUTSTANDING BONDS AS AT 31 DECEMBER 2018

Series	Placement date	Issue size, RUB	Number of outstanding bonds	Maturity date
Bonds				
БО-01	29 May 2015	5,000,000,000	862,810	16 May 2025
001P-01R	22 September 2016	15,000,000,000	15,000,000	10 September 2026
001P-02R	26 April 2017	10,000,000,000	10,000,000	14.04.2027
001P-03R	21 November 2017	10,000,000,000	10,000,000	9 November 2027
001P-04R	16 March 2018	10,000,000,000	10,000,000	3 March 2028

1. For more details on the depositary and custodian see Appendix 11 Additional Information on PJSC Rostelecom to this Annual Report.

Dividends

In March 2018, the Board of Directors approved the Company's Dividend Policy[1] which governs dividend payments for 2018–2020.

The Dividend Policy stipulates that the Company will seek to:

- allocate to dividend payouts on ordinary and preference shares for 2019–2020 at least 75% of its free cash flow in each reporting year
- ensure that the annual dividend per ordinary share is at least RUB 5
- ensure that the amount of dividend payouts on ordinary and preference shares does not exceed 100% of the IFRS net profit for the reporting year, but in no case be less than the amount recommended by Rosimushchestvo and the Government of the Russian Federation for partly state-owned companies if such requirement is applicable to the Company.

In 2018, the Company paid dividends in line with Regulations on the Dividend Policy of PJSC Rostelecom[2] which govern dividend payments for 2015–2017. The Company aimed to allocate to dividend payouts on ordinary and preference shares for 2015–2017 at least 75% of its free cash flow[3] in each reporting year, but no less than RUB 45 billion in total for the three years.

According to the Charter, the annual per share dividend on Class A preference shares is equal to 10% of the Company's RAS net profit divided by 25% of the total number of outstanding shares (both ordinary and preference shares), but no less than the dividend on ordinary shares.

By resolution of the Annual General Shareholders' Meeting, the total amount of dividends on Rostelecom shares for FY2017 was RUB 14.05 billion; dividends on ordinary shares and Class A preference shares amounted to RUB 5.05[4] per share. The dividends were paid out of the net profit for FY2017 (RUB 8.89 billion) and retained earnings of past years (RUB 5.16 billion).

By resolution of the Extraordinary General Shareholders' Meeting dated 24 December 2018, the Company's interim dividends for 9M 2018 was RUB 6.96 billion. Dividends on ordinary share and Class A preference shares amounted to RUB 2.5 per share.

TABLE 24. DIVIDEND HISTORY

Dividends for	Type of shares	Total accrued, RUB thousand	Total paid during 2018, RUB thousand	Total paid prior to 2018, RUB thousand	Total paid as at 31 December 2018, %
9M 2018[5]	Ordinary shares	6,437,287	–	–	–
	Preference shares	523,913	–	–	–
FY2017	Ordinary shares	12,992,571	12,899,850	–	99.29
	Preference shares	1,057,429	1,044,443	–	98.77
FY2016	Ordinary shares	13,871,072	8,925	13,762,659	99.28
	Preference shares	1,128,928	1,683	1,112,546	98.70
FY2015	Ordinary shares	15,231,824	6,634	15,124,567	99.34
	Preference shares	1,239,676	789	1,224,299	98.82
FY2014	Ordinary shares	8,602,904	837	8,546,455	99.35
	Preference shares	848,730	176	839,083	98.88

1. Approved by PJSC Rostelecom's Board of Directors on 14 March 2018; Minutes No. 17 dated 14 March 2018. The full text of the document is available at https://www.company.rt.ru/en/ir/dividends/Rostelecom_Dividend_Policy_for_2018-2020.pdf.
2. Approved by PJSC Rostelecom's Board of Directors on 4 December 2015; Minutes No. 13 dated 4 December 2015. The full text of the document is available at https://www.company.rt.ru/ir/corporate_governance/docs/Dividend_Policy_2015_ENG_NEW_Final.pdf.
3. Free cash flow (FCF) means the net cash from operating activities, (1) net of cash paid for purchased property, plant, and equipment and intangible assets, (2) plus proceeds from disposals of property, plant, and equipment and intangible assets. FCF is calculated on the basis of the consolidated statement of cash flows of the Company's consolidated financial statements prepared under the International Financial Reporting Standards (IFRS).
4. The unrounded per share dividend was RUB 5.045825249373.
5. Dividends for 9M 2018 were paid out in January and February 2019.

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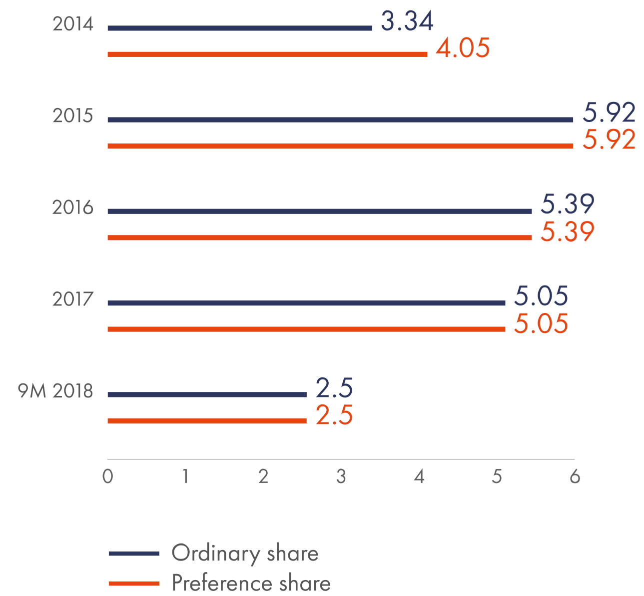
FIG. 68. DIVIDEND PER SHARE, RUB



Total FY2017 dividends on Class A preference shares amounted to 11.90% of the RAS net profit and 7.22% of the IFRS net profit for 2017. Dividends on ordinary shares amounted to 146.16% of the RAS net profit and 92.47% of the IFRS net profit for 2017.

RUB 6,328,421,000 out of net profit generated in 2017 was paid to the federal budget. The Company has no outstanding dividends payable to the federal budget.

Credit ratings

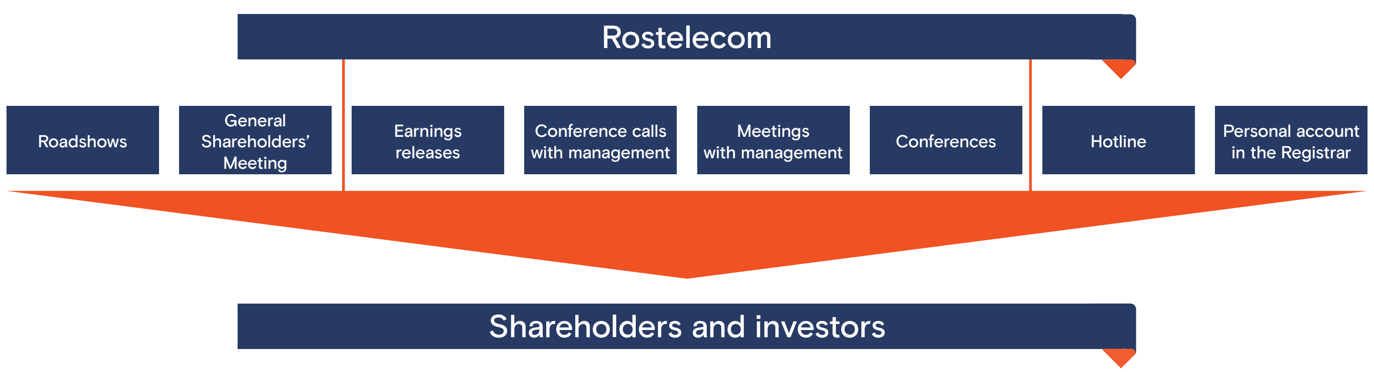
According to international rating agencies, Rostelecom's credit rating was in line with Russia's sovereign credit rating at the time the ratings were assigned. Rostelecom's ratings did not change during 2018, and the outlook remained stable.

TABLE 25. PJSC ROSTELECOM'S CREDIT RATINGS AS AT 31 DECEMBER 2018

Fitch Ratings	BBB–	Outlook Stable	Affirmed on 28 November 2018
Standard & Poor's	BB+	Outlook Stable	Affirmed on 3 July 2018
Analytical Credit Rating Agency (ACRA)	AA(RU)	Outlook Stable	Affirmed on 22 June 2018

Shareholder and investor relations

KEY SHAREHOLDER AND INVESTOR RELATIONS TOOLS



Rostelecom is committed to building strong relations with the investment community, promptly providing information on its operations to stakeholders, and quickly responding to requests from investors and other target audiences. The Company maintains an ongoing dialogue with investment bank analysts and holds regular meetings with existing shareholders and potential investors.

In its interactions with investors, the Company primarily aims to:
- promote Rostelecom's investment case
- manage expectations
- participate in analysing strategic decisions on the Company's growth, including their impact on market capitalisation
- expand and diversify Rostelecom's investor base, focusing on long-term investment funds
- reduce borrowing costs.

In March 2018, the Company held an Investor Day in Moscow to present its updated Strategy 2022.

During the year, Rostelecom took part in six investment conferences and held two non-deal roadshows.

Also, the Company's senior management and IR team participated in approximately 80 one-on-one meetings and conference calls with about 130 investors.

TABLE 26. IR CALENDAR

Date	Events	Format
7 February 2018	Russian Day in Stockholm	One-on-one and small group meetings
6 March 2018	Announcement of Q4 2017 and FY2017 IFRS results	Publication of a press release, presentation, statements, and other materials for the reporting period. Holding of a press conference and a management conference call with investors
21 March 2018	Investor Day in Moscow	In-person meeting with investors
9–10 April 2018	Raiffeisen Institutional Investors Conference, Zürs, Austria	One-on-one and small group meetings
10–11 April 2018	Renaissance Capital's 22nd Annual Russia Investor Conference (one-on-one), Moscow, Russia	One-on-one and small group meetings with management
15 May 2018	Announcement of Q1 2018 IFRS results	Publication of a press release, presentation, financial statements, and other materials for the reporting period. Holding of a press conference and a management conference call with investors
23 May 2018	Sberbank CIB's Russia: The Inside Track, a one-on-one conference	One-on-one and small group meetings with management
31 May 2018	NDR, London	One-on-one meetings
18 June 2018	AGM	Management presentation to shareholders
8 July 2018	FY 2017 dividend record date	
2 August 2018	Announcement of Q2 2018 IFRS results	Publication of a press release, presentation, financial statements, and other materials for the reporting period. Holding of a press conference and a management conference call with investors
1 November 2018	Announcement of Q3 2018 IFRS results	Publication of a press release, presentation, financial statements, and other materials for the reporting period. Holding of a press conference and a management conference call with investors
13–14 November 2018	NDR, London and Stockholm	One-on-one meetings with management
28–30 November 2018	VTB Capital's RUSSIA CALLING! Investment Forum	One-on-one and small group meetings with management
4 December 2018	WOOD's Winter Emerging Europe Conference, Prague, Czech Republic	One-on-one and small group meetings with management
24 December 2018	EGM	Management presentation to shareholders
13 January 2019	9M 2018 dividend record date	

The Company is engaged in an active dialogue with analysts from banks and rating agencies. The full list of analysts is available on the Company's website at https://www.company.rt.ru/en/ir/coverage/.

ADDITIONAL INFORMATION

THE RUSSIAN POST'S CORPORATE DATA NETWORK

Rostelecom has designed a common corporate data network for the Russian Post. The dedicated private network (IP VPN) with high-speed internet connection has provided 37 thousand postal sites with stable and modern connectivity, enabling digitization of most postal services. For example, parcels can now be picked up without producing a passport, with authentication assured through a digital signature. In addition, the network infrastructure has linked over 15 thousand Russian Post branches to data centres.

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Independent auditor's report

To the Shareholders and Board of directors
Public Joint Stock Company Rostelecom (PJSC Rostelecom)

Opinion

We have audited the consolidated financial statements of PJSC Rostelecom and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2018, and the consolidated statement of profit and loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2018 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) together with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Russian Federation, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
Recognition and measurement of revenue from telecommunication services	
As disclosed in Notes 5 and 26, revenue amounted to RUB 320,239 billion in 2018. Recognition and measurement of revenue from telecommunication services was one of the most significant matters identified in our audit due to the Company's using complex automated accounting systems ("AAS") to calculate revenue. There are different tariff plans, multiple-element customer agreements, one-off and recurrent service payment schemes as well as recognizing revenue from cloud services required from Group management significant judgement in applying IFRS 15 *Revenue from Contracts with Customers*.	Our audit procedures in respect of revenue included testing calculations made by AASs, including verifying calculation algorithms used by AASs to calculate revenue, accounts receivable and advances received. We performed testing of automated and semi-automated controls with respect to AASs. Our audit procedures also included testing of data obtained from AAS. We analysed the changes of Group's accounting policy due to implementation new IFRS 15 *Revenue from Contracts with Customers* as related to the recognition and accounting of certain types of revenue, examined the Group's agreements and analysed the impact on revenue recognition criteria of probability that the economic benefits associated with customers will flow to the Group and performed substantive testing the effects of adopting IFRS 15. We analysed tariff plans and conditions of agreements with counterparties and checked the accounting treatment of respective transactions. We examined respective disclosures in the consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
Impairment testing of investments in associates	
As disclosed in Note 11, the carrying amount of the Group's investments in associates is RUB 69,982 billion as at 31 December 2018. The Group performed an impairment testing of investments in associates, as required by its accounting policy. This matter was one of the most significant for our audit as the management assessment of the recoverable amount of investments required significant judgments in respect of the approaches of calculation of the recoverable value, and as well due to the fact that the impairment testing relied on various assertions and assumptions. Specifically, those assertions included the discount rate used, the amount of operating income before amortization and the amount of capital expenditure.	In the course of our audit procedures, we analysed assumptions and assertions used to calculate the recoverable amount of assets, as well as tested calculations of the recoverable amount involving our valuation specialists. In addition, we performed the budget-to-actual analysis of the operating indicators of associates. We also analysed the management assessment of the impairment testing sensitivity to underlying assertions and assumptions. In addition, we examined respective disclosures in the consolidated financial statements.
Impairment testing of fixed and other non-current assets, including goodwill and intangible assets with indefinite useful lives, at the level of cash-generating units	
As described in Note 8, impairment testing at the level of cash-generating units ("CGU") requires management to make significant estimates and assumptions. Due to this fact as well as due to the significant carrying amount of fixed and other non-current assets and highly sensitive value-in-use of the Group's CGUs to a variety of assertions and assumptions, this matter was one of the most significant for our audit. Significant estimates and assumptions include the expected revenue growth, expected amount of capital expenditure, the operating profit and the discount rate used.	In the course of our audit procedures, we analysed assumptions and assertions used to calculate the value-in-use of the Group's significant CGUs, as well as tested calculations of the value-in-use of the Group's CGUs involving our valuation specialists. For this purpose, we analysed the industry growth forecasts and performed the budget-to-actual analysis of the Group's operating indicators. We also analysed the management assessment of the impairment testing sensitivity to underlying assertions and assumptions. In addition, we examined respective disclosures in the consolidated financial statements.
Impairment of accounts receivable	
As disclosed in Notes 5 and 15, the carrying amount of accounts receivable is RUB 51,535 billion as at 31 December 2018. The assessment of an allowance for expected credit losses significantly impacts the amount of the impairment loss and, thus, the carrying amount of the accounts receivable. Therefore, this matter is one of the most significant for our audit. The management assessment of the expected credit losses is based on assumptions and estimates, in particular, on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors.	In the course of our audit procedures, we examined the changes in the Group's accounting policy due to implementation new IFRS 9 *Financial Instruments* as related to creating provision for impairment loss, checked information underlying the Group's calculations of the impairment loss, including historical data on the repayment of amounts due and their aging analysis. We analysed the assessment of the recoverability of trade accounts receivable and applied rates for impairment loss calculation. We examined respective disclosures in the consolidated financial statements.

Emphasis of matter

We draw attention to Note 1 to the consolidated financial statements which describes that on 29 June 2018 PJSC Rostelecom changed its name from Public Joint Stock Company Long-Distance and International Telecommunications Rostelecom to Public Joint Stock Company Rostelecom.

Our opinion is not modified in respect of this matter.

Other information included in the Annual Report of PJSC Rostelecom 2018

Other information consists of the information included in the Annual Report of PJSC Rostelecom for 2018, other than the consolidated financial statements and our auditor's report thereon. Management is responsible for the other information. The Annual Report of PJSC Rostelecom for 2018 is expected to be made available to us after the date of our auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of management, Board of Directors and Audit Committee for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Board of Directors and Audit Committee are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with Board of Directors and Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide Board of Directors and Audit Committee with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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From the matters communicated with Board of Directors and Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The partner in charge of the audit resulting in this independent auditor's report is A.Y. Grebeniuk.

A.Y. Grebeniuk
Partner
Ernst & Young LLC

11 March 2019

Details of the audited entity

Name: Public Joint Stock Company Rostelecom
Record made in the State Register of Legal Entities on 9 September 2002, State Registration Number 1027700198767.
Address: Russia 191002, Saint-Petersburg, Dostoevsky street, 15.

Details of the auditor

Name: Ernst & Young LLC
Record made in the State Register of Legal Entities on 5 December 2002, State Registration Number 1027739707203.
Address: Russia 115035, Moscow, Sadovnicheskaya naberezhnaya, 77, building 1.
Ernst & Young LLC is a member of Self-regulated organization of auditors "Russian Union of auditors" (Association) ("SRO RUA"). Ernst & Young LLC is included in the control copy of the register of auditors and audit organizations, main registration number 11603050648.

Consolidated statement of financial position

(In millions of Russian roubles unless otherwise stated)

	Notes	31 December 2018	31 December 2017*
Assets			
Non-current assets			
Property, plant and equipment	7	373,839	348,430
Investment properties		172	159
Goodwill and other intangible assets	8	66,246	59,820
Right of use assets	9	21,205	–
Trade and other accounts receivable	15	7,346	8,352
Investments in associates and joint ventures	11	69,982	65,879
Other financial assets	12	1,950	1,600
Other non-current assets	13	4,667	4,352
Deferred tax assets	25	863	647
Contract assets	16	501	–
Contract costs	17	12,323	–
Total non-current assets		559,094	489,239
Current assets			
Inventories	14	7,631	6,169
Contract assets	16	9,511	–
Trade and other accounts receivable	15	44,189	47,813
Prepayments		4,380	3,455
Prepaid income tax	25	984	159
Other financial assets	12	7,487	5,963
Other current assets	19	2,856	2,619
Cash and cash equivalents	18	10,080	3,815
Asset classified as held for sale	39	554	997
Total current assets		87,672	70,990
Total assets		646,766	560,229
Equity and liabilities			
Equity attributable to equity holders of the Group			
Share capital	20	93	93
Additional paid-in capital		115	91
Treasury shares		(60,419)	(65,556)
Retained earnings and other reserves		307,234	311,494
Total equity attributable to equity holders of the Group		247,023	246,122
Non-controlling interests		3,930	3,242
Total equity		250,953	249,364

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	Notes	31 December 2018	31 December 2017*
Assets			
Non-current liabilities			
Loans and borrowings	21	174,371	166,660
Lease liabilities	5	16,855	–
Employee benefits	24	4,675	4,733
Deferred tax liabilities	25	38,411	35,681
Accounts payable, provisions and accrued expenses	22	3,090	2,233
Other non-current liabilities	23	21,142	6,383
Total non-current liabilities		**258,544**	**215,690**
Current liabilities			
Loans and borrowings	21	29,908	24,712
Lease liabilities	5	4,791	–
Accounts payable, provisions and accrued expenses	22	88,530	60,666
Income tax payable		644	1,162
Other current liabilities	23	13,396	8,635
Total current liabilities		**137,269**	**95,175**
Total liabilities		**395,813**	**310,865**
Total equity and liabilities		**646,766**	**560,229**

* *The Group initially adopted IFRS 15 and IFRS 16 using the modified retrospective approach. Under this approach, the comparative information is not restated. The Group applied IFRS 9 from 1 January 2018 and has not restated comparative information for 2017 for financial instruments in the scope of IFRS 9.*

Consolidated financial statements were approved by management of PJSC Rostelecom on 11 March 2019 and were signed on its behalf by:

President

Oseevskiy M.E.

CFO – Senior Vice President

Anokhin S.N.

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of profit or loss and other comprehensive income

(In millions of Russian roubles unless otherwise stated)

	Notes	Year ended 31 December 2018	2017*
Revenue	26	**320,239**	**305,329**
Operating expenses			
Wages, salaries, other benefits and payroll taxes	27	(97,350)	(93,381)
Depreciation, amortization and impairment losses	7,8,17	(60,329)	(56,628)
Interconnection charges		(58,293)	(52,762)
Materials, utilities, repairs and maintenance	28	(26,183)	(25,926)
Gain on disposal of property, plant and equipment and intangible assets		7,184	5,344
Impairment loss of financial assets measured at amortized cost	15	(4,057)	(2,776)
Other operating income	29	13,579	13,444
Other operating expenses	30	(58,990)	(54,759)
Total operating expenses, net		**(284,439)**	**(267,444)**
Operating profit		**35,800**	**37,885**
Share of net profit/(loss) of associates and joint ventures	11	(91)	(2,692)
Finance costs	31	(17,275)	(17,350)
Other investing and financial gain, net	32	1,602	941
Foreign exchange (loss)/gain, net		(597)	122
Profit before income tax		**19,439**	**18,906**
Income tax expense	25	(4,427)	(4,856)
Profit for the year		**15,012**	**14,050**
Other comprehensive income/(loss)			
Other comprehensive income/(loss) to be reclassified to profit or loss in subsequent periods			
Share of other comprehensive income of associates		22	–
Exchange differences on translation of foreign operations		428	(110)
Net other comprehensive loss to be reclassified to profit or income/(loss) in subsequent periods		**450**	**(110)**
Other comprehensive income/(loss) not to be reclassified to profit or loss in subsequent periods			
Remeasurement of defined benefit pension plans	24	(180)	545
Income tax on remeasurement of defined benefit pension plans	25	36	(109)
Net other comprehensive income/(loss) not to be reclassified to profit or loss in subsequent periods		**(144)**	**436**
Other comprehensive income for the year, net of tax		**306**	**326**
Total comprehensive income for the year		**15,318**	**14,376**
Profit attributable to:			
Equity holders of the Group		14,154	13,697
Non-controlling interests		858	353
Total comprehensive income attributable to:			
Equity holders of the Group		14,491	14,017
Non-controlling interests		827	359
Earnings per share attributable to equity holders of the Group – basic (in roubles)	35	6.23	6.09
Earnings per share attributable to equity holders of the Group – diluted (in roubles)	35	6.09	5.99

* *The Group initially adopted IFRS 15 and IFRS 16 using the modified retrospective approach. Under this approach, the comparative information is not restated. The Group applied IFRS 9 from 1 January 2018 and has not restated comparative information for 2017 for financial instruments in the scope of IFRS 9.*

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of cash flows

(In millions of Russian roubles unless otherwise stated)

	Notes	Year ended 31 December 2018	2017
Cash flows from operating activities			
Profit before tax		**19,439**	**18,906**
Adjustments to reconcile profit before tax to cash generated from operations			
Depreciation, amortization and impairment losses	7, 8	60,329	56,628
Gain on disposal of property, plant and equipment and intangible assets		(7,184)	(5,344)
Impairment loss of financial assets measured at amortized cost	15	4,057	2,776
Loss from associates and joint ventures		91	2,692
Finance costs excluding finance costs on employee benefit obligations	31	17,180	17,026
Other investing and financial gain, net	32	(1,602)	(941)
Foreign exchange loss/(gain), net		597	(122)
Share-based motivation program		3,500	2,309
Increase in accounts receivable and contract assets		(8,634)	(5,078)
Decrease in employee benefits		(353)	(66)
(Increase)/(decrease) in inventories		(1,414)	232
Increase in accounts payable, provisions and accrued expenses		13,377	3,963
Decrease in other assets		(4,245)	(1,917)
Decrease in other liabilities		3,995	1,229
Cash generated from operations		**99,133**	**92,293**
Interest paid		(18,174)	(17,548)
Income tax refund		230	1,825
Income tax paid		(3,945)	(4,801)
Net cash from operating activities		**77,244**	**71,769**
Cash flows from investing activities			
Purchase of property, plant and equipment and intangible assets		(73,179)	(60,752)
Proceeds from sale of property, plant and equipment, intangible assets and assets held for sale		10,097	9,368
Acquisition of financial assets		(7,351)	(12,762)
Proceeds from disposals of financial assets		5,296	11,574
Interest received		589	637
Subsidy from Government	23	3,641	772
Dividends received		95	6
Purchase of subsidiaries and business, net of cash acquired	6	(4,064)	(218)
Proceeds from disposal of subsidiaries, net of cash disposed		80	347
Acquisition of equity accounted investees	11	(4,386)	(2,430)
Net cash used in investing activities		**(69,182)**	**(53,458)**

	Notes	Year ended 31 December 2018	2017
Cash flows from financing activities			
Sale of treasury shares		–	1
Purchase of treasury shares		–	(981)
Proceeds from bank and corporate loans	21	579,949	522,157
Repayment of bank and corporate loans	21	(564,785)	(519,403)
Proceeds from bonds	21	10,000	20,000
Repayment of bonds	21	(11,209)	(20,642)
Repayment of vendor financing payable		(15)	(9)
Repayment of other non-current financing liabilities		(1)	(7)
Options settlement repayments		–	(4,896)
Proceeds from non-controlling shareholders of subsidiaries		24	–
Repayment of lease liabilities		(4,034)	(118)
Acquisition of non-controlling interest	10	–	(2,318)
Dividends paid to shareholders of the Group	20	(11,547)	(12,195)
Dividends paid to non-controlling shareholders of subsidiaries		(226)	(190)
Net cash used in financing activities		**(1,844)**	**(18,601)**
Effect of exchange rate changes on cash and cash equivalents		47	(152)
Net increase/(decrease) in cash and cash equivalents		**6,265**	**(442)**
Cash and cash equivalents at beginning of the year		3,815	4,257
Cash and cash equivalents at the end of the year		**10,080**	**3,815**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

(In millions of Russian roubles unless otherwise stated)

	Attributable to equity holders of the Group										
	Share capital	Additional paid-in capital	Unrealized loss on available-for-sale investments	Translation of foreign operations	Treasury shares	Other capital reserves	Remeasure-ments of defined benefit pension plans	Retained earnings	Total equity attributable to share-holders of the Group	Non-controlling interests	Total equity
Balances at 1 January 2018	93	91	(10)	806	(65,556)	2,710	6,286	301,702	246,122	3,242	249,364
Effect of application IFRS 9, 15, 16 (Note 5)	–	–	–	–	–	–	–	392	392	–	392
Balances at 1 January 2018, amended on effect of application IFRS 9, 15, 16	93	91	(10)	806	(65,556)	2,710	6,286	302,094	246,514	3,242	249,756
Profit for the year	–	–	–	–	–	–	–	14,154	14,154	858	15,012
Exchange differences on translation foreign operations	–	–	–	459	–	–	–	–	459	(31)	428
Share of other comprehensive income of associates	–	–	–	22	–	–	–	–	22	–	22
Actuarial losses (Note 24)	–	–	–	–	–	–	(180)	–	(180)	–	(180)
Income tax in respect of other comprehensive income items	–	–	–	–	–	–	36	–	36	–	36
Total other comprehensive income/(loss), net of tax	–	–	–	481	–	–	(144)	–	337	(31)	306
Total comprehensive income for the year	–	–	–	481	–	–	(144)	14,154	14,491	827	15,318
Transactions with shareholders, recorded directly in equity											
Dividends to shareholders of the Company (Note 20)	–	–	–	–	–	–	–	(17,268)	(17,268)	–	(17,268)
Dividends to non-controlling shareholders of subsidiaries (Note 10)	–	–	–	–	–	–	–	–	–	(226)	(226)
Acquisition of non-controlling interests	–	–	–	–	–	(98)	–	–	(98)	4	(94)
Disposal of non-controlling interests (Note 10)	–	–	–	–	–	–	–	(8)	(8)	8	–
Non-controlling interests in acquired subsidiaries (Note 6)	–	–	–	–	–	–	–	–	–	75	75
Employee benefits within share based employee motivation program (Note 34)	–	–	–	–	5,137	732	–	(2,369)	3,500	–	3,500
Other changes in equity	–	24	–	–	–	–	–	(132)	(108)	–	(108)
Total transactions with shareholders	–	24	–	–	5,137	634	–	(19,777)	(13,982)	(139)	(14,121)
Balances at 31 December 2018	93	115	(10)	1,287	(60,419)	3,344	6,142	296,471	247,023	3,930	250,953

The accompanying notes are an integral part of these consolidated financial statements.

	Attributable to equity holders of the Group										
	Share capital	Additional paid-in capital	Unrealized loss on available-for-sale investments	Translation of foreign operations	Treasury shares	Other capital reserves	Remeasure-ments of defined benefit pension plans	Retained earnings	Total equity attributable to share-holders of the Group	Non-controlling interests	Total equity
Balances at 1 January 2017	93	90	(10)	922	(67,034)	2,020	5,850	302,385	244,316	4,317	248,633
Profit for the year	–	–	–	–	–	–	–	13,697	13,697	353	14,050
Other comprehensive income											
Exchange differences on translation foreign operations	–	–	–	(116)	–	–	–	–	(116)	6	(110)
Actuarial gains (Note 24)	–	–	–	–	–	–	545	–	545	–	545
Income tax in respect of other comprehensive income items	–	–	–	–	–	–	(109)	–	(109)	–	(109)
Total other comprehensive income/(loss), net of tax	–	–	–	(116)	–	–	436	–	320	6	326
Total comprehensive income/(loss)	–	–	–	(116)	–	–	436	13,697	14,017	359	14,376
Transactions with shareholders, recorded directly in equity											
Dividends to shareholders of the Group (Note 20)	–	–	–	–	–	–	–	(12,195)	(12,195)	–	(12,195)
Dividends to non-controlling shareholders of subsidiaries (Note 10)	–	–	–	–	–	–	–	–	–	(190)	(190)
Purchase of treasury shares	–	–	–	–	(981)	–	–	–	(981)	–	(981)
Sale of treasury shares (Note 20)	–	–	–	–	1	–	–	–	1	–	1
Acquisition of non-controlling interests	–	–	–	–	–	–	–	(995)	(995)	(1,260)	(2,255)
Disposal of non-controlling interests (Note 10)	–	–	–	–	–	–	–	(11)	(11)	11	–
Non-controlling interests in acquired subsidiaries (Note 6)	–	–	–	–	–	–	–	–	–	5	5
Employee benefits within share-based employee motivation program (Note 34)	–	–	–	–	2,458	695	–	(844)	2,309	–	2,309
Other changes in equity	–	1	–	–	–	(5)	–	(335)	(339)	–	(339)
Total transactions with shareholders	–	1	–	–	1,478	690	–	(14,380)	(12,211)	(1,434)	(13,645)
Balances at 31 December 2017	93	91	(10)	806	(65,556)	2,710	6,286	301,702	246,122	3,242	249,364

The accompanying notes are an integral part of these consolidated financial statements.

Notes to the consolidated financial statements for the year ended 31 December 2018

(In millions of Russian roubles unless otherwise stated)

1. Reporting entity

The accompanying consolidated financial statements are of PJSC Rostelecom ("Rostelecom" or the "Company"), and its subsidiaries (together the "Group"), which are incorporated in the Russian Federation ("Russia").

The registered address of the Company is Russian Federation, St. Petersburg, Dostoevsky Street, 15. Since February 2016 the headquarters are located in the Russian Federation, Moscow at Goncharnaya Street, 30.

Rostelecom was established as an open joint stock company on 23 September 1993 in accordance with the Directive of the State Committee on the Management of State Property of Russia No. 1507-r, dated 27 August 1993. As at 31 December 2018, the Russian Federation, represented by the Federal Property Management Agency together with VEB.RF, controls the Company by holding of 53% of the Company's voting ordinary shares (2017: 53%).

The Group provides communication services (including local, intra-zone, long-distance domestic and international fixed-line telephone services, mobile services), data transmission, Internet, Pay TV, VPN and data centres services, rent of communication channels and radio communication services in the territory of Russian Federation. The Group operates the main intercity network and the international telecommunications gateways of the Russian Federation, carrying voice and data traffic that originates in its own network and other national and international operators' networks to other national and international operators for termination.

The Company has changed its legal name from Public Joint Stock Company Long-Distance and International Telecommunications "Rostelecom" to Public Joint Stock Company Rostelecom. On 29 June 2018, an entry was made to the Uniform State Register of Legal Entities for the official registration of changes to Rostelecom's legal incorporation documents.

The Company also operates socially important Government programs, including "E-Government", "Unified communication service" and other.

2. Basis of preparation and consolidation

(a) Statement of compliance

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRSs").

The consolidated financial statements were authorised for issue by the Company's President and chief financial officer ("CFO") – Senior Vice President on 11 March 2019.

(b) Basis of measurement

The consolidated financial statements are prepared on the historical cost basis except for measurement of both debt and equity financial assets that have been measured at fair value and certain other items when IFRS requires accounting treatment other than historical cost accounting (refer to Note 4).

(c) Functional and presentation currency

The national currency of the Russian Federation is the Russian rouble ("RUB"), which is the functional currency of Group entities and the currency in which these consolidated financial statements are presented. The Group entities with other functional currency are: GNC-Alfa, incorporated in Armenia, the functional currency of this entity is Armenian dram ("AMD"), Rostelecom International, incorporated in Cyprus, the functional currency of this entity is United States dollars ("USD"). All financial information presented in RUB has been rounded to the nearest million, unless otherwise stated.

(d) Use of estimates and judgements

The preparation of financial statements in conformity with IFRSs requires management to make judgements, estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below:

Revenue from sales of customer premises equipment (CPE) and installation services

When the Group recognises revenue from sale of CPE and installation it considers whether the promised goods or services are distinct. In case they are not distinct the Group bundles them with relevant telecommunication services.

In considering whether CPE is distinct the Group analyses if the customer can benefit from using the equipment by its own. In case the customer can benefit from using CPE separately from telecommunication services provided by the Group that CPE considered distinct and revenue is recognised at a point in time when CPE is transferred to customer. The Group recognises revenue over the time of rendering relevant telecommunication services if CPE is not distinct.

The Group provides installation services that are mostly not distinct and therefore bundled together with telecommunication services provided by the Group. The installation fees are recognized over the time provided by the contract term if it does not consist sufficient right to prolong contract. Otherwise, revenue is recognized over time of rendering of services to the customer even though it extends the term of contract.

Consideration of significant financing component in a contract

The Group concluded that there is a significant financing component for those contracts where the customer elects to pay in advance considering the length of time between the customer's payment and the providing services to the customer, as well as the prevailing interest rates in the market.

In determining the interest to be applied to the amount of consideration, the Group concluded that the interest rate (8.65%) is appropriate because this is commensurate with the rate that would be reflected in a separate financing transaction between the entity and its customer at contract inception.

Principal versus agent presentation

Whether the Group is considered to be the principal or an agent in the transaction depends on analysis by management of both the legal form and substance of the agreement between the Group and its business partners; such judgements impact the amount of reported revenue and operating expenses but do not impact reported assets, liabilities or cash flows.

Cost to obtain a contracts with customers

For obtaining the contracts with new customers the Group hires agents or uses its own specifically dedicated staff and recognizes as an assets related costs if it expects to recover them. The Group amortises the costs to obtain a contracts with customers on a systematic basis which is consistent with the timing of providing the services to the customers. The Group reassesses amortization if the timing expected to provide the services has changed.

Changes in estimate of useful lives

The Group assesses the remaining useful lives of items of property, plant and equipment at least at each financial year-end and, if expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate in accordance with IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*.

Fair values of associates

The Group is required to recognize the fair value of associates at the acquisition date, which involves estimates. Such estimates are based on valuation techniques, which require considerable judgement in forecasting future cash flows and developing other assumptions.

Share-based employee benefits

The Group measures cost of share-based employee benefit by reference to the fair value of equity instruments granted. This requires judgment in estimating future volatility of basis asset which is determined using historical data on market price of the shares. Future volatility may differ significantly from that estimated.

Defined benefit plan (pension benefits)

The Group uses actuarial valuation methods for measurement of the present value of defined employee benefit obligations and related current service cost. This involves the use of demographic assumptions about the future characteristics of current employees who are eligible for benefits (mortality, both during and after employment, rates of employee turnover, etc.) as well as financial assumptions (discount rate, future salary and benefit levels, etc.).

Allowance for expected credit losses of trade receivables and contract assets

The Group makes allowances for expected credit losses of trade receivables and contract assets.

The provision rates are based on days past due for groupings of various customer segments that have similar loss patterns (by geography, customer type and rating, type of contacts). The provision matrix is based on the Group's historical observed default rates. The historical observed default rates are updated annually. The information about the ECLs on the Group's trade receivables and contact assets is disclosed in Note 15.

Impairment of non-current assets

Each asset or cash generating unit is evaluated at the end of every reporting period to determine whether there are any indications of impairment. If any such indication exists, a formal estimate of the recoverable amount is performed and an impairment loss recognised to the extent that carrying amount exceeds the recoverable amount. For goodwill and intangible assets that have indefinite lives or that are not yet available for use, recoverable amount is estimated at each reporting date.

This requires an estimation of the value in use of the cash-generating units. Estimating of value in use requires the Group to make significant judgement concerning expected future cash flows and discount rates applicable. Expected future cash flows of cash-generating unit are typically based on approved budgets for next financial years and strategic plan for the period from second till fifth years. Cash flows beyond five-year periods are extrapolated using industry growth rate. Discount rates are determined based on historical information of cost of debt and equity of a respective cash-generating unit. Any future changes in the aforementioned assumptions could have significant impact on value in use.

Litigation

The Group exercises considerable judgment in measuring and recognizing provisions and the exposure to contingent liabilities related to pending litigation or other outstanding claims subject to negotiated settlement, mediation, arbitration or government regulation, as well as other contingent liabilities. Judgment is necessary in assessing the likelihood that a pending claim will succeed, or a liability will arise, and to quantify the possible range of the final settlement. Because of the inherent uncertainties in this evaluation process, actual losses may be different from the originally estimated provision. These estimates are subject to change as new information becomes available. Revisions to the estimates may significantly affect future operating results.

3. Operating environment of the Group

The Group's operations are primarily located in the Russian Federation. Consequently, the Group is exposed to the economic and financial markets of the Russian Federation which display characteristics of an emerging market. The legal, tax and regulatory frameworks continue development, but are subject to varying interpretations and frequent changes which together with other legal and fiscal impediments contribute to the challenges faced by entities operating in the Russian Federation.

Russia continues economic reforms and development of its legal, tax and regulatory frameworks as required by a market economy. The future stability of the Russian economy is largely dependent upon these reforms and developments and the effectiveness of economic, financial and monetary measures undertaken by the government.

The Russian economy has been negatively impacted by sanctions imposed on Russia by a number of countries. The rouble interest rates remained high. The combination of the above resulted in reduced access to capital, a higher cost of capital and uncertainty regarding economic growth, which could negatively affect the Group's future financial position, results of operations and business prospects. Management believes it is taking appropriate measures to support the sustainability of the Group's business in the current circumstances.

The consolidated financial statements reflect management's assessment of the impact of the Russian business environment on the operations and the financial position of the Group. The future business environment may differ from management's assessment.

4. Significant accounting policies

The accounting policies and methods of computation applied in the preparation of these consolidated financial statements are consistent with those disclosed in the annual consolidated financial statements of the Group for the year ended 31 December 2017, except for the adoption of new standards and interpretations effective from 1 January 2018.

(a) Principles of consolidation

The consolidated financial statements comprise the financial statements of the companies comprising the Group and its subsidiaries.

Business combinations

Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group.

The Group measures goodwill at the acquisition date as:

- The fair value of the consideration transferred; plus
- The recognised amount of any non-controlling interests in the acquiree; plus
- If the business combination is achieved in stages, the fair value of the pre-existing equity interest in the acquire; less
- The net recognised amount (generally fair value) of the identifiable assets acquired and liabilities assumed.

When the excess is negative, a bargain purchase gain is recognised immediately in profit or loss.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognised in profit or loss.

Transaction costs, other than those associated with the issue of debt or equity securities, that the Group incurs in connection with a business combination are expensed as incurred.

Any contingent consideration payable is recognised at fair value at the acquisition date. If the contingent consideration is classified as equity, it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognised in profit or loss.

Combination of entities under common control

Business combinations arising from transfers of interests in entities that are under the control of the shareholder that controls the Group are accounted for as if the acquisition had occurred at the beginning of the earliest comparative period presented or, if later, at the date that common control was established; for this purpose comparatives are revised. The assets and liabilities acquired are recognised at the carrying amounts recognised previously in the Group's controlling shareholder's consolidated financial statements. The components of equity of the acquired entities are added to the same components within Group equity except that any share capital of the acquired entities is recognised as part of share premium. Any cash paid for the acquisition is recognised directly in equity.

Acquisitions of non-controlling interests

Acquisitions of non-controlling interests are accounted for as transactions with owners in their capacity as owners and therefore no goodwill is recognised as a result. Acquisitions of non-controlling interests that do not result in a loss of control are accounted for as equity transactions.

Subsidiaries

Subsidiaries are entities that are directly or indirectly controlled by the Group. Subsidiaries are consolidated from the date on which control is transferred to the Group and are no longer consolidated from the date that control ceases.

The financial statements of the subsidiaries are prepared for the same reporting period as the Group, using consistent accounting policies.

All intra-group balances, income and expenses and unrealized gains and losses resulting from intra-group transactions are eliminated in full.

Losses are allocated to the parent and to non-controlling interest based on their respective interests.

Investments in associates (equity accounted investees)

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

The considerations made in determining significant influence or joint control are similar to those necessary to determine control over subsidiaries.

The Group's investments in its associate and joint venture are accounted for using the equity method.

Under the equity method, the investment in an associate or a joint venture is initially recognised at cost. The carrying amount of the investment is adjusted to recognise changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Goodwill relating to the associate or joint venture is included in the carrying amount of the investment and is not tested for impairment separately.

The statement of profit or loss reflects the Group's share of the results of operations of the associate or joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In addition, when there has been a change recognised directly in the equity of the associate or joint venture, the Group recognises its share of any changes, when applicable, in the consolidated statement of changes in equity.

Unrealised gains and losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture. The aggregate of the Group's share of profit or loss of an associate and a joint venture is shown on the face of the statement of profit or loss outside operating profit and represents profit or loss after tax and non-controlling interests in the subsidiaries of the associate or joint venture.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Group. When necessary, adjustments are made to bring the accounting policies in line with those of the Group.

After application of the equity method, the Group determines whether it is necessary to recognise an impairment loss on its investment in its associate or joint venture. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, and then recognises the loss as 'Share of net profit/(loss) of associates and joint ventures' in the statement of profit or loss.

Upon loss of significant influence over the associate or joint control over the joint venture, the Group measures and recognises any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognised in profit or loss.

Non-controlling interest

Non-controlling interest includes that part of the net results of operations and of net assets of subsidiaries attributable to interests which are not owned, directly or indirectly through subsidiaries, by the Group. Non-controlling interest at the reporting date represents the non-controlling shareholders' portion of the fair values of identifiable assets and liabilities of the subsidiary at the acquisition date, and their portion of movements in net assets since the date of the combination.

The losses applicable to non-controlling interest, including negative other comprehensive income, are charged to non-controlling interest even if it causes non-controlling interest to have a deficit balance.

(b) Goodwill

Goodwill on an acquisition of a subsidiary is included in intangible assets. Goodwill on an acquisition of an associate is included in the investment in associates.

The acquirer recognizes goodwill as of the acquisition date measured as the excess of (a) over (b) below:

(a) The aggregate of:

- The acquisition-date fair value of consideration transferred;
- Non-controlling interest's proportionate share of the acquiree's identifiable net assets; and
- In a business combination achieved in stages, the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree;

(b) The net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed measured in accordance with IFRS 3.

Following initial recognition, goodwill is measured at cost less any accumulated impairment losses. Impairment losses for goodwill may not be reversed. If the impairment loss recognized for the cash-generating unit exceeds the carrying amount of the allocated goodwill, the additional amount of the impairment loss is recognized by allocating to other assets on pro rata basis, but not below their fair value.

Goodwill is not amortised. Instead, it is tested for impairment annually or more frequently if events or changes in circumstances indicate that it might be impaired.

Where goodwill forms part of a cash-generating unit and part of the operations within that unit are disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal of the operation. Goodwill disposed of in this circumstance is measured based on the relative values of the operation disposed of and the portion of cash-generating unit retained.

In case of excess of the Group's interest in the net fair value of the acquiree's identifiable assets, liabilities and contingent liabilities over cost of business combination the Group:

- Reassesses the identification and measurement of the acquiree's identifiable assets, liabilities and contingent liabilities and the measurement of the cost of the combination;
- Recognizes in profit or loss any excess remaining after that reassessment immediately.

(c) Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located and capitalised borrowing costs.

The cost of replacing part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

Items of property, plant and equipment that are retired or otherwise disposed of are eliminated from the consolidated statement of financial position along with the corresponding accumulated depreciation. Any difference between the net disposal proceeds and carrying amount of the item is reported as a gain or loss on derecognition. The gain or loss resulting from such retirement or disposal is included in the determination of net income.

Depreciation is calculated on property, plant and equipment on a straight-line basis from the time the assets are available for use, over their estimated useful lives as follows:

	Number of years
Buildings and site services	10-50
Cable and transmission devices:	
› Cable	10-40
› Radio and fixed link transmission equipment	8-20
› Telephone exchanges	15
› Other	5-10

The useful life of assets encompasses the entire time they are available for use, regardless of whether during that time they are in use or idle. Depreciation methods, useful lives and residual values are reviewed at each reporting date or more frequently if events occur that suggest a change is necessary and, if expectations differ from previous estimates, the changes are accounted for prospectively. Depreciation of an asset ceases at the earlier of the date the asset is classified as held for sale and the date the asset is derecognized.

Construction in progress represents properties under construction and is stated at cost. This includes cost of construction and other direct costs. Construction in progress is not depreciated until the constructed or installed asset is ready for its intended use.

Advances given to suppliers of property, plant and equipment are included in other non-current assets.

Interest costs on borrowings to finance the construction of property, plant and equipment are capitalized during the period of time that is required to complete and prepare the asset for its intended use.

Cost of machinery and plant and other items of property, plant and equipment related to core activities of the Group, which have been gratuitously transferred to the Group beyond the privatisation framework, is capitalised in property, plant and equipment at fair value at the date of such transfer, if the Group controls them. Such transfers of property, plant and equipment primarily relate to future provision of services by the Group to entities, which have transferred property, plant and equipment. In such instances, the Group records deferred income in the amount of the fair value of the received property, plant and equipment and recognises income in the profit or loss on the same basis that the equipment is depreciated during the period of minimum of contract term (determined in contract or estimated) and equipment useful life.

(d) Leases

The Group elected to early adopt IFRS 16 *Leases* effective 1 January 2018 concurrent with the adoption of the new standard on revenue recognition.

The Group has applied IFRS 16 using the modified retrospective approach and recognized the cumulative effect of the initial application of the standard as an adjustment to the retained earnings balance in the balance sheet as at 1 January 2018. The effect of initial application of IFRS 16 is further discussed in the Note 5.

The comparative information has not been restated and continues to be reported under IAS 17 *Leases* and IFRIC 4 *Determining whether an Arrangement Contains a Lease* .

Policy applicable from 1 January 2018

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group assesses whether:

- The contract involves the use of an identified asset – this may be specified explicitly or implicitly, and should be physically distinct portion of a larger asset or represent substantially all of the capacity of a larger asset. If the supplier has a substantive substitution right, then the asset is not identified;
- The Group has the right to obtain substantially all of the economic benefits from use of the asset throughout the period of use; and
- The Group has the right to direct the use of the asset. The Group has this right when it has the decision-making rights that are most relevant to changing how and for what purpose the asset is used. In rare cases where the decisions about how and for what purpose the asset is used are predetermined, the Group has the right to direct the use of the asset if either:
  - The Group has the right to operate the asset; or
  - The Group designed the asset (or specific aspects of the asset) in a way that predetermines how and for what purpose it will be used.

For leases of buildings, the Group applies practical expedient not to separate associated non-lease components from lease components and instead account them as a single lease component.

This policy is applied to contracts entered into, or changed, on or after 1 January 2018.

Policy applicable before 1 January 2018

The determination of whether an arrangement is (or contains) a lease is based on the substance of the arrangement at the inception of the lease. The arrangement is, or contains, a lease if fulfilment of the arrangement is dependent on the use of a specific asset (or assets) and the arrangement conveys a right to use the asset (or assets), even if that asset is (or those assets are) not explicitly specified in an arrangement.

The Group as a lessor

Policy applicable from 1 January 2018

At the inception or on reassessment of the contract that contains a lease component and one or more additional lease or non-lease components the Group as a lessor allocates the consideration in the contract applying IFRS 15 *Revenue from Contracts with Customers* .

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset.

If an arrangement contains lease and non-lease components, the Group applies IFRS 15 to allocate the consideration in the contract.

The Group recognises lease payments received under operating leases as income on a straightline basis over the lease term as part of 'other income'.

Policy applicable before 1 January 2018

The accounting policies applicable to the Group as a lessor in the comparative period were not different from IFRS 16. However, when the Group was an intermediate lessor the sub-leases were classified with reference to the underlying asset. The Group does not have subleases, so lessor accounting remains unchanged.

The Group as a lessee

Policy applicable from 1 January 2018

The Group recognizes a right of use assets and lease liabilities at the lease commencement date.

The right of use assets is initially measured at cost. The cost of the right-of-use asset comprises amount of the initial measurement of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. In addition, the right-of-use asset is tested for impairment in accordance with IAS 36 *Impairment of Assets* and reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

At the commencement date, a lease liability is measured at the present value of the lease payments that had not been paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the Group uses the lessee's incremental borrowing rate.

Lease payments included in the measurement of the lease liability comprise the following:

- Fixed payments, including in-substance fixed payments;
- Variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- Amounts expected to be payable under a residual value guarantee; and
- The exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewal period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain not to terminate early.

After the commencement date, the Group measures the lease liability by:

(a) Increasing the carrying amount to reflect interest on the lease liabilities;

(b) Reducing the carrying amount to reflect the lease payments made; and

(c) Remeasuring the carrying amount to reflect any reassessments or lease modifications.

The carrying amount of the lease liability is reassessed when:

- There is a change in future lease payments arising from a change in an index or rate;
- If there is a change in a Group's estimate of the amount expected to be payable under residual value guarantee; or
- If the Group reassess whether it will exercise a purchase, renewal or termination option.

The Group separately recognizes the interest expense on the lease liabilities and the depreciation expense on the right of use asset.

IFRS 16 includes two recognition exemptions for lessees – for leases of 'low-value' assets available on lease-by-lease basis and for short-term leases (i.e., leases with a lease term of 12 months or less) available by class of underlying asset to which right of use relates.

The Group has chosen to use only exemption for "low-value" assets. Short-term leases are included into the statement of financial position.

The Group considers underlying assets to be 'low-value' assets, if:

- Their market value, when they are new, do not exceed 0.3;
- The Group can benefit from use of underlying asset on its own or together with other resources that are readily available to the Group; and
- The underlying asset is not highly dependent on, or highly interrelated with, other assets.

The Group applies that exemption for any of such leases, except where the Group sublease, or expect to sublease an asset.

Policy applicable before 1 January 2018

A lease is classified at the inception date as a finance lease or an operating lease. A lease that transfers substantially all the risks and rewards incidental to ownership to the Group is classified as a finance lease.

Finance leases are capitalised at the commencement of the lease at the inception date fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are recognised in finance costs in the statement of profit or loss.

A leased asset is depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

An operating lease is a lease other than a finance lease. Operating lease payments are recognised as an operating expense in the statement of profit or loss on a straight-line basis over the lease term.

(e) Investment property

Investment properties are properties held to earn rentals and/or for capital appreciation (including property under construction for such purposes). Investment properties are measured initially at cost, including transaction costs. The Group applies cost model to its investments properties and subsequent to initial recognition investment properties are measured in accordance with IAS 16's requirements for that model.

An investment property is derecognised upon disposal or when the investment property is permanently withdrawn from use and no future economic benefits are expected from the disposal. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognised.

(f) Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is fair value as at the date of acquisition.

Development expenditures are capitalised if they meet criteria for an assets recognition. Expenditure on research phase are expensed as incurred.

Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses.

The useful lives of intangible assets are assessed to be either finite or indefinite.

Intangible assets with finite lives are amortised over the useful economic life and assessed for impairment when there is an indication that the intangible asset may be impaired. Useful lives of intangible assets with finite lives are determined on individual basis.

Amortisation periods and methods for intangible assets with finite useful lives are reviewed at least at each financial year-end and, if expectations differ from previous estimates, the changes are accounted for as changes in accounting estimates.

Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for by changing the amortisation period or method, as appropriate, and treated as changes in accounting estimates. The Group assesses whether there is any indication that a finite lived intangible asset may be impaired at each reporting date. The Group also performs annual impairment tests for finite lived assets not yet placed in use. The amortisation expense on intangible assets with finite lives is included in depreciation and amortisation expenses in profit or loss.

Intangible assets with indefinite useful lives are not amortised, but tested for impairment annually or more frequently when indicators of impairment exist, either individually or at the cash-generating unit level. The useful life of an intangible asset with an indefinite life is reviewed annually to determine whether indefinite life assessment continues to be supportable. If not, the change in the useful life assessment from indefinite to finite is made on a prospective basis.

(g) Impairment of property, plant and equipment and intangible assets

At each reporting date or more frequently if events occur that suggest a change is necessary, an assessment is made as to whether there is any indication that the Group's assets may be impaired. If any such indication exists, an assessment is made to establish whether the recoverable amount of the assets has declined below the carrying amount of those assets as disclosed in the financial statements. In addition, annual impairment test is carried out for intangible assets with indefinite useful life or that are not yet available for use and goodwill. When such a decline has occurred, the carrying amount of the assets is reduced to the recoverable amount. The amount of any such reduction is recognized immediately as a loss. Any subsequent increase in the recoverable amount of the assets, except for goodwill, is reversed when the circumstances that led to the write-down or write-off cease to exist and there is persuasive evidence that the new circumstances and events will persist for the foreseeable future. Increase of the recoverable amount is limited to the lower of its recoverable amount and carrying amount that would have been determined had no impairment loss been recognized for the asset in prior years.

The recoverable amount is determined as the higher of the assets' fair value less cost to sell, or value in use. If it is not possible to estimate the recoverable amount of the individual asset, the Group determines the recoverable amount of the cash-generating unit (further – "CGU") to which the assets belong. The value in use of the asset is estimated based on forecast of future cash inflows and outflows to be derived from continued use of the asset and from the estimated net proceeds on disposal, discounted to present value using an appropriate discount rate.

For the purposes of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the CGUs or groups of CGUs expected to benefit from the combination's synergies, irrespective of whether other assets and liabilities of the Group are assigned to those units or group of units. Each unit or group of units to which goodwill is so allocated:

- Represents the lowest level within the Group at which the goodwill is monitored for internal management purposes; and
- Is not larger than an operating segment determined in accordance with IFRS 8 *Operating Segments* .

(h) Inventory

Inventory principally consists of cable, spare parts for the network and other supplies. Inventory is stated at the lower of cost incurred in bringing each item to its present location and condition and its net realizable value. Cost is calculated using weighted average cost formula, and includes expenditure incurred in acquiring the inventories, production or conversion costs, and other costs incurred in bringing them to their existing location and condition. Items used in the construction of new plant and equipment are capitalized as part of the related asset. Net realizable value is determined with respect to current market prices less expected costs to dispose. Inventory used in the maintenance of equipment is charged to operating costs as utilized and included in repair and maintenance and other costs in profit or loss.

(i) Accounts receivable

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business.

Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, when they are recognised at fair value. The group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method (for more details pls. see section (j) financial instruments).

(j) Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

From 1 January 2018, all financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income (OCI), and fair value through profit or loss

Before 1 January 2018, the Group classifies all financial assets as loans and receivables (at amortised cost), FVPL, available-for-sale and held to maturity.

Loan and receivables

Before 1 January 2018, loans and receivables were non-derivative financial assets with fixed or determinable payments that were not quoted in an active market. Assets are classified as loan and receivables.

From 1 January 2018, the Group's financial assets at amortised cost include trade receivables, and loan to an associate included under other non-current financial assets.

This category is the most relevant to the Group. The Group measures financial assets at amortised cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows.
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The details of these conditions are outlined below.

Business model assessment

The Group business model is not assessed on an instrument-by-instrument basis, but at a higher level of aggregated portfolios and is based on observable factors such as:

- How the performance of the business model and the financial assets held within that business model are evaluated and reported to the entity's key management personnel;
- The risks that affect the performance of the business model (and the financial assets held within that business model) and, in particular, the way those risks are managed;
- How managers of the business are compensated (for example, whether the compensation is based on the fair value of the assets managed or on the contractual cash flows collected).

The expected frequency, value and timing of sales are also important aspects of the Group assessment.

The business model assessment is based on reasonably expected scenarios without taking 'worst case' or 'stress case' scenarios into account. If cash flows after initial recognition are realised in a way that is different from the Group original expectations, the Group does not change the classification of the remaining financial assets held in that business model, but incorporates such information when assessing newly originated or newly purchased financial assets going forward.

The SPPI test

As a second step of its classification process the Group assesses the contractual terms of financial asset to identify whether they meet the SPPI test.

'Principal' for the purpose of this test is defined as the fair value of the financial asset at initial recognition and may change over the life of the financial asset (for example, if there are repayments of principal or amortisation of the premium/discount).

The most significant elements of interest within a lending arrangement are typically the consideration for the time value of money and credit risk. To make the SPPI assessment, the Group applies judgement and considers relevant factors such as the currency in which the financial asset is denominated, and the period for which the interest rate is set.

In contrast, contractual terms that introduce a more than de minimise exposure to risks or volatility in the contractual cash flows that are unrelated to a basic lending arrangement do not give rise to contractual cash flows that are solely payments of principal and interest on the amount outstanding. In such cases, the financial asset is required to be measured at FVPL.

Available-for-sale financial assets

Before 1 January 2018, available-for-sale financial assets were those non-derivative financial assets that were designated as available-for-sale or were not classified in any of the three preceding categories. After initial recognition available-for sale financial assets were measured at fair value through profit and loss.

Impairment of financial assets

Before 1 January 2018, the Group assessed at each reporting date whether there was any objective evidence that a financial asset or a group of financial assets was impaired.

The Group assessed whether objective evidence of impairment existed individually for financial assets that were individually significant, or collectively for financial assets that were not individually significant.

The allowance is created based on the historical pattern of collections of accounts receivable and specific analysis of recoverability of significant accounts.

The carrying amount of the asset was reduced by the impairment loss directly for all financial assets with the exception of trade receivables where the carrying amount is reduced through the use of an allowance account. When the trade receivables was uncollectible, it was written off against the allowance account. Subsequent recoveries of amount previously written off were credited against the allowance account. Changes in the carrying amount of the allowance account were recognized in the profit and loss.

The adoption of IFRS 9 has fundamentally changed the Group's accounting for all debt instruments not held at fair value through profit and loss by replacing IAS 39 incurred loss approach with the forward-looking expected credit loss (ELC) approach.

The Group recognises an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

The Group's cash and cash equivalent have been assigned low credit risk based on external credit ratings of the respective banks and financial institutions.

Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Group's consolidated statement of financial position) when:

- the rights to receive cash flows from the asset have expired.
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Group continues to recognise the transferred asset to the extent of its continuing involvement. In that case, the Group also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

Financial liabilities

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss.

Loans and borrowings

This is the category most relevant to the Group. After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost using the EIR method. Gains and losses are recognised in profit or loss when the liabilities are derecognised as well as through the EIR amortisation process.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included as finance costs in the statement of profit or loss.

Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis, to realise the assets and settle the liabilities simultaneously.

(k) Borrowings

Borrowings are initially recognized at fair value less directly attributable transaction costs, and have not been designated 'as at fair value through profit or loss'. In subsequent periods, borrowings are measured at amortised cost using the effective interest method. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the amortisation process.

Borrowing costs are expensed, except for those that would have been avoided if the expenditure to acquire the qualifying asset had not been made. To the extent that funds are borrowed generally and used for the purpose of obtaining a qualifying asset, the amount of borrowing costs eligible for capitalization is determined by applying a capitalization rate to the expenditures on that asset. The capitalization rate is the weighted average rate of the borrowing costs applicable to the borrowings of the enterprise that are outstanding during the period, unless borrowings were made specifically for the purpose of obtaining the qualifying asset wherein that rate is used. Qualifying borrowing costs are capitalized with the relevant qualifying asset from the date the activities to prepare the asset are in progress and expenditures and borrowing costs are being incurred until the related asset is substantially ready for its intended use. Capitalized borrowing costs are subsequently charged to profit or loss in the period over which the asset is depreciated.

(l) Foreign currency transactions

Transactions denominated in foreign currencies are translated into roubles at the exchange rate as of the transaction date. Foreign currency monetary assets and liabilities are translated into roubles at the exchange rate as of the reporting date. Exchange differences arising on the settlement of monetary items, or on reporting the Group's monetary items at rates different from those at which they were initially recorded in the period, or reported in previous financial statements, are recorded as foreign currency exchange gains or losses in the period in which they arise. Foreign currency gains and losses are reported on a net basis depending on whether foreign currency movements are in a net gain or net loss position.

As at 31 December 2018 and 2017, the rates of exchange used for translating foreign currency balances were (in Russian roubles for one unit of foreign currency):

	2018	2017
US dollar (USD)	69.4706	57.6002
Special Drawing Rights (XDR)	96.6190	81.8326
Euro (EUR)	79.4605	68.8668

Source: the Central Bank of Russia

(m) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, balances with banks, and highly liquid investments with original maturities of three months or less, with insignificant risks of diminution in value.

(n) Deferred income taxes

Deferred income tax is provided, using the liability method, on all temporary differences at the reporting date between the tax basis of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred income tax liabilities are recognized for all taxable temporary differences:

- Except where the deferred income tax liability arises from goodwill or the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, except where the timing of the reversal of the temporary difference can be controlled and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax assets are recognized for all deductible temporary differences, carry-forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, carry-forward of unused tax credits and unused tax losses can be utilized:

- Except where the deferred income tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are only recognized to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of deferred income tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred income tax asset to be utilized. Any such previously recognized reduction is reversed to the extent that it becomes probable that sufficient taxable profit will be available.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset will be realized or the liability settled. Tax rates are based on laws that have been enacted or substantively enacted at the reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax assets and liabilities, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

In accordance with the tax legislation of the Russian Federation, tax losses and current tax assets of a company in the Group may not be set off against taxable profits and current tax liabilities of other Group companies except for cases when two or more entities form the Consolidated Group of Taxpayers for the purposes of unified income tax declaration submission. In addition, the tax base is determined separately for each of the Group's main activities and, therefore, tax losses and taxable profits related to different activities cannot be offset except for the abovementioned Consolidated Group of Taxpayers formation.

(o) Revenue and operating costs recognition

Revenue from contracts with customers is recognised when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

The disclosures of significant accounting judgements, estimates and assumptions relating to revenue from contracts with customers are provided in Note 2 (d).

At contract inception, the Group assesses the goods or services promised in a contract with a customer and identifies as a performance obligation each promise to transfer to the customer either a distinct good or service or a series of distinct goods or services.

Revenue from communication services

Revenue from direct subscribers is recognized over time when the services were rendered based on data from the Group's billing system.

The Group bills all subscribers in Russia for outgoing telephone traffic based on the stipulated tariffs. The Group is billed by regional local operators for initiating and terminating a call. The Group also incurs agency fees in accordance with service contracts concluded with regional local operators that are not part of the Group.

The Group bills foreign network operators for incoming calls and other outgoing traffic outside Russia. Foreign operators charge the Group for completing international calls. Relevant revenues and costs are shown in the consolidated financial statements.

Loyalty points program

The Group has a loyalty points program, which allows customers to accumulate points that can be redeemed for the following:

- Discounts from the Company (discounts for internet services, free minutes, etc);
- Discounts from affiliate programs (discounts from Ozon, Litres, etc);
- Seasonal lotteries and prize awards (New Year, etc).

The loyalty points give rise to a separate performance obligation as they provide a material right to the customer. A portion of the transaction price is allocated to the loyalty points awarded to customers based on relative stand-alone selling price and recognised as a contract liability until the points are redeemed. Revenue is recognised upon redemption of products by the customer.

When estimating the stand-alone selling price of the loyalty points, the Group considers the likelihood that the customer will redeem the points. The Group updates its estimates of the points that will be redeemed on a quarterly basis and any adjustments to the contract liability balance are charged against revenue.

Advance payments received from customers

Generally, the Group receives short-term advances from its customers. They are presented as part of current contract liabilities.

The Group uses the practical expedient provided in IFRS 15, and does not adjust the promised amount of the consideration for the effects of a significant financing components in the contracts, where the Group expects, at contract inception, that the period between the Group provide of a promised service to a customer and when the customer pays for that service will be one year or less.

However, from time to time, the Group may receive long-term advances from customers. Certain such contracts concluded between the Group and its customers contain a significant financing component because of the length of time between when the customer pays for the services and when the Group provides services to the customer. The transaction price for such contracts is adjusted for the effects of time value of money using discount rate that is reflected in a separate financing transaction between the Group and its customer at contract inception.

The effect of the financing is presented as part of finance costs.

Revenues from the sale of customer equipment and related expenses

Customer premises equipment (hereinafter referred to CPE) – technical devices or equipment installed in the customer premises and designed to provide technical capability of subscriber's consumption of telecommunication services provided by the Company.

Based on the analysis of the current business operations the Group concludes that delivery of CPE, which cannot be used by the customer separately from Group's services, does not represent a performance obligation. Accordingly, costs of CPE are recognized as cost to fulfil contracts, fees received for delivery of CPE are deferred and recognized as revenue over time when the respective services are provided.

Capitalised costs to fulfil contracts are subject to an impairment assessment at the end of each reporting period. Impairment losses are recognised in profit or loss.

Sale of other equipment, which can be use separately, represents a separate performance obligation. Accordingly, revenue is recognised at a point in time when control of the other equipment is transferred to the customer, generally upon delivery of the equipment.

Revenues from installation services

The following services are associated with the installation services: organisation of communication channels, connection of operators to networks.

Based on the analysis of the current business operations the Group concluded that installation services, which cannot be used by the client separately from Company's services does not represent a performance obligation. Accordingly, fees received for installation services are deferred and are recognized as contract liability as a part of other current or non-current liabilities in the consolidated statement of financial position. Contract liabilities are recognized as revenue over time when the Group provides telecommunication services.

Incremental cost to obtain the contract

The incremental cost of obtaining the contract are those costs that the Group incurs to obtain a contract with a customer that it would not have incurred if the contract had not been obtained.

The Group recognises as costs to obtain the contract the following expenses:

- Dealer commissions for attracting new subscribers;
- Extra payments to Group's employees who are engaged in similar functions.

The Group presents costs of obtaining a contract as a part of contract costs in the consolidated statement of financial position. Costs to obtain the contract is amortised on a systematic basis that is consistent with the contractual relationship with customers to which the assets relates.

Contract assets

A contract asset is the right to consideration in exchange for goods or services transferred to the customer. If the Group performs by transferring goods or services to a customer before the customer pays consideration or before payment is due, a contract asset is recognised for the earned consideration that is conditional.

Accounting policy as regard to Trade receivables is disclosed in Note 4 (i), 4 (j).

(p) Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The expense relating to any provision is charged in profit or loss or capitalized in an asset if it is required by IFRS.

Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as finance cost.

(q) Government grants

Government grants are recognised initially as deferred income at fair value when there is reasonable assurance that they will be received and the Group will comply with the conditions associated with the grant, and are then recognised in profit or loss as other income on systematic basis over the useful life of the asset.

Grants that compensate the Group for expenses incurred are recognized in profit or loss as other income on systematic basis in the periods in which the expenses are recognised.

(r) Pension and other post-employment benefits

The Group operates a defined benefit pension scheme which requires one-off contributions, representing the net present value of future monthly payments to employees, to be made by the Group to an own pension fund upon employees' dismissal. The Group is liable for payments to the retired employees.

The Group uses the Project Unit Credit Method to determine the present value of its defined benefit obligations and the related current service cost and, where applicable, past service cost.

Actuarial gains and losses are recognized as other comprehensive income or expense immediately.

The Group also participates in a defined contribution plan. Contributions made by the Group on defined contribution plans are charged to expenses when incurred.

The Group accrues for the employees' compensated absences (vacations) as the additional amount that the Group expects to pay as a result of the unused vacation that has accumulated at the reporting date.

(s) Share-based payments

The Group operates an equity-settled, share-based compensation plan, under which the Group receives services from employees as consideration for options for shares of the Company. The fair value of the employee services received in exchange for the grant of the options is recognised as an expense. The total amount to be expensed is determined by reference to the fair value of the options granted.

The total expense is recognised over the vesting period, which is the period over which all of the specified vesting conditions are to be satisfied.

At the end of each reporting period, the entity revises its estimates of the number of options that are expected to vest based on the non-market vesting conditions. It recognises the impact of the revision to original estimates, if any, in the statement of comprehensive income, with a corresponding adjustment to equity.

(t) Dividends

Dividends are recognized when the shareholder's right to receive the payment is established. Dividends in respect of the period covered by the financial statements that are proposed or declared after the reporting date but before approval of the financial statements are not recognized as a liability at the reporting date in accordance with IAS 10 *Events after the Reporting Period* .

(u) Treasury shares

The cost of treasury shares purchased is debited to a separate category of equity. When treasury shares are sold or re-issued, the amount received for the instruments is credited to this category, and any surpluses or deficits on sales of treasury shares are shown as an adjustment to additional paid-in capital. The average cost method is used to determine the cost of treasury shares sold. However, if the entity is able to identify the specific items sold and their costs, the specific cost is applied.

(v) Earnings per share

IAS 33 requires the application of the "two-class method" to determine earnings applicable to ordinary shareholders, the amount of which is used as a numerator to calculate earnings per ordinary share. The application of the "two-class method" requires that the profit or loss after deducting preferred dividends is allocated to ordinary shares and other participating equity instruments to the extent that each instrument shares in earnings as if all of the profit or loss for the period had been distributed. The total profit or loss allocated to each class of equity instrument is determined by adding together the amount allocated for dividends and the amount allocated for a participation feature.

(w) Segment information

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components. All operating segments' operating results are reviewed regularly by the chief operating decision maker, Management Board, to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available.

Segment results that are reported to the Management Board include items directly attributable to a segment as well as those that can be allocated on a reasonable basis.

Segment capital expenditure is the total cost incurred during the year to acquire property, plant and equipment, and intangible assets other than goodwill.

(x) Pension contracts

Classification

Insurance contracts are those contracts where the Group (the insurer) has accepted significant insurance risk from another party (the policyholders) by agreeing to compensate the policyholders if a specified uncertain future event (the insured event) adversely affect the policyholders.

Investment contracts are those contracts that transfer significant financial risk, but not significant insurance risk.

Once a contract has been classified as an insurance contract, it remains an insurance contract for the remainder of its lifetime, even if the insurance risk reduces significantly during this period, unless all rights and obligations are extinguished or expired. Investment contracts can, however, be reclassified as insurance contracts after inception if insurance risk becomes significant.

Discretionary participation feature (DPF)

Insurance and investment contracts are classified as contacts with or without a discretionary participation feature (DPF). DPF provides the policyholder with a contractual right to receive, as a supplement to guaranteed benefits, significant additional benefits, which are based on investment returns on a specified pool of assets held by the insurer and which amounts or timing are contractually at the discretion of the insurer. Group exercises its discretion as to the amount and timing of distribution of the eligible surplus to contract holders subject to provision of the minimum level required by statutory regulations. The Group policy is to treat all DPF, including undistributed amounts, as a liability within investment or insurance contract liability as appropriate.

Types of pension contracts

The Group has the following types of pension contracts:

Contracts of non-state pension provision (NPP) issued under a voluntary pension system are executed in accordance with the existing Pension rules of non-state pension provision. These contracts contain a right of contract holders to receive additional investment income as a supplement to guaranteed benefits. The Group classifies NPP contracts as insurance or investment contracts with DPF according to IFRS 4 *Insurance Contracts* .

Contracts of mandatory pension insurance (MPI) are issued in accordance with the Federal Law No. 167-FZ of 15 December 2001, *About Mandatory Pension Insurance in the Russian Federation* to provide contract holders with a funded pension. The Group classified MPI contracts as insurance contracts with DPF according to IFRS 4 *Insurance Contracts* .

Pension liabilities

Obligations under non-state pension and mandatory pension insurance contracts are determined as accumulated contributions reduced by performed payments and increased by investment income earned on assets baking such liabilities. At each reporting date, an assessment is made of whether the recognized liabilities are adequate by using the liability adequacy test.

The liability value is adjusted to the extent that it is insufficient to meet expected future benefits and expenses. In performing the adequacy test, current best estimates of future contractual cash flows are used. Any inadequacy is recorded in the consolidated statement of comprehensive income by creating an additional liability for the remaining loss.

Pension contributions are recognized as revenue upon incurrence of contractual liability. In accordance with the terms of the existing pension schemes, incurrence of contractual liability occurs when the initial pension contribution is received from the Pension Fund of the Russian Federation, another non-state pension fund or a contract holder. Subsequent contributions are recognized as part of the revenue in those periods when they are due in accordance with the terms of the contract.

5. New standards, interpretations and amendments adopted by the Group

The Group applies, for the first time, IFRS 15 *Revenue from Contracts with Customers*, IFRS 16 *Leases* and IFRS 9 *Financial Instruments* .

The Group also discloses new accounting policies that were not included in the Group's annual consolidated financial statements for the year ended 31 December 2017.

IFRS 15 Revenue from Contracts with Customers

IFRS 15 supersedes IAS 11 *Construction Contracts* , IAS 18 *Revenue and Related Interpretations* and it applies to all revenue arising from contracts with customers, unless those contracts are in the scope of other standards.

The new standard establishes a five-step model to account for revenue arising from contracts with customers. Under IFRS 15, revenue is recognised at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer.

The standard requires entities to exercise judgement, taking into consideration all of the relevant facts and circumstances when applying each step of the model to contracts with their customers. The standard also specifies the accounting for the incremental costs of obtaining a contract and the costs directly related to fulfilling a contract.

The Group adopted IFRS 15 using the modified retrospective approach. The cumulative impact of the adoption recognised in retained earnings as of 1 January 2018 in the amount 917. The comparative information is not restated.

Cumulative effect of adopting IFRS 15 on the consolidated statement of financial positions on 1 January 2018 is, as follows:

Balance line	Notes	1 January 2018
Trade and other accounts receivable	f)	(4,142)
Contract assets	f)	4,142
Contract costs	a), b)	11,572
Retained earnings and other reserves	a), b), c), d), e)	917
Deferred tax liabilities		229
Other non-current liabilities	a), c), d), e)	6,379
Other current liabilities	a), c), d), e)	4,047

Cumulative impact in retained earnings 917 presented in separate line in the consolidated statement of changes in equity as Effect of application IFRS 9, 15, 16 at 1 January 2018.

Impact on the consolidated statement of financial position at 31 December 2018 as follows:

	Notes below	As reported	Effect IFRS 15	Amounts without adoption of IFRS 15
Trade and other accounts receivable	f)	7,346	501	7,847
Contract assets	f)	501	(501)	–
Contract costs	a), b)	12,323	(12,323)	–
Other non-current assets		538,924	–	538,924
Total non-current assets		559,094	(12,323)	546,771
Contract assets	f)	9,511	(9,511)	–
Trade and other accounts receivable	f)	44,189	9,511	53,700
Other current assets		33,418	–	33,418
Asset classified as held for sale		554	–	554
Total current assets		87,672	–	87,672
Total assets		646,766	(12,323)	634,443
Retained earnings and other reserves	a), b), c), d), e)	307,234	(2,914)	304,320
Total equity attributable to equity holders of the Group		247,023	(2,914)	244,109
Non-controlling interests		3,930	(5)	3,925
Other non-current liabilities	a), c), d)	21,142	(4,836)	16,306
Deferred tax liabilities		38,411	(729)	37,682
Total non-current liabilities		258,544	(5,565)	252,979
Other current liabilities	a), d)	13,396	(3,839)	9,557
Total current liabilities		137,269	(3,839)	133,430
Total equity and liabilities		646,766	(12,323)	634,443

Impact on the statement of profit or loss and other comprehensive income for year ended 31 December 2018 as follows:

	Notes below	As reported	Effect IFRS 15	Amounts without adoption of IFRS 15
Revenue	a), c), d)	320,239	(1,907)	318,332
Wages, salaries, other benefits and payroll taxes	b)	(97,350)	(2,243)	(99,593)
Depreciation, amortization and impairment losses	b)	(60,329)	1,869	(58,460)
Interconnection charges		(58,293)	–	(58,293)
Materials, utilities, repairs and maintenance		(26,183)	–	(26,183)
Gain on disposal of property, plant and equipment and intangible assets		7,184	–	7,184
Impairment loss of financial assets measured at amortized cost		(4,057)	–	(4,057)
Other operating income		13,579	–	13,579
Other operating expenses	a), b)	(58,990)	(377)	(59,367)
Total operating expenses, net		(284,439)	(751)	(285,190)
Operating profit		35,800	(2,658)	33,142
Loss from associates and joint ventures		(91)	–	(91)
Finance costs	c)	(17,275)	155	(17,120)
Other investing and financial gain, net		1,602	–	1,602
Foreign exchange (loss)/gain, net		(597)	–	(597)
Profit before income tax		19,439	(2,503)	16,936
Income tax expense		(4,427)	501	(3,926)
Profit for the year		15,012	(2,002)	13,010
Attributable to:	a), b), c), d)			
Equity holders of the Group		14,154	(1,997)	12,157
Non-controlling interests		858	(5)	853

The impact on basic and diluted EPS is, as follows:

Earnings per share attributable to equity holders of the Group – basic (in roubles)	0.88
Earnings per share attributable to equity holders of the Group – diluted (in roubles)	0.86

There is no material effect on the statement of cash flow.

(a) Delivery of customer-premises equipment (CPE)
Customer premises equipment – technical devices or equipment installed in the customer premises and designed to provide technical capability of subscriber's consumption of services provided by the Company. In accordance with IFRS 15.22, at the time of the conclusion of the contract, the Group must evaluate the goods or services promised under the contract with the buyer and divide them into distinct performance obligation.

Based on the analysis of the current business operations the Group concluded that CPE, which cannot be used by the client separately from Group's services, does not represents a performance obligation. Accordingly, fees received for delivery of CPE are deferred and recognized as revenue over period when the respective services are provided.

The cost of CPE also is recognised as an asset from the costs incurred to fulfil a contract and amortised in operational expense as over period when the respective services are provided.

Prior the adoption of IFRS 15, the Group recognised revenue from the sale of CPE and cost of CPE as expense at the point of time when control of the assets is transferred to the customer.

On 1 January 2018 the Group recognised cost to fulfill contract in the amount of 4,982, contract liabilities 8,524, including current portion 2,613 ,cumulative effect on retained earnings from CPE comprised (2,834) after income tax effect.

At the consolidated statement of financial positions as at 31 December 2018 total contract liabilities of CPE amounted to 6,742 including current portion amounted to 2,455 and contract cost amounted to 4,695.

The impact on the consolidated statement of profit or loss and other comprehensive income for period ended 31 December 2018 as follows: increase in revenue amounting to 1,782, increase in operational expenses amounting to 287.

(b) Incremental cost of obtaining the contract
According IFRS 15.91 the entity recognises the incremental costs of obtaining the contract with customer as an asset if those costs are expected to be recoverable. The incremental cost of obtaining the contract are those costs that an entity incurs to obtain a contract with a customer that it would not have incurred if the contract had not been obtained.

Based on the analysis of the business practices and the requirements of IFRS 15, the Group recognise as an assets dealer commission to connection new subscribers in the business to customers segment, and additional payments to employees who are engaged in similar functions.

Prior the adoption of IFRS 15, the Group recognised incremental costs of obtaining the contract in profit or loss at the point of time when expense incurred: dealer commissions were recognised as operational expenses, additional payments to employees were recognised as wages and salaries expenses.

The Group presents costs of obtaining a contract as contract cost in the consolidated statement of financial position. An asset under the contract is being amortised on a systematic basis that is consistent with the contractual relationship with customers to which the assets relates.

At 1 January 2018, the Group would recognise contract costs of obtaining the contract in the total amount of 6,590, cumulative effect in retained earnings from capitalisation of incremental cost comprised 5,272 after income tax effect.

At the consolidated statement of financial positions as at 31 December 2018 contract costs of obtaining the contract amounted to 7,628.

The Impact on the consolidated statement of profit or loss and other comprehensive income for period ended 31 December 2018 as follows: decrease in wages and salaries expenses to 2,243, decrease in other operating expenses to 664, increase in amortization expenses to 1,869.

(c) Advances received from customers
Generally, the Group receives short-term advances from its customers. They are presented as part of current liabilities. However, from time to time, the Group may receive long-term advances from customers. Under the current accounting policy, the Group presents such advances as other non-current liabilities heading in the consolidated statement of financial position.

Under IFRS 15, the Group must determine whether there is a significant financing component in its contracts. The Group use the practical expedient provided in IFRS 15, and does not adjust the promised amount of the consideration for the effects of a significant financing components in the contracts, where the Group expects, at contract inception, that the period between the Group provide of a promised service to a customer and when the customer pays for that service will be one year or less. Therefore, for short term advances, the Group does not account for a financing component even if it is significant.

However, certain contracts concluded between the Group and its customers contain a significant financing component because of the length of time between when the customer pays for the services and when the Group provides services to the customer. The transaction price for such contracts will be adjusted for the effects of time value of money using rate that would be reflected in a separate financing transaction between the Group and its customer at contract inception.

Upon adoption of IFRS 15 the Group recognised contract liabilities for the interest on the advances received from customers with significant financing components amounting to 343, cumulative effect in retained earnings (274) after income tax effect.

At the consolidated statement of financial positions as at 31 December 2018 contract liabilities for the interest on the advances received from customers with significant financing components amounted to 467.

The Impact on the consolidated statement of profit or loss and other comprehensive income for year ended 31 December 2018 as follows: revenue increased by 31, finance cost increased by 155.

(d) Installation services
The following services are associated with the installation services: organisation of communication channels, connection of operators to networks.

In accordance with IFRS 15.22, at the time of the conclusion of the contract, the Group must evaluate the goods or services promised under the contract with the buyer and divide them into distinct performance obligation.

Based on the analysis of the current business operations the Group concluded that installation services, which can't be used by the client separately from Company's services does not represents a performance obligation. Accordingly, fees received for installation services are deferred and recognized as revenue over period when the respective services are provided.

Upon adoption of IFRS 15 the Group recognised additional contract liabilities for installation services in the amount 1,562, including current portion 1,437, cumulative effect in retained earnings (1,250) after income tax effect.

At the consolidated statement of financial positions as at 31 December 2018 total contract liabilities for installation services amounted to 1,467, including current portion amounted to 1,384.

The impact on the consolidated statement of profit or loss and other comprehensive income for period ended 31 December 2018 as follows: increase in revenue amounting to 95.

(e) Loyalty programme
The application of IFRS 15 for accounting of the loyalty program did not have a significant impact on the Group's financial statement and led to a reduction in the contractual obligation for bonuses by 3, the cumulative effect on retained earnings 3 on 1 January 2018.

(f) Contract assets
Under IFRS 15, any earned consideration that is conditional should be recognised as a contract asset rather than receivable. Therefore, upon adoption of IFRS 15, the Group made reclassifications from Trade and other receivables to Contract assets.

(g) Presentation and disclosure requirements
The Group disaggregated revenue recognised from contracts with customers into categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors (refer Note 26).

Contract liabilities were included in the current and non-current liabilities of the consolidated statement of financial position.

IFRS 9 Financial Instruments

IFRS 9 *Financial Instruments* replaces IAS 39 *Financial Instruments: Recognition and Measurement* for annual periods beginning on or after 1 January 2018, bringing together all three aspects of the accounting for financial instruments: classification and measurement; impairment; and hedge accounting.

The Group has applied IFRS 9, with the initial application date of 1 January 2018 and has not adjusted the comparative information for the year 2017.

(a) Classification and measurement
Applying the classification and measurement requirements of IFRS 9 does not have significant impact on balance sheet or equity of the Group.

The Group continue measuring all financial assets, which are currently measured at fair value, at fair value through profit or loss.

Loans as well as trade receivables are held to collect contractual cash flows and are expected to give rise to cash flows representing solely payments of principal and interest.

The Group analysed the contractual cash flow characteristics of those instruments and concluded that they meet the criteria for amortised cost measurement under IFRS 9. Therefore, reclassification for these instruments is not required.

The Group classified its unquoted equity instruments as equity instruments at FVPL (Fair value through profit and loss). Under IAS 39, the Group's unquoted equity instruments were classified as AFS (available for sale) financial assets.

(b) Impairment
Under IFRS 9, the new impairment model requires the recognition of impairment provisions based on expected credit losses (ECL) rather than only incurred credit losses as is the case under IAS 39. This will require considerable judgement about how changes in economic factors affect ECLs, which will be determined on a probability-weighted basis.

The new impairment model applies to financial assets classified at amortised cost, debt instruments measured at FVOCI (Fair value through other comprehensive income), contract assets under IFRS 15 *Revenue from Contracts with Customers* , lease receivables.

The Group has chosen to apply the simplified approach to providing for expected credit losses prescribed by IFRS 9, which permits the use of the lifetime expected loss provision for all trade and other receivables. To measure the expected credit losses, the trade receivables have been grouped based by nature and the days past due.

At 1 January 2018 the Group recognise additional loss allowance 656 for trade and other receivables and contract assets with cumulative effect in retained earnings 525 after income tax effect.

Balance line	31 December 2017	Adjustment IFRS 15	Adjustment IFRS 9	1 January 2018
Non-current trade and other accounts receivable, net	8,352	(222)	(56)	8,074
Allowance for expected credit loss	–	–	(56)	(56)
Trade and other accounts receivable, net	47,813	(3,919)	(588)	43,306
Trade and other accounts receivable, gross	57,973	(3,919)	–	54,054
Allowance for expected credit loss	(10,160)	–	(588)	(10,748)
Non-current contract assets, net	–	222	–	222
Contract assets, gross	–	222	–	222
Allowance for expected credit loss	–	–	–	–
Contract assets, net	–	3,919	(12)	3,907
Contract assets, gross	–	3,919	–	3,919
Allowance for expected credit loss	–	–	(12)	(12)
Total	56,165	–	(656)	55,509

	Doubtful debt allowance as at 31 December 2017	Adjustment IFRS 9	Allowance for expected credit loss as at 1 January 2018
Amounts due from customers for operating and non-operating activities	(9,283)	(588)	(9,871)
Amounts due from commissioners and agents	(330)	–	(330)
Amounts due from personnel	–	–	–
Amounts due from lessees for financial lease	–	–	–
Amounts due from other debtors	(547)	–	(547)
Total trade and other accounts receivable	(10,160)	(588)	(10,748)

Cumulative impact in retained earnings (525) presented in separate line in consolidated statement of changes of equity as *Effect of application IFRS 9* .

Other financial assets at amortised cost include loans receivable, including loans to related parties. The Group apply general approach to providing for expected credit losses in relation to such financial assets.

The Group's cash and cash equivalents have low credit risk based on the external credit ratings of banks and financial institutions. Therefore, the Group determined that no additional allowances are required at 1 January 2018 in connection with the adoption of the new impairment model under IFRS 9.

IFRS 16 Leases

IFRS 16 replaces IAS 17 *Leases* , IFRIC 4 *Determining whether an Arrangement Contains a Lease* , SIC-15 *Operating Leases – Incentives* and SIC-27 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease* . IFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under IAS 17.

The Group applies the standard for annual periods beginning on 1 January 2018 and adopts the standard retrospectively with the cumulative effect of initially applying IFRS 16 recognised as an adjustment to the opening balance of retained earnings. The comparative information was not restated.

At the date of initial application the Group applies IFRS 16 only to the contracts that were previously identified as leases applying IAS 17 *Leases* and IFRIC 4 *Determining whether an Arrangement Contains a Lease* .

a) The Group as a lessor

Lessor accounting under IFRS 16 is substantially unchanged from today's accounting under IAS 17. Lessors continue to classify all leases using the same classification principle as in IAS 17 and distinguish between two types of leases: operating and finance leases. However, new guidance was added for modification of the lessor's leases and there is a change in classification of subleases under IFRS 16 as comparing to IAS 17. The Group do not have subleases, so lessor accounting remained unchanged.

b) The Group as a lessee

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

At the commencement date of a lease, the Group recognises a liability to make lease payments (i.e., the lease liabilities) and an asset representing the right of use the underlying asset during the lease term (i.e., right of use asset).

At the commencement date, a lease liabilities is measured at the present value of the lease payments that are not paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined. If that rate cannot be readily determined, the Group uses the lessee's incremental borrowing rate. At the commencement date, the Group measures the right of use assets at cost.

After the commencement date, the Group measures:

- The lease liabilities by:

  (a) Increasing the carrying amount to reflect interest on the lease liabilities;

  (b) Reducing the carrying amount to reflect the lease payments made; and

  (c) Remeasuring the carrying amount to reflect any reassessment or lease modifications or to reflect revised in-substance fixed lease payments.

- The right of use asset at cost less any accumulated depreciation determined in accordance with IAS 16 *Property, Plant and Equipment* requirements and any accumulated impairment losses; and adjusted for any remeasurement of the lease liability.

The Group separately recognizes the interest expense on the lease liabilities and the depreciation expense on the right of use asset.

IFRS 16 includes two recognition exemptions for lessees – leases of 'low-value' assets available on lease by lease basis and short-term leases (i.e., leases with a lease term of 12 months or less).

The Group has chosen to use only exemption for "low-value" assets. Short-term leases are included into the consolidated statement of financial position. The Group considers underlying assets to be 'low-value' assets, if their initial market value, when they are new, do not exceed 0.3 and apply that exemption for any of such leases.

At the date of initial application IFRS 16:

- For former IAS 17 operating leases for which the underlying asset is of 'low-value' asset no lease liability and right of use asset were not recognized in the consolidated statement of financial position.
- For all other former IAS 17 operating leases:
  - a lease liabilities is recognised at the amount of remaining lease payments, discounted, where material, using the lessee's incremental borrowing rate at the date of initial application; and
  - a lease assets (presented as right of use asset) is recognised at the amount equal to lease liabilities, adjusted by the amount of any prepaid or accrued lease payments related to that lease recognised in the consolidated statement of financial position immediately before the date of initial application. IAS 36 *Impairment of Assets* was applied to right of use assets at the date of initial application. As a result no loss in respect of right of use assets was recognised.
- For former IAS 17 finance leases, the right of use assets and the lease liabilities at the date of initial application are recognised at the carrying amounts of the lease assets and the lease liabilities immediately before that date measured applying IAS 17.

At 1 January 2018 the Group recognised right of use assets 16,980, and lease liabilities in the amount 16,225. Cumulative effect of initial application of IFRS 16 on retained earnings was immaterial for disclosure.

In the consolidated statement of financial positions as at 31 December 2018 right of use assets amounted to 21,205, short and long term lease liabilities amounted to 4,791 and 16,855 accordingly. During the year ended 31 December 2018 additional capitalization of right of use assets is amounted to 9,622.

The impact on the consolidated statement of profit or loss and other comprehensive income for year ended 31 December 2018 as follows: increase in amortization amounting to 5,251, increase in finance cost amounting to 1,627.

Below is an explanation of the difference between operating lease commitments disclosed applying IAS 17 as at 31 December 2017, discounted using weighted average incremental borrowing rate applied to lease liabilities recognised in the consolidated statement of financial position at the date of initial application and lease liabilities recognised in the consolidated statement of financial position at 1 January 2018:

Operating lease commitments at 31 December 2017	14,704
Weighted average incremental borrowing rate of the Group as a lessee	8.07%
Discounted operating lease commitments at 31 December 2017	9,205
Less: commitment related to leases of low value assets which are not recognised in the consolidated statement of financial position	(336)
Add: lease obligations for leases previously classified as finance leases	1,249
Add: payments in optional renewal periods not presented at 31 December 2017	6,107
Lease liabilities at 1 January 2018	16,225

Amendments to IAS 40 Transfers of Investment Property

The amendments clarify when an entity should transfer property, including property under construction or development into, or out of investment property. The amendments state that a change in use occurs when the property meets, or ceases to meet, the definition of investment property and there is evidence of the change in use. A mere change in management's intentions for the use of a property does not provide evidence of a change in use. These amendments do not have any impact on the Group's consolidated financial statements.

IFRIC Interpretation 22 Foreign Currency Transactions and Advance Considerations

The Interpretation clarifies that, in determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which an entity initially recognises the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, then the entity must determine a date of the transactions for each payment or receipt of advance consideration. This Interpretation does not have any impact on the Group's consolidated financial statements.

Amendments to IFRS 2 Classification and Measurement of Share-based Payment Transactions

The IASB issued amendments to IFRS 2 *Share-based Payment* that address three main areas: the effects of vesting conditions on the measurement of a cash-settled share-based payment transaction; the classification of a share-based payment transaction with net settlement features for withholding tax obligations; and accounting where a modification to the terms and conditions of a share-based payment transaction changes its classification from cash settled to equity settled. On adoption, entities are required to apply the amendments without restating prior periods, but retrospective application is permitted if elected for all three amendments and other criteria are met. The Group's accounting policy for cash-settled share based payments is consistent with the approach clarified in the amendments. In addition, the Group has no share-based payment transaction with net settlement features for withholding tax obligations and had not made any modifications to the terms and conditions of its share-based payment transaction. Therefore, these amendments do not have any impact on the Group's consolidated financial statements.

Amendments to IAS 28 Investments in Associates and Joint Ventures – clarification that measuring investees at fair value through profit or loss is an investment-by-investment choice

The amendments clarify that an entity that is a venture capital organisation, or other qualifying entity, may elect, at initial recognition on an investment-by-investment basis, to measure its investments in associates and joint ventures at fair value through profit or loss. If an entity, that is not itself an investment entity, has an interest in an associate or joint venture that is an investment entity, the entity may, when applying the equity method, elect to retain the fair value measurement applied by that investment entity associate or joint venture to the investment entity associate's or joint venture's interests in subsidiaries. This election is made separately for each investment entity associate or joint venture, at the later of the date on which: (a) the investment entity associate or joint venture is initially recognised; (b) the associate or joint venture becomes an investment entity; and (c) the investment entity associate or joint venture first becomes a parent. These amendments do not have any impact on the Group's consolidated financial statements.

Amendments to IFRS 4 Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts

The amendments address concerns arising from implementing the new financial instruments standard, IFRS 9, before implementing IFRS 17 *Insurance Contracts* , which replaces IFRS 4. The amendments introduce two options for entities issuing insurance contracts: a temporary exemption from applying IFRS 9 and an overlay approach. The Group is in the process of assessment of the impact on its consolidated financial statements.

IFRS 17 Insurance Contracts

In May 2017, the IASB issued IFRS 17 *Insurance Contracts* (IFRS 17), a comprehensive new accounting standard for insurance contracts covering recognition and measurement, presentation and disclosure. Once effective, IFRS 17 will replace IFRS 4 Insurance Contracts (IFRS 4) that was issued in 2005. IFRS 17 applies to all types of insurance contracts (i.e., life, non-life, direct insurance and re-insurance), regardless of the type of entities that issue them, as well as to certain guarantees and financial instruments with discretionary participation features. A few scope exceptions will apply. The overall objective of IFRS 17 is to provide an accounting model for insurance contracts that is more useful and consistent for insurers. In contrast to the requirements in IFRS 4, which are largely based on grandfathering previous local accounting policies, IFRS 17 provides a comprehensive model for insurance contracts, covering all relevant accounting aspects. The core of IFRS 17 is the general model, supplemented by:

- A specific adaptation for contracts with direct participation features (the variable fee approach)
- A simplified approach (the premium allocation approach) mainly for short-duration contracts

IFRS 17 is effective for reporting periods beginning on or after 1 January 2021, with comparative figures required. Early application is permitted, provided the entity also applies IFRS 9 and IFRS 15 on or before the date it first applies IFRS 17. The Group is in the process of assessment of the impact on its consolidated financial statements.

IFRIC Interpretation 23 Uncertainty over Income Tax Treatment

The Interpretation addresses the accounting for income taxes when tax treatments involve uncertainty that affects the application of IAS 12 and does not apply to taxes or levies outside the scope of IAS 12, nor does it specifically include requirements relating to interest and penalties associated with uncertain tax treatments. The Interpretation specifically addresses the following:

- Whether an entity considers uncertain tax treatments separately
- The assumptions an entity makes about the examination of tax treatments by taxation authorities
- How an entity determines taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates
- How an entity considers changes in facts and circumstances

An entity has to determine whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments. The approach that better predicts the resolution of the uncertainty should be followed. The interpretation is effective for annual reporting periods beginning on or after 1 January 2019, but certain transition reliefs are available. The Group will apply the interpretation from its effective date. Since the Group operates in a complex multinational tax environment, applying the Interpretation may affect its consolidated financial statements. In addition, the Group may need to establish processes and procedures to obtain information that is necessary to apply the Interpretation on a timely basis.

Amendments to IFRS 9: Prepayment Features with Negative Compensation

Under IFRS 9, a debt instrument can be measured at amortised cost or at fair value through other comprehensive income, provided that the contractual cash flows are 'solely payments of principal and interest on the principal amount outstanding' (the SPPI criterion) and the instrument is held within the appropriate business model for that classification. The amendments to IFRS 9 clarify that a financial asset passes the SPPI criterion regardless of the event or circumstance that causes the early termination of the contract and irrespective of which party pays or receives reasonable compensation for the early termination of the contract.

The amendments should be applied retrospectively and are effective from 1 January 2019, with earlier application permitted. These amendments have no impact on the consolidated financial statements of the Group.

Amendments to IFRS 10 and IAS 28: Sale or Contribution of Assets between an Investor and its Associate or Joint Venture

The amendments address the conflict between IFRS 10 and IAS 28 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in IFRS 3, between an investor and its associate or joint venture, is recognised in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognised only to the extent of unrelated investors' interests in the associate or joint venture. The IASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. The Group will apply these amendments when they become effective.

Amendments to IAS 19: Plan Amendment, Curtailment or Settlement

The amendments to IAS 19 address the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendments specify that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to:

- Determine current service cost for the remainder of the period after the plan amendment, curtailment or settlement, using the actuarial assumptions used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event
- Determine net interest for the remainder of the period after the plan amendment, curtailment or settlement using: the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event; and the discount rate used to remeasure that net defined benefit liability (asset).

The amendments also clarify that an entity first determines any past service cost, or a gain or loss on settlement, without considering the effect of the asset ceiling. This amount is recognised in profit or loss. An entity then determines the effect of the asset ceiling after the plan amendment, curtailment or settlement. Any change in that effect, excluding amounts included in the net interest, is recognised in other comprehensive income.

The amendments apply to plan amendments, curtailments, or settlements occurring on or after the beginning of the first annual reporting period that begins on or after 1 January 2019, with early application permitted. These amendments will apply only to any future plan amendments, curtailments, or settlements of the Group.

Amendments to IAS 28: Long-term Interests in Associates and Joint Ventures

The amendments clarify that an entity applies IFRS 9 to long-term interests in an associate or joint venture to which the equity method is not applied but that, in substance, form part of the net investment in the associate or joint venture (long-term interests). This clarification is relevant because it implies that the expected credit loss model in IFRS 9 applies to such long-term interests.

The amendments also clarified that, in applying IFRS 9, an entity does not take account of any losses of the associate or joint venture, or any impairment losses on the net investment, recognised as adjustments to the net investment in the associate or joint venture that arise from applying IAS 28 *Investments in Associates and Joint Ventures* .

The amendments should be applied retrospectively and are effective from 1 January 2019, with early application permitted. Since the Group does not have such long-term interests in its associate and joint venture, the amendments will not have an impact on its consolidated financial statements.

Annual Improvements 2015-2017 Cycle (issued in December 2017)

These improvements include:

IFRS 3 Business Combinations

The amendments clarify that, when an entity obtains control of a business that is a joint operation, it applies the requirements for a business combination achieved in stages, including remeasuring previously held interests in the assets and liabilities of the joint operation at fair value. In doing so, the acquirer remeasures its entire previously held interest in the joint operation.

An entity applies those amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments will apply on future business combinations of the Group.

IFRS 11 Joint Arrangements

A party that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business as defined in IFRS 3. The amendments clarify that the previously held interests in that joint operation are not remeasured.

An entity applies those amendments to transactions in which it obtains joint control on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments are currently not applicable to the Group but may apply to future transactions.

IAS 12 Income Taxes

The amendments clarify that the income tax consequences of dividends are linked more directly to past transactions or events that generated distributable profits than to distributions to owners. Therefore, an entity recognises the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognised those past transactions or events.

An entity applies those amendments for annual reporting periods beginning on or after 1 January 2019, with early application is permitted. When an entity first applies those amendments, it applies them to the income tax consequences of dividends recognised on or after the beginning of the earliest comparative period. Since the Group's current practice is in line with these amendments, the Group does not expect any effect on its consolidated financial statements.

IAS 23 Borrowing Costs

The amendments clarify that an entity treats as part of general borrowings any borrowing originally made to develop a qualifying asset when substantially all of the activities necessary to prepare that asset for its intended use or sale are complete.

An entity applies those amendments to borrowing costs incurred on or after the beginning of the annual reporting period in which the entity first applies those amendments. An entity applies those amendments for annual reporting periods beginning on or after 1 January 2019, with early application permitted. Since the Group's current practice is in line with these amendments, the Group does not expect any effect on its consolidated financial statements.

- *Definition of a Business – Amendments to IFRS 3*

The IASB issued amendments to the definition of a business in IFRS 3 *Business Combinations* to help entities determine whether an acquired set of activities and assets is a business or not. They clarify the minimum requirements for a business, remove the assessment of whether market participants are capable of replacing any missing elements, add guidance to help entities assess whether an acquired process is substantive, narrow the definitions of a business and of outputs, and introduce an optional fair value concentration test.

The amendments must be applied to transactions that are either business combinations or asset acquisitions for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2020. Consequently, entities do not have to revisit such transactions that occurred in prior periods. Earlier application is permitted and must be disclosed.

> *Definition of Material – Amendments to IAS 1 and IAS 8*

In October 2018, the IASB issued amendments to IAS 1 *Presentation of Financial Statements* and IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* to align the definition of 'material' across the standards and to clarify certain aspects of the definition. The new definition states that, 'Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.'

The amendments clarify that materiality will depend on the nature or magnitude of information, or both. An entity will need to assess whether the information, either individually or in combination with other information, is material in the context of the financial statements.

The amendments must be applied prospectively. Early application is permitted and must be disclosed.

6. Business combinations

2018 transactions

Acquisition of subsidiaries

LLC Servis telecommunikaciy

On 12 January 2018 the Group acquired control over LLC Servis telecommunikaciy. The subsidiary of the Company PJSC Bashinformsvyaz has signed an agreement to acquire 100% of LLC Servis telecommunikaciy for 250. LLC Servis telecommunikaciy owns the frequency resource in the area of Saint Petersburg that will enable the Group to develop 5G technology and expand the trial network in 5G technology.

The effective share of the Group in LLC Servis telecommunikaciy as of 31 December 2018 is 96.33%.

The acquisition has been accounted using the acquisition method.

The fair value of the identifiable assets and liabilities of LLC Servis telecommunikaciy as at the date of acquisition were:

	LLC Servis telecommuni-kaciy
Fair value of identifiable assets and liabilities	
Intangible assets	270
Trade and other accounts receivable	2
Cash and cash equivalents	1
Accounts payable, provisions and accrued expenses	(2)
Deferred tax liabilities	(55)
Total identifiable net assets at fair value	216
Goodwill arising on acquisition	45
Non-controlling interests	8
Purchase consideration transferred (paid in cash)	250
Deferred consideration	3
Net cash acquired with the subsidiary (included in cash flows from investing activities)	1
Cash paid	(250)
Net cash flow on acquisition	(249)

The goodwill of 45 comprises the value of expected synergies and other benefits from combining the assets and activities of the LLC Servis telecommunikaciy with those of the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The non-controlling interest is 3.67%. The Group has elected to measure the non-controlling interest at the proportionate share of the value of net identifiable assets acquired.

From the date of acquisition until 31 December 2018 LLC Servis telecommunikaciy has contributed (1) to net profit of the Group and 2 to revenue.

Solar Security

On 21 May 2018 the Group obtained control over Solar Security. The subsidiaries of the Company, LLC Data Storage Centre and PJSC Bashinformsvyaz, have signed the agreements to acquire 70% and 30% of Solar Security respectively for 1,050 and 450. Solar Security is a technological leader in target monitoring and information security (IS) management.

Rostelecom's IS division will become part of Solar Security, thus forming an integrated cybersecurity competence centre. Solar Security will be responsible for further development and promotion of existing products and services, as well as the implementation of Rostelecom's corporate and public projects in the space of data protection.

The effective share of the Group in Solar Security as of 31 December 2018 is 98.90%.

The acquisition has been accounted using the acquisition method.

The fair value of the identifiable assets and liabilities of Solar Security as at the date of acquisition were:

	Solar Security
Fair value of identifiable assets and liabilities	
Property, plant and equipment	20
Intangible assets	290
Contract assets	29
Deferred tax assets	48
Trade and other accounts receivable	130
Cash and cash equivalents	41
Inventories	13
Contract liabilities	(29)
Accounts payable, provisions and accrued expenses	(133)
Total identifiable net assets at fair value	409
Goodwill arising on acquisition	1,095
Non-controlling interests	4
Purchase consideration transferred (paid in cash)	1,417
Deferred consideration	83
Net cash acquired with the subsidiary (included in cash flows from investing activities)	41
Cash paid	(1,417)
Net cash flow on acquisition	(1,376)

The goodwill of 1,095 comprises the value of expected synergies and other benefits from combining the assets and activities of Solar Security with those of the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The non-controlling interest is 1.10%. The Group has elected to measure the non-controlling interest at the proportionate share of the value of net identifiable assets acquired

The fair value of the trade and other accounts receivable amounts to 130, which is approximately equal to the gross amounts of corresponding receivables as of the acquisition date. None of the trade and other accounts receivables has been impaired and it is expected that the full contractual amounts can be collected.

From the date of acquisition until 31 December 2018 Solar Security has contributed (207) to net profit of the Group and 513 to revenue. If the combination had taken place at the beginning of 2018, net profit of the Group would have been 14,890 and revenue would have been 320,389. In determining these amounts, management has assumed that the fair value adjustments that arose on the date of acquisition would have been the same if the acquisition had occurred on 1 January 2018.

LLC Star2Com

In December 2018 the Group obtained control over LLC Star2Com. The subsidiary of the Company, PJSC Bashinformsvyaz, has signed the agreement to acquire 99.92% of LLC Star2Com for 490. The remaining share 0.08% is included in net assets of the acquired company.

Star2Comm is one of the leading developers of telecommunications settlements and maintenance solutions. The company has its own proprietary billing software, which provides full settlement cycle to a considerable number of Rostelecom's broadband, IPTV and telephony subscribers.

The effective share of the Group in LLC Star2Com as of 31 December 2018 is 96.33%.

The acquisition has been accounted using the acquisition method. These consolidated financial statements include balances of LLC Star2Com as at 31 December 2018.

The provisional value of the identifiable assets and liabilities of LLC Star2Com as at the date of acquisition were:

	LLC Star2Com
Provisional value of identifiable assets and liabilities	
Intangible assets	519
Property, plant and equipment	9
Contract assets	19
Trade and other accounts receivable	21
Inventories	22
Cash and cash equivalents	6
Short-term loans	(26)
Shareholders liability	(20)
Contract liabilities	(19)
Accounts payable, provisions and accrued expenses	(112)
Deferred tax liability	(106)
Total identifiable net assets at provisional value	313
Goodwill arising on acquisition	189
Non-controlling interests	12
Purchase consideration transferred (paid in cash)	490
Net cash acquired with the subsidiary (included in cash flows from investing activities)	6
Cash paid	(490)
Net cash flow on acquisition	(484)

The goodwill of 189 comprises the value of expected synergies and other benefits from combining the assets and activities LLC Star2Com with those of the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The non-controlling interest is 3.67%. The Group has elected to measure the non-controlling interest at the proportionate share of the value of net identifiable assets acquired

Netris

On 25 December 2018 the Group obtained control over Netris. The subsidiary of the Company, PJSC Bashinformsvyaz has signed the agreement to acquire 100% of Netris for 1,712.

Netris is one of the leading developer of video monitoring systems software for government and corporate customers.

The effective share of the Group in Netris as of 31 December 2018 is 96.33%.

The acquisition has been accounted using the acquisition method. These consolidated financial statements include balances of Netris as at 31 December 2018.

The provisional value of the identifiable assets and liabilities of Netris as at the date of acquisition were:

	Netris
Provisional value of identifiable assets and liabilities	
Intangible assets	1,348
Property, plant and equipment	9
Trade and other accounts receivable	100
Inventories	34
Cash and cash equivalents	347
Accounts payable, provisions and accrued expenses	(152)
Deferred tax liabilities	(269)
Total identifiable net assets at provisional value	1,417
Goodwill arising on acquisition	347
Non-controlling interests	52
Purchase consideration transferred (paid in cash)	1,712
Net cash acquired with the subsidiary (included in cash flows from investing activities)	347
Cash paid	(1,712)
Net cash flow on acquisition	(1,365)

The goodwill of 347 comprises the value of expected synergies and other benefits from combining the assets and activities Netris with those of the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The fair value of the trade and other accounts receivable amounts to 100, which is approximately equal to the gross amounts of corresponding receivables as of the acquisition date. None of the trade and other accounts receivables has been impaired and it is expected that the full contractual amounts can be collected.

During 2018 the Group acquired the business which are individually immaterial (LLC Sputnik Telecom, LLC TelecomSistemy, LLC Evraziya Telecom, LLC Udostoveryayuschiy centr Internet). Total amount of purchase consideration transferred and paid by cash is 270. Property, plant and equipment in the amount 109 and intangible assets in the amount 154 were purchased as part of business combination. No goodwill arose on acquisition.

2017 transactions

Acquisition of subsidiaries

Tvingo telecom

On 20 December 2017 the Group obtained control over Tvingo telecom LLC. The subsidiary of the Company, PJSC Bashinformsvyaz, acquired 100% of shares of Tvingo telecom LLC, a major internet provider in Vladikavkaz for a consideration of 398. The purchase consideration comprised the transfer of cash and cash equivalents of 298 and 100 as deferred consideration measured at fair value and payable in 2018-2020.

Tvingo telecom provides broadband, IPTV and IP telephony services for households and corporate clients. The company operates its own fibre-optic network covering almost all multi-storey buildings (using the FTTx technology) and low-rise buildings (with the GPON technology) in Vladikavkaz city and its suburbs. The operator holds a half of B2C broadband market and a third of B2B broadband market with a subscriber base of 1,000 corporate and 30,000 residential clients. The reason for investement in Tvingo telecom was to boost market share of Rostelecom and get the leading positions in the broadband market of the area.

The effective share of the Tvingo telecom LLC is 96.33%.

The acquisition has been accounted using the acquisition method. These consolidated financial statements include balances of Tvingo telecom LLC as at 31 December 2017.

The fair value of the identifiable assets and liabilities of Tvingo telecom LLC as at the date of acquisition were:

	LLC Tvingo telecom*
Fair value of identifiable assets and liabilities	
Property, plant and equipment	259
Intangible assets	87
Trade and other accounts receivable	4
Cash and cash equivalents	3
Inventories	41
Long-term and short-term loans	(55)
Accounts payable, provisions and accrued expenses	(50)
Deferred tax liabilities	(26)
Total identifiable net assets at fair value	263
Goodwill arising on acquisition	145
Non-controlling interest	10
Purchase consideration transferred (paid in January 2018)	298
Deferred consideration paid in December 2018	30
Deferred consideration to be paid	70
Net cash acquired with the subsidiary (included in cash flows from investing activities)	3
Cash paid in 2018	328
Net cash flow on acquisition	(325)

** Certain amounts do not correspond to the amounts disclosed in the notes to the consolidated financial statements of the Group as of 31 December 2017 and reflect measurement period adjustments made to the provisional amounts of the Tvingo Telecom as the accounting for the business combination had been completed at the acquisition date.*

The goodwill of 145 comprises the value of expected synergies and other benefits from combining the assets and activities Tvingo telecom LLC with those of the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The non-controlling interest is 3.67%. The Group has elected to measure the non-controlling interest at the proportionate share of the value of net identifiable assets acquired.

During year 2017 the Group acquired the business of LLC Evraziya Telecom, SC Tolyatti Telecom, LLC RoylCom, which are individually immaterial. Total amount of purchase consideration transferred and paid by cash is 138. Property, plant and equipment in the amount 92 and intangible assets in the amount 55 were purchased as part of business combination. No goodwill arise.

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7. Property, plant and equipment

The net book value of property, plant and equipment as at 31 December 2018 and 2017 was as follows:

	Buildings and site services	Cable and transmission devices	Other	Construction in progress	Total
Cost / deemed cost					
At 1 January 2017	104,542	619,691	127,033	28,073	879,339
Additions	114	4,624	2,427	47,741	54,906
Assets of acquired subsidiaries	–	213	2	93	308
Reclassification from investment property and assets held for sale	2,334	10	46	–	2,390
Reclassification to assets held for sale	(4,681)	(62)	(103)	–	(4,846)
Transfer	1,969	37,743	6,356	(46,068)	–
Disposals	(3,255)	(4,762)	(6,137)	(1,273)	(15,427)
Disposals of subsidiaries	(10)	(342)	(18)	–	(370)
Foreign exchange	–	(66)	(4)	(7)	(77)
Reclassification	–	–	11	4	15
At 31 December 2017	101,013	657,049	129,613	28,563	916,238
At 1 January 2018	101,013	657,049	129,613	28,563	916,238
Reclassification financial leasing to rights in use assets a at 1 January 2018	(322)	(1,152)	(220)	–	(1,694)
Additions	23	6,114	3,294	63,009	72,440
Assets of acquired subsidiaries	2	114*	28*	47	191
Reclassification from investment property and assets held for sale	3,595	42	68	–	3,705
Reclassification to assets held for sale	(4,814)	(40)	(161)	–	(5,015)
Reclassification to intangible assets	–	–	–	(379)	(379)
Transfer	1,718	49,793	7,866	(59,377)	–
Disposals	(1,904)	(7,303)	(5,495)	(182)	(14,884)
Foreign exchange	1	403	23	16	443
Reclassification	9	(39)	2	4	(24)
At 31 December 2018	99,321	704,981	135,018	31,701	971,021
Accumulated amortisation and impairment losses					
At 1 January 2017	(62,548)	(372,702)	(98,719)	(1,703)	(535,672)
Depreciation expense	(2,807)	(36,197)	(8,289)	–	(47,293)
Reclassification from investment property and assets held for sale	(1,793)	(10)	(42)	–	(1,845)
Reclassification to assets held for sale	3,449	57	96	–	3,602
Accruals of impairment losses	(36)	(319)	(48)	(204)	(607)
Disposals	2,157	4,424	6,055	1,075	13,711
Disposals of subsidiaries	10	258	18	–	286
Foreign exchange	–	23	2	–	25
Reclassification	–	–	(11)	(4)	(15)
At 31 December 2017	(61,568)	(404,466)	(100,938)	(836)	(567,808)
At 1 January 2018	(61,568)	(404,466)	(100,938)	(836)	(567,808)
Reclassification financial leasing to rights in use assets a at 1 January 2018	39	127	34	–	200
Depreciation expense	(2,437)	(33,145)	(7,264)	–	(42,846)
Reclassification from investment property and assets held for sale	(2,515)	(37)	(59)	–	(2,611)
Reclassification to assets held for sale	3,173	34	117	–	3,324
Accruals of impairment losses	(12)	(817)	(110)	(150)	(1,089)
Disposals	1,454	7,057	5,246	80	13,837
Foreign exchange	–	(203)	(18)	–	(221)
Reclassification	(8)	48	(10)	2	32
At 31 December 2018	(61,874)	(431,402)	(103,002)	(904)	(597,182)
Net book value					
At 31 December 2017	39,445	252,583	28,675	27,727	348,430
At 31 December 2018	37,447	273,579	32,016	30,797	373,839

** Certain amounts reflects measurement period adjustments made to the provisional amounts of the Twingo Telecom if the accounting for the business combination had been completed at the acquisition date.*

At 31 December 2018 and 2017 cost of fully depreciated property, plant and equipment was 220,965 and 225,082 respectively.

As required by IFRS 16, fixed assets fully under operational leases are disclosed below:

	Buildings and site services	Cable and transmission devices	Other	Total
Cost / deemed cost				
At 1 January 2018	3,799	18,464	942	23,205
Transferring to operational lease	647	3,478	336	4,461
Disposals	(713)	(1,119)	(13)	(1,845)
Return from operational lease	(438)	(5)	(291)	(734)
At 31 December 2018	3,295	20,818	974	25,087
Accumulated amortisation and impairment losses				
At 1 January 2018	(2,287)	(7,288)	(546)	(10,121)
Depreciation	(34)	(3,002)	(57)	(3,093)
Transferring to operational lease	(345)	(142)	(91)	(578)
Disposals	537	1,119	13	1,669
Return from operational lease	250	2	151	403
At 31 December 2018	(1,879)	(9,311)	(530)	(11,720)
Net book value				
At 31 December 2017	1,512	11,176	396	13,084
At 31 December 2018	1,416	11,507	444	13,367

As required by IAS 16, the Group reassessed the useful lives of its property, plant and equipment. The Group determined that certain asset categories generally had longer useful lives than was being used for depreciation purposes. The standard requires the useful life of an asset to be estimated on a realistic basis and reviewed at least at the end of each financial year.

Maturity analysis as at 31 December 2018 represented below shows undiscounted cash flows from fixed assets under operational lease:

	Operational lease cash flow,31 December 2018
Current portion (less than 1 year)	2,723
More than 1 to 5 years	1,632
Over 5 years	974
Total	5,329

As usual, the Group leased land, buildings, transport and other assets if the purchase of them have no economic feasibility because of short term of use. The future cash outflows to which the Group is potentially exposed, including extension and termination options, are absent. The Group has no restriction or covenants imposed by lease.

In 2018, management revised certain useful lives of cable and transmission devices from 11 years to 16 years, buildings and site services from 16 years to 26 years and other equipment from 7 years to 14 years in accordance with IAS 8, effective 1 January 2018.

The change in estimate resulted in a decrease in the depreciation expense for the current year is disclosed below:

	Depreciation expense decreasing for 2018
Buildings and site services	352
Cable and transmission devices	5,926
Other	3,104
Total effect as for 2018	9,382

At the end of 2018, management revised certain useful lives of cable and transmission devices from 11 years to 18 years, buildings and site services from 18 years to 28 years and other equipment from 7 years to 14 years in accordance with IAS 8, effective 1 January 2019.

The change in estimate resulted in a decrease in the depreciation expense for 2019 is disclosed below:

	Depreciation expense decreasing, expected as for 2019
Buildings and site services	142
Cable and transmission devices	1,799
Other	1,055
Total effect for 2019	2,996

In December 2018 and 2017 the Group sold to Telecom-5 buildings with the carrying value of 178 and 594 respectively, for details see Note 35.

Interest capitalization

Interest amounting to 1,254 and 1,696 was capitalized in property, plant and equipment for the years ended 31 December 2018 and 2017 respectively. The capitalization rate used to determine the amount of borrowing costs eligible for capitalization was 7.94% and 8.88% for the years ended 31 December 2018 and 2017 respectively.

Pledged property, plant and equipment

Property, plant and equipment with a carrying value of 179 and 184 was pledged under the loan agreements entered into by the Group as at 31 December 2018 and 2017 respectively.

Impairment of property, plant and equipment

As of 31 December 2018 and 2017, decline in demand for fixed line telephony services led to decrease in fixed telephony revenue, indicating a potential impairment of property, plant and equipment of Rostelecom CGU. Consequently, as at 31 December 2018 and 2017 the Group performed impairment test of its property, plant, equipment.

The Group assessed the recoverable amount of the assets for which estimation on individual basis is impracticable within respective CGU. The Group defines CGUs as PJSC Rostelecom and legal entities or group of legal entities (in case of subsidiaries).

The recoverable amount of each CGU is determined by estimating its value in use. Value in use calculation uses cash-flow projections based on actual and budgeted financial information approved by management and discount rate which reflects time value of money and risks associated with each individual CGU. Key assumptions used by management for the reporting dates in the calculation of value in use are as follows:

- Discount rates are estimated in nominal terms as the weighted average adjusted for risk specifics to CGU cost of capital on pre tax basis. Nominal rates for discounting varies from 12.68% to 19.99% per CGU;
- OIBDA margin is based on historical actual results and varies from 4.65% to 60.9% per CGU;
- For CGU cash flow projections cover the period of five years, cash flows beyond five-year period are extrapolated using growth rate of 2% for each CGU.

Future cash flows were adjusted using consistent assumptions about price increases attributable to general inflation.

For individual items of construction in progress and intangible assets for which the Group has no intention to complete and use or sell them the impairment loss 998 and 343 was recognised as at 31 December 2018 and 2017 respectively.

2018 impairment testing

As a result of impairment testing of property, plant and equipment the Group recognized an impairment loss of 91 related to Globus Telecom.

2017 impairment testing

As a result of impairment testing of property, plant and equipment the Group recognized an impairment loss of 4 related to Sputnik and 260 related to Tsentralny Telegraph.

8. Goodwill and other intangible assets

The net book value of goodwill and other intangible assets as at 31 December 2018 and 2017 was as follows:

	Goodwill	Number capacity	Trade-marks	Computer software	Customer list	Licences	Other	Total
Cost								
At 1 January 2017	28,218	833	746	51,513	15,714	1,274	2,389	100,687
Additions	–	169	3	5,461	(10)	427	1,096	7,146
Intangible assets of acquired subsidiaries	246	–	–	–	55	–	–	301
Disposals	–	–	(2)	(903)	(28)	(495)	(247)	(1,675)
Reclassification	–	(105)	–	(7)	124	(45)	33	–
Foreign exchange	(25)	–	–	(3)	(1)	(2)	(1)	(32)
At 31 December 2017	28,439	897	747	56,061	15,854	1,159	3,270	106,427
At 1 January 2018	28,439	897	747	56,061	15,854	1,159	3,270	106,427
Additions	–	131	1	8,647	57	648	1,266	10,750
Intangible assets of acquired subsidiaries	1,575*	–	13*	2,411	238*	–	5	4,242
Disposals	–	–	–	(2,849)	(4)	(32)	(133)	(3,018)
Reclassification from PPE	–	–	–	379	–	–	–	379
Reclassification	–	–	–	178	10	(9)	(179)	–
Foreign exchange	98	–	–	18	5	12	3	136
At 31 December 2018	30,112	1,028	761	64,845	16,160	1,778	4,232	118,916
Accumulated amortisation and impairment losses								
At 1 January 2017	(3,579)	(23)	(669)	(27,818)	(5,914)	(546)	(929)	(39,478)
Amortisation expense	–	(1)	(11)	(6,523)	(759)	(504)	(315)	(8,113)
Disposals	–	–	2	898	28	493	222	1,643
Impairment losses	(199)	–	–	(547)	–	(8)	–	(754)
Reversal of impairment losses	–	–	–	93	–	–	–	93
Reclassification	–	–	–	(1)	(8)	9	–	–
Foreign exchange	–	–	–	1	–	1	–	2
At 31 December 2017	(3,778)	(24)	(678)	(33,897)	(6,653)	(555)	(1,022)	(46,607)
At 1 January 2018	(3,778)	(24)	(678)	(33,897)	(6,653)	(555)	(1,022)	(46,607)
Amortisation expense	–	3	(13)	(6,761)	(453)	(454)	(753)	(8,431)
Disposals	–	–	–	2,849	4	32	133	3,018
Impairment losses	(178)	–	–	(520)	–	–	–	(698)
Reversal of impairment losses	–	–	–	69	–	–	–	69
Reclassification	–	–	–	1	(1)	–	–	–
Foreign exchange	–	–	–	(7)	(3)	(9)	(2)	(21)
At 31 December 2018	(3,956)	(21)	(691)	(38,266)	(7,106)	(986)	(1,644)	(52,670)
Net book value								
At 31 December 2017	24,661	873	69	22,164	9,201	604	2,248	59,820
At 31 December 2018	26,156	1,007	70	26,579	9,054	792	2,588	66,246

** Certain amounts reflects measurement period adjustments made to the provisional amounts of the Twingo Telecom if the accounting for the business combination had been completed at the acquisition date..*

Interest amounting to 350 and 345 was capitalized in intangible assets for the years ended 31 December 2018 and 2017 respectively.

Intangible assets with indefinite useful lives and goodwill

The owned number capacities with a carrying amount of 1,007 (2017: 849) are intangible assets with indefinite useful lives and are not amortised. These assets have no legal restrictions on the term of their use and the Group can derive economic benefits from their use indefinitely. These assets are tested for impairment annually or more frequently if there is an indication that the intangible assets may be impaired.

No research and development expenditure was recognized in 2018 and 2017.

At each reporting date the Group performs impairment testing of goodwill allocated to CGUs that were acquired upon business combinations.

The Group determines the following reportable operating segments: PJSC Rostelecom and other operations which presented by subsidiaries of the Group. In identifying the cash-generating units, the Group proceeded from the requirement of IAS 36 in 2016, under which cash-generating units to goodwill is allocated. Cash generating units cannot be larger than the operating segments in accordance with IFRS 8. As a result of the regional branches were integrated into one CGU of PJSC Rostelecom in 2017. Changes of the segmented disclosure, see Note 33.

Carrying amounts of goodwill and intangible assets with indefinite useful lives are presented in the table below:

CGU	31 December 2018		31 December 2017	
Goodwill	Intangible assets with indefinite useful lives	Goodwill	Intangible assets with indefinite useful lives	
PJSC Rostelecom	19,470	580	19,470	420
Macomnet	646	50	646	50
Globus Telecom	–	359	–	359
GNC Alfa	577	–	479	–
RTComm.RU	606	–	606	–
Severen telecom	432	1	432	1
SafeData Group	885	–	885	–
Global-Tel	442	–	442	–
FreshTel Group	–	–	178	–
IQ'Men	316	–	316	–
Aist	750	–	750	–
Morton Group	101	–	99	–
Twingo Telecom	145*	–	246	–
Solar	1,095	–	–	–
Start2Com	189	–	–	–
Netrix	347	–	–	–
Other	155	17	112	19
Total	26,156	1,007	24,661	849

** Including goodwill reassessment of Twingo Telecom for 2017, which was made in 2018.*

Key assumptions used by management in impairment testing are as follows:

- Discount rates are estimated in nominal terms as the weighted average adjusted for risk specifics to CGU cost of capital on pre tax basis. Nominal rates for discounting varies from 12.68% to 19.99% per CGU;
- OIBDA margin is based on historical actual results and varies from 4.64% to 60.9% per CGU;
- Cash flow projections cover the period of five years, cash flows beyond five-year period are extrapolated using growth rate of 2%.

Future cash flows were adjusted using consistent assumptions about price increases attributable to general inflation.

2018 impairment testing

As a result of impairment testing Group recognized an impairment loss of goodwill in the amount of 178 related to FreshTel Group.

2017 impairment testing

As a result of impairment testing Group recognized an impairment loss of goodwill in the amount of 199 related to Other CGU.

Impairment loss was recognized in the line Depreciation, amortisation and impairment losses in the consolidated statement of profit or loss and other comprehensive income.

Discount rate and operating income before amortisation and depreciation (OIBDA) margin are the key assumptions to which calculations of value in use of CGUs with goodwill and indefinite useful life intangible assets allocated to are the most sensitive. Management approach to OIBDA projection is based on historical actual results and growth rate forecasts.

The table below demonstrates the sensitivity analysis for impairment and the effect of a reasonably possible change in key assumptions as at 31 December 2018:

CGU	Decrease of OIBDA margin	Impairment loss	Decrease in OIBDA margin which resulted in equality of recoverable and carrying amount
SC Restrim	5%	(19)	4.93%
GNC Alfa	5%	(64)	4.12%
SC Severen-Telecom	5%	(159)	3.87%
LLC Morton Telecom	5%	(44)	3.66%
LLC Rostelecom Roznichnye sistemy	5%	(1,411)	3.22%
SC OK Orbita	5%	(68)	3.01%
LLC Sibitex	5%	(14)	1.83%
SC MTs NTT	5%	(414)	0.33%
SC RPK Svyazist	5%	(91)	0.01%

The table below demonstrates the sensitivity analysis for impairment and the effect of a reasonably possible change in key assumptions as at 31 December 2017:

CGU	Decrease of OIBDA margin	Impairment loss	Decrease in OIBDA margin which resulted in equality of recoverable and carrying amount
RTKomm Group	5%	(1,886)	0.38%
Rostelecom Roznichnye sistemy	5%	(514)	2.10%
FreshTel Group	5%	(447)	0.11%
MTs NTT	5%	(261)	1.72%
Globus Telecom	5%	(237)	1.76%
Restrim	5%	(157)	3.40%

For CGUs listed below following possible change in discount rate would result in impairment:

CGU	Decrease of discounts rates	Impairment loss
LLC Sputnik	0.50%	(456)
Globus Telecom	0.50%	(98)
SC RPK Svyazist	0.50%	(11)
SC OK Orbita	1.50%	(1)
LLC Sibitex	1.00%	(2)

Impairment testing of other intangible assets

At each reporting date the Group performs impairment testing of intangible assets not yet available for use and intangible assets with indefinite useful lives.

For individual items of intangible assets for which the Group has no intention to complete and use or sell them the impairment loss 520 and 134 was recognised as at 31 December 2018 and 2017 respectively.

2018 impairment testing

As at 31 December 2018 no material impairment loss in respect of other intangible assets was recognised.

2017 impairment testing

As at 31 December 2017 the Group recognized impairment loss in the amount 421 in respect of intangible assets.

9. Rights of use assets and lease liabilities

The net book value of right of use assets as at 1 January 2018 and 31 December 2018 was as follows:

	Buildings and site services	Cable and transmission devices	Other	Total
Cost / deemed cost				
At 1 January 2018	14,099	824	563	15,486
Reclassification financial leasing to rights in use assets as at 1 January 2018	322	1,152	220	1,694
Additions	8,132	1,256	234	9,622
Disposals	(519)	(20)	(67)	(606)
At 31 December 2018	22,034	3,212	950	26,196
Accumulated amortisation and impairment losses				
Reclassification financial leasing to rights in use assets as at 1 January 2018	(39)	(127)	(34)	(200)
Depreciation expense	(4,402)	(495)	(354)	(5,251)
Disposals	433	4	23	460
At 31 December 2018	(4,008)	(618)	(365)	(4,991)
Net book value				
At 1 January 2018	14,382	1,849	749	16,980
At 31 December 2018	18,026	2,594	585	21,205

Interest expense on lease liabilities for the period 2018 amounted to 1,637.

In 2018 the profit from sale of assets with leaseback is 2,319, loss from leaseback operations is 180.

10. Subsidiaries

These consolidated financial statements include the assets, liabilities and results of operations of the following significant subsidiaries:

Subsidiary	Main activity	Effective share of the Group as at 31 December 2018	2017
SC MTs NTT	Communication services	100%	100%
CJSC Westelcom	Leasing of equipment	100%	100%
CJSC Zebra Telecom	Communication services	100%	100%
OJSC RTComm.RU	Communication services (internet)	100%	100%
SC RTComm-Sibir	Communication services (internet)	100%	100%
LLC RTComm-Ug	Communication services (internet)	100%	100%
CJSC Globus-Telecom	Communication services	94.92%	94.92%
CJSC Makomnet	Communication services	51%	51%
SC TKT-stroy	R&D services	100%	100%
LLC Mobitel	Investment company	100%	100%
SC RT Labs	Communication services	100%	100%
CJSC AMT	Investment company	100%	100%
LLC Intmashservis	Repair services	100%	100%
SC Regionalnie informatsionnie seti	R&D services	100%	100%
LLC Set Stolitsa	Maintenance services	100%	100%
SC Services Projects Technologies (former CJSC Sankt Peterburgskie taksofoni)	Communication services	100%	100%
SC Severen-Telecom	Communication services	100%	100%
CJSC GNC Alfa	Communication services	74.98%	74.98%
PJSC Tsentralny Telegraph	Communication services (telegraph)	60.03%	60.03%
PJSC Giprosvyaz	Engineering design	63.37%	63.37%
PJSC Bashinformsvyaz	Communication services	96.33%	96.33%
LLC Bashtelecomleasing	Leasing	96.33%	96.33%
LLC Bashlelecominvest*	Investment company	–	96.33%
OJSC Ufimsky zavod promsvyaz	Communication equipment manufacturing	96.27%	96.27%
SC MMTS-9	Communication services	88.29%	88.29%
SC OK Orbita	Recreational services	100%	100%
SC RPK Svyazist	Recreational services	100%	100%
Rostelecom International Limited	Communication services	100%	100%
LLC Sputnik*	IT consulting	–	74.99%
JSC Restrim	IT consulting	100%	100%
LLC Rostelecom Roznichnye sistemy	Retail services	100%	100%
LLC Rostelecom Integraciya	IT consulting	100%	100%
LLC Data Storage Centre	Data storage services	100%	100%
LLC RTK-DC	Data storage services	100%	100%
LLC Center Technology Virtualization	Data storage services	66.44%	66.44%
LLC Interaction Network Center	Data storage services	100%	100%
SC Interaction Computer Network Center "MCK-IX"	Data storage services	51%	51%
LLC Advanced Network Technology	Data storage services	50.10%	50.10%
LLC Tioniks	Data storage services	75%	75%
SC Vostoktelecom	Communication services	100%	100%
CJSC Globaltel	Communication services	100%	100%
LLC Search Website Sputnik	IT consulting	100%	100%
LLC Interproekt	Communication services	100%	100%
LLC Orion	Communication services	100%	100%
LLC Progress	Communication services	100%	100%
LLC Stolitsa	Communication services	100%	100%
LLC BUM SP	Investment company	80%	80%
LLC BUM TV	Telecommunication services	80%	80%
LLC Magalyascom	Communication services	100%	100%
IQmen – Business Intelligence	Data services	75%	75%
LLC KommIT Capital	Communication services	100%	100%
JSC AIST	Communication services	96.33%	96.33%
LLC Morton-Telecom	Communication services	96.33%	96.33%
LLC Morton-Telecom-Zapad	Communication services	96.33%	96.33%
LLC NTK	Communication services	96.33%	96.33%
LLC National Data Centers**	Data storage services	–	100%
JSC Non-state Pension Fund Alliance	Pension Fund	51%	51%
LLC RADO	Maintenance services	100%	90%
LLC RusGIS Technologii	IT consulting	51%	51%
LLC Sibitex	Communication services	96.33%	96.33%
Soyuz operatorov svyazi "Centr issledovaniya communicaciy"	Consulting services in Telecommunication sector	100%	100%
LLC Tvingo Telecom (Note 6)	Communication services	96.33%	96.33%
LLC SET (Note 6)	Communication services	96.33%	–
LLC Solar Security (Note 6)	IT consulting	98.90%	–
LLC Udostoveryayuschiy centr Internet (Note 6)	Communication services	100%	–
LLC Star2Com (Note 6)	IT consulting	96.33%	–
JSC Netris (Note 6)	IT consulting	96.33%	–
LLC Netris Group (Note 6)	Retail services	96.33%	–

** The Group lost control under these subsidiaries during 2018.*

*** LLC National Data Centers joined to LLC Data Storage Centre during 2018.*

All the above entities have the same reporting date as the Company.

All significant subsidiaries, except for Rostelecom International Limited and GNC Alfa, are incorporated in Russia. Rostelecom International Limited is incorporated in Cyprus, GNC Alfa is incorporated in Armenia.

Acquisition of non-controlling interests

During 2018 the Group acquired an additional 10% shares in LLC Rado increasing its stake up to 100%. Cash consideration two thousand rubles was paid to the non-controlling shareholders.

During 2017 the Group acquired an additional 49.9% shares in LLC Data Storage Centre increasing its stake up to 100%. Cash consideration of 2,255 was paid to the non-controlling shareholders. Following is a schedule of additional interest acquired in LLC Data Storage Centre.

Cash consideration paid to non-controlling shareholders	2,255
Carrying value of the additional interest	(995)
Difference recognised in retained earnings	1,260

The summarised financial information of subsidiaries that has non-controlling interests that are material to the Group is provided below. This information is based on amounts before inter-company eliminations.

Summarised statements of financial position

	PJSC Tsentralny Telegraph	
	As at 31 December 2018	As at 31 December 2017
Current assets	2,601	345
Current liabilities	(1,300)	(563)
Total current net assets/(liabilities)	1,301	(218)
Non-current assets	1,506	2,300
Non-current liabilities	(214)	(198)
Total non-current net assets	1,292	2,102
Net assets	2,593	1,884
NCI	1,051	733

	CJSC Makomnet	
	As at 31 December 2018	As at 31 December 2017
Current assets	560	579
Current liabilities	(373)	(356)
Total current net assets/(liabilities)	187	223
Non-current assets	1,558	1,681
Non-current liabilities	(288)	(434)
Total non-current net assets	1,270	1,247
Net assets	1,457	1,470
NCI	726	709

Summarised statements of profit or loss and other comprehensive income

	PJSC Tsentralny Telegraph	
	Year ended 31 December 2018	Year ended 31 December 2017
Revenue	2,513	2,747
Profit before income tax	995	(303)
Income tax	(188)	62
Total comprehensive income	807	(241)
Total comprehensive income allocated to non-controlling interests	320	(96)
Dividends paid to non-controlling interests	3	1

	CJSC Makomnet	
	Year ended 31 December 2018	Year ended 31 December 2017
Revenue	1,926	1,396
Profit before income tax	327	297
Income tax	(62)	(63)
Total comprehensive income	265	234
Total comprehensive income allocated to non-controlling interests	130	115
Dividends paid to non-controlling interests	136	124

Summarised cash flows

	PJSC Tsentralny Telegraph	
	Year ended 31 December 2018	Year ended 31 December 2017
Cash generated from operations	721	404
Income tax paid	(10)	(8)
Net cash generated from operating activities	711	396
Net cash used in investing activities	1,381	(145)
Net cash used in financing activities	(89)	(268)
Net increase/(decrease) in cash and cash equivalents	2,003	(17)
Cash and cash equivalents at beginning of year	2	19
Cash and cash equivalents at end of year	2,005	2

	CJSC Makomnet	
	Year ended 31 December 2018	Year ended 31 December 2017
Cash generated from operations	595	479
Income tax paid	(84)	(68)
Net cash generated from operating activities	511	411
Net cash used in investing activities	(31)	(79)
Net cash used in financing activities	(464)	(299)
Net increase/(decrease) in cash and cash equivalents	16	34
Exchange gains/(losses) on cash and cash equivalents	8	–
Cash and cash equivalents at beginning of year	204	170
Cash and cash equivalents at end of year	228	204

11. Investments in associates and joint ventures

Investments in associates and joint ventures as at 31 December 2018 and 2017 were as follows:

Name	Main activity	Type	Voting share capital as at 31 December 2018,%	Voting share capital as at 31 December 2017,%	2018 Carrying amount	2017 Carrying amount
LLC T2 RTK Holding	Communication services	JV	45	45	60,975	59,755
SC Tsifrovoe televidenie	TV services	JV	41.29	41.29	3,460	3,384
Sailfish group	Software development	JV	75	–	1,911	–
LLC Telecom-5	Rental services	JV	50	50	1,511	735
OJSC KGTS	Communication services	Associate	37.29	37.29	341	379
LLC Bum	TV services	JV	60	60	–	217
B4N Group Limited	Network management systems development	Associate	26.08	–	175	–
Other	Various		Various	Various	1,609	1,409
Total investments in associates and joint ventures					69,982	65,879

In 2018 the Group acquired 75% of LLC OMP and 75% LLC Votron (Sailfish group) for the cash consideration of 3,377, including 2,800 to refinance the debt. The Group obtained joint control according shareholder agreement.

At the end 2018 the Company conducted an impairment test at the year end and recognized the impairment loss of investments Sailfish group 1,178 in the line Share of net profit (loss) of associates and joint ventures as a result of reconsideration of Sailfish group's projects terms. The recoverable amount of the Sailfish group has been determined based on a value in use. Value in use calculation uses cash-flow projections based on actual and budgeted financial information approved by management and discount rate which reflects time value of money and risks associated with Sailfish group.

During 2018 investments in the LLC Bum has been impaired due to the closure of the project.

In December 2018, the Group and Sberbank agreed to increase the share capital by 803 each. The Group retained 50 percent of interest in Telecom-5.

On 15 May 2018 the Group acquired additional issue of B4N Group Limited shares for the cash consideration 95. As a result the Group share in B4N Group Limited increased from 18.04% to 26.08%.

In 2018 the Group received dividends from its investments in equity accounted investees and joint ventures in the amount of 95 (2017: 5).

Associated companies and joint ventures are incorporated in Russia, Finland, Cyprus and Hong Kong.

There are no contingent liabilities relating to the Group's interest in the associates and the joint ventures.

Summarized financial information as at 31 December 2018 and 2017 and for the years then ended of associates and joint ventures is presented below:

Aggregate amounts	2018	2017
Assets	247,772	221,940
Liabilities	191,440	170,340
Revenue	149,611	128,158
Net income	3,068	(5,722)

Summarized financial information for significant associates and joint ventures as at 31 December 2018 and 2017 and for the years then ended is presented below:

Associate/JV	Year	Non-current assets	Current assets	Non-current liabilities	Current liabilities	Revenue	Net income/ (loss)
OJSC KGTS	2018	916	130	49	83	515	(40)
	2017	996	188	71	96	519	(27)
T2 RTK Holding LLC	2018	215,094	9,950	118,674	65,790	143,218	2,710
	2017	193,666	9,842	106,676	58,962	123,025	(5,515)
Sailfish group	2018	2,476	382	2,210	333	38	(416)
	2017	–	–	–	–	–	–
OJSC Tsifrovoe televidenie	2018	3,164	2,687	108	1,467	3,642	44
	2017	2,360	2,414	104	578	2,963	74
LLC Telecom-5	2018	9,180	1,717	44	161	1,113	704
	2017	8,783	963	–	957	519	163

Reconciliation of the summarised financial information presented to the carrying amount of the interest in associates and joint ventures:

Summarised financial information	LLC T2 RTK Holding	SC Tsifrovoe televidenie	Sailfish group	OJSC KGTS	LLC Telecom-5
Net assets at 31 December 2018	40,580	4,277	315	914	10,692
Group interest, %	45.00	41.29	75	37.29	50
Goodwill	42,714	1,694	2,853	–	–
Impairment of investment	–	–	(1,178)	–	–
Unrealised gain	–	–	–	–	3,869
Effect of disproportional allocation of profits	–	–	–	–	(34)
Carrying value at 31 December 2018	60,975	3,460	1,911	341	1,511

Investment in T2 RTK Holding LLC

	2018	2017
At 1 January	59,755	62,265
Share of income/(loss)	1,220	(2,510)
At 31 December	60,975	59,755

Investment in T2 RTK Holding LLC was recognised as a result of the deal with the mobile operator Tele 2 Russia. There is no quoted market price available for its shares.

Summarised financial information for T2 RTK Holding LLC

Set out below is the summarised financial information for T2 RTK Holding LLC which is accounted for using the equity method.

Summarised statement of financial position

	31 December 2018	31 December 2017
Current assets		
Cash and cash equivalents	412	1,117
Other current assets (excluding cash)	9,538	8,725
Total current assets	9,950	9,842
Financial liabilities (excluding trade payables)	34,843	34,329
Other current liabilities (including trade payables)	30,947	24,633
Total current liabilities	65,790	58,962
Non-current assets		
Lease assets	11,161	–
Other non-current assets	203,933	193,666
Total non-current assets	215,094	193,666
Financial liabilities	101,687	101,498
Lease liabilities	10,894	–
Other liabilities	6,093	5,178
Total non-current liabilities	118,674	106,676
Net assets	40,580	37,870

Summarised statement of profit or loss and other comprehensive income

	2018	2017
Revenue	143,218	123,025
Depreciation and amortisation	(33,349)	(23,218)
Interest income	196	74
Interest expense	(14,270)	(14,577)
Pre-tax profit or loss from continuing operations	3,765	(7,197)
Income tax expense	(1,055)	1,682
Post-tax profit from continuing operations	2,710	(5,515)
Other changes in net assets	–	(63)
Total changes in net assets	2,710	(5,578)

Reconciliation of summarised financial information to the carrying value of the investment

Summarised financial information	2018	2017
Opening net assets	37,870	43,448
Profit/(loss) for the period	2,710	(5,515)
Other changes in net assets	–	(63)
Closing net assets	40,580	37,870
Interest 45%	18,261	17,041
Goodwill	42,714	42,714
Carrying value	60,975	59,755

12. Other financial assets

	31 December 2018	31 December 2017
Non-current financial assets		
Financial assets at fair value through profit or loss[1]	258	353
Loans and receivables	1,692	1,247
Total other non-current financial assets	1,950	1,600
Current financial assets		
Loans and receivables	1,904	1,218
Financial assets at fair value through profit or loss	5,583	4,745
Total other current financial assets	7,487	5,963
Total other financial assets	9,437	7,563

The Group's exposure to credit, currency and interest rate risks and fair value information related to other financial assets is disclosed in Note 33.

13. Other non-current assets

	31 December 2018	31 December 2017
Non-current advances for investing activities	3,097	2,989
Non-current advances for operating activities	1,812	1,571
Other assets	19	40
Less: allowance for impairment	(261)	(248)
Total other non-current assets	4,667	4,352

14. Inventories

	31 December 2018	31 December 2017
Finished goods and goods for resale (at lower of cost or NRV)	4,676	3,954
Cable (at lower of cost or NRV)	498	409
Spare parts (at lower of cost or NRV)	356	369
Tools and accessories (at lower of cost or NRV)	96	81
Construction materials (at lower of cost or NRV)	49	37
Fuel (at lower of cost or NRV)	128	101
Other inventory (at lower of cost or NRV)	1,828	1,218
Total inventories	7,631	6,169

During 2018, 214 (2017: 223) was recognised as an expense for inventories carried at net realisable value. This is recognised in other operating expenses in these consolidated statements of comprehensive income.

15. Trade and other accounts receivable

Trade and other accounts receivable included in non-current assets as at 31 December 2018 and 2017 comprised of the following:

	31 December 2018	31 December 2017
Non-current amounts due from customers for operating and non-operating activities	5,157	6,776
Non-current amounts due from lessees for financial lease	2,212	1,346
Non-current amounts due from sales of property, plant and equipment	106	216
Non-current amounts due from other debtors	1	14
Allowance for expected credit loss	(130)	–
Total non-current trade and other accounts receivable	7,346	8,352

Trade and other accounts receivable included in current assets as at 31 December 2018 and 2017 comprised of the following:

	Gross,31 December 2018	Allowance for expected credit loss	Net, 31 December 2018
Amounts due from customers for operating and non-operating activities	51,974	(11,704)	40,270
Amounts due from commissioners and agents	1,122	(485)	637
Amounts due from personnel	232	–	232
Amounts due from lessees for financial lease	1,298	–	1,298
Amounts due from other debtors	2,166	(414)	1,752
Total trade and other accounts receivable	56,792	(12,603)	44,189

	Gross,31 December 2017	Doubtful debt allowance	Net, 31 December 2017
Amounts due from customers for operating and non-operating activities	53,616	(9,283)	44,333
Amounts due from commissioners and agents	1,367	(330)	1,037
Amounts due from personnel	173	–	173
Amounts due from lessees for financial lease	347	–	347
Amounts due from other debtors	2,470	(547)	1,923
Total trade and other accounts receivable	57,973	(10,160)	47,813

The table below represents the credit rating exposure on the Group's trade and other receivables and contract assets using a provision matrix:

		Trade receivables 31 December 2018							
			Past due						Total
	Contract assets 31 December 2018	Current	<1 month	<2 months	<3 months	<4 months	>4months		
Expected credit loss rate	0.23%	1.24%	4.53%	9.36%	15.03%	21.32%	74.12%		
Estimated total gross carrying amount at default	10,035	38,174	2,935	1,827	1,224	680	15,686		60,526
Expected credit loss	(23)	(474)	(133)	(171)	(184)	(145)	(11,626)		(12,733)

As at 31 December 2017, the ageing analysis of trade receivables is, as follows:

			Past due but not impaired				
	Total	Neither past due nor impaired	<1 month	<2 months	<3 months	<4 months	>4months
2017	47,293	37,538	2,357	1,243	749	1,301	4,105

The following table summarizes the changes in the allowance for expected credit losses of accounts receivables and contract assets for the year ended 31 December 2018:

	Total
At 31 December 2017	(10,160)
Effect of application IFRS 9 at 1 January 2018 (Note 5)	(656)
Allowance for expected credit loss	(3,950)
Accounts receivable written-off	2,010
At 31 December 2018	(12,756)

The finance lease receivables originated as a result of transfer to companies of the group T2 RTK Holding terrestrial optical fiber cables under finance lease in April 2014. The lease agreement is non-cancellable for the period from 5 years till 18 years, which differs in each macroregional branches. Leasing period equals approximately the remaining useful life of the optical fibers. Effective interest rate of the lease is 13% p.a. Lease payments are denominated in roubles.

Finance income for the years ended 31 December 2018 and 2017 amounted to 229 and 278 respectively, and is included in other investing and financial gain in these consolidated statements of comprehensive income (Note 32).

The table below represents the maturity analysis of undiscounted lease payments to be received and reconciliation of undiscounted lease payments to the net investment in the lease as at 31 December 2018:

	31 December 2018
Current portion (less than 1 year)	1,588
More than 1 to 5 years	2,373
Over 5 years	699
Total undiscounted lease payments	4,660
Net investment in lease	3,510
Unearned finance income relating to the lease payments	1,132
Discounted unguaranteed residual value	18

Future minimum lease payments together with the present value of the net minimum lease payments as at 31 December 2017 are as follows:

	31 December 2017	
	Gross investments in lease	Present value of minimum lease payments
Current portion (less than 1 year)	621	347
More than 1 to 5 years	1,385	829
Over 5 years	795	508
Total	2,801	1,684

16. Contract assets

As at December 2018 the Group has non-current contract assets of 501 with allowance for expected credit losses of 6.

As at December 2018 the Group has current contract assets of 9,511 with allowance for expected credit losses of 17.

17. Contract cost

	Costs to obtain contract*	Costs to fulfill contract**	Total
Contract cost at 1 January 2018	6,590	4,982	11,572
Capitalised during the year	2,907	1,513	4,420
Amortisation for the year	(1,869)	–	(1,869)
Expenses incurred for the year	–	(1,800)	(1,800)
Contract cost at 31 December 2018	7,628	4,695	12,323

** Cost to obtain contract: Incremental cost of obtaining the contract (SAC) (refer Note 5b).*

*** Cost to fulfill contract: the cost of customer-premises equipment (CPE) (refer Note 5a).*

Cost to obtain contracts represent incremental commission fees paid to agent as a result of obtaining contracts with customers and additional payments to employees who are engaged in functions of obtaining contracts. In 2018 there was no impairment loss related to the costs capitalized.

The Group recognised an asset in relation to costs incurred in related to customer premises equipment that is used to fulfil contracts for Broadband Internet and TV services.

In 2018 there was no impairment loss related to the costs capitalized.

Expenses incurred for the reporting period are included in other operating expenses as cost of sales of customer-premises equipment (Note 30).

18. Cash and cash equivalents

Cash and cash equivalents as at 31 December 2018 and 2017 included cash in banks, cash in-hand, short-term deposits, bills of exchange with original maturities of less than three months and cash in the accounts of the Federal Treasury as follows:

	31 December 2018	31 December 2017
Cash in bank and in-hand	3,445	1,196
Cash in the accounts of the Federal Treasury	3,265	1,822
Short-term deposits and promissory notes up to 3 months	2,976	711
Other cash and cash equivalents	394	86
Total cash and cash equivalents	10,080	3,815

19. Other current assets

	31 December 2018	31 December 2017
Input VAT	2,867	2,644
Other current assets	150	93
Less: provision for impairment loss	(161)	(118)
Total other current assets	2,856	2,619

20. Equity

The nominal share capital of the Company recorded on its incorporation has been indexed, to account for the effects of hyperinflation from that date through 31 December 2002. The share capital of the Company in the Russian statutory accounts at 31 December 2018 amounted to 6,961,200 nominal (uninflated) RUB (2017: 6,961,200).

The authorized share capital of the Company as at 31 December 2018 comprised 5,188,850,705 ordinary shares and 209,565,678 non-redeemable preferred shares (2017: 5,188,850,705 ordinary shares and 209,565,678 non-redeemable preferred shares). The par value of both ordinary and preferred shares amounted to RUB 0.0025 per share.

As at 31 December 2018 the issued share capital of the Company was as follows:

Type of shares	Number of shares issued	Totalpar value	Carryingvalue
Ordinary shares, RUB 0.0025 par value	2,574,914,954	6.437	69
Preferred shares, RUB 0.0025 par value	209,565,147	0.524	24
Total	2,784,480,101	6.961	93

As at 31 December 2017 the issued share capital of the Company was as follows:

Type of shares	Number of shares issued	Totalpar value	Carryingvalue
Ordinary shares, RUB 0.0025 par value	2,574,914,954	6.437	69
Preferred shares, RUB 0.0025 par value	209,565,147	0.524	24
Total	2,784,480,101	6.961	93

Ordinary shares carry voting rights with no guarantee of dividends. Preferred shares have priority over ordinary shares in the event of liquidation but carry no voting rights except on resolutions regarding liquidation or reorganization, changes to dividend levels of preferred shares, or the issuance of additional preferred shares. Such resolutions require two-thirds approval of preferred shareholders. The preferred shares have no rights of redemption or conversion.

Owners of preferred shares have the right to participate in and vote on all issues within the competence of shareholders' general meetings following the annual shareholders' general meeting at which a decision not to pay (or to pay partly) dividends on preferred shares has been taken.

In case of liquidation, the residual assets remaining after settlement with creditors, payment of preferred dividends and redemption of the par value of preferred shares is distributed among preferred and ordinary shareholders proportionately to the number of owned shares.

Accordingly, the preferred shares of the Company are considered participating equity instruments for the purpose of earnings per share calculations (refer to Note 35).

Treasury shares

As at 31 December 2018 and 2017 total number of treasury shares held by the Group was as follows:

Type of shares	31 December 2018	31 December 2017
Ordinary shares	431,544,362	470,990,049
Preferred shares	64,519,345	64,519,345
Total	496,063,707	535,509,394

In 2018, 2017 total number of ordinary shares realized as an exercise of the options under the management motivation program constituted 39,445,687 and 18,322,439 shares respectively.

During 2018, 2017 the Group purchased nil and 14,800,000 ordinary shares, for nil and 981 respectively. Also during 2018, 2017 the Group sold nil and 4,820 ordinary treasury shares for nil and 1 respectively.

Dividends

According to the charter of the Company a preferred share carries dividend amounting to the higher of 10% of the net income after taxation of the Company as reported in the Russian statutory accounts divided by 25% of total number of shares and the dividend paid on one ordinary share.

On 4 December 2015 the Board of Directors approved a new dividend policy of the Company according to which the Company pays dividends as a percentage of Free Cash Flow (hereinafter FCF, net cash from operating activities, reduced by the cash paid for acquisition of fixed assets and intangible assets, and increased by the proceeds from the sale of fixed assets and intangible assets). The payable dividend amount shall not be less than the level recommended by Rosimuschestvo for companies with state ownership interest.

In June 2018 the General Meeting of Shareholders approved the dividends for the year ended 31 December 2017 in the amount of 5.045825249373 roubles per ordinary share (2017: 5.387002045593 roubles per ordinary share) and 5.045825249373 roubles per preference share (2017: 5.387002045593 roubles per preference share).

Category of shares	Number of shares	Dividends per share, roubles	Total sum of dividends, mln. roubles
Declared and approved for 2017 (paid in 2018)			
Preference shares	209,565,147	5.045825249373	1,057
Ordinary shares	2,574,914,954	5.045825249373	12,993
Total	2,784,480,101		14,050

Category of shares	Number of shares	Dividends per share, roubles	Total sum of dividends, mln. roubles
Declared and approved for 2016 (paid in 2017)			
Preference shares	209,565,147	5.387002045593	1,129
Ordinary shares	2,574,914,954	5.387002045593	13,871
Total	2,784,480,101		15,000

In December 2018 the General Meeting of Shareholders approved the dividends for 9 month 2018 in the amount of 2.50 roubles per ordinary share and 2.50 roubles per preference share.

Category of shares	Number of shares	Dividends per share, roubles	Total sum of dividends, mln. roubles
Declared and approved for 9 months 2018			
Preference shares	209,565,147	2.50	524
Ordinary shares	2,574,914,954	2.50	6,437
Total	2,784,480,101		6,961

The difference between the dividends declared and the dividends presented in the consolidated statement of changes in equity is for the account of dividends on treasury shares held by the subsidiaries of the Company.

21. Borrowings

Borrowings as at 31 December 2018 and 2017 were as follows:

	31 December 2018	31 December 2017
Long-term borrowings		
Non-current portion of long-term borrowings		
Bank and corporate loans	143,483	129,920
Bonds	30,863	35,863
Promissory notes	9	9
Vendor financing	16	26
Finance lease liabilities	–	842
Total non-current portion of long-term borrowings	174,371	166,660
Current portion of long-term borrowings		
Bank and corporate loans	2,007	10,202
Bonds	15,852	12,231
Vendor financing	11	12
Finance lease liabilities	–	374
Restructured customer payments	85	86
Total current portion of long-term borrowings	17,955	22,905
Total long-term borrowings	192,326	189,565
Short-term borrowings		
Bank and corporate loans	11,953	1,774
Finance lease liabilities	–	33
Total short-term borrowings	11,953	1,807
Current portion of long-term borrowings	17,955	22,905
Total current borrowings	29,908	24,712
Total borrowings	204,279	191,372

Management believes that the fair value of its financial assets and liabilities at 31 December 2018 and 2017 approximates their carrying amounts except for the following borrowings:

			31 December 2018
	Fair value	Book value	Difference
Traded bonds	45,907	46,715	(808)
Bank loans	132,125	136,989	(4,864)
Total	178,033	183,705	(5,672)

			31 December 2017
	Fair value	Book value	Difference
Traded bonds	48,951	47,072	1,879
Bank loans	118,773	121,970	(3,197)
Total	167,724	169,042	(1,318)

The fair value of the Group's quoted rouble bonds was determined based on Moscow Exchange quotes. The fair value of the Group's non-quoted bank loans was determined based on Central Bank's interest rate statistics. The fair value of the Group's bank loans and non-traded bonds was determined using rates currently available for debts on similar terms, credit risk and remaining maturities.

Changes in liabilities arising from financing activities

	1 January 2018	Reclassification to lease liabilities IFRS 16	Cash flows	Foreign exchange movement	Other	31 December 2018
Bank and corporate loans	141,889	–	15,190	(10)	374	157,443
Bonds	48,093	–	(1,209)	–	(169)	46,715
Promissory notes	9	–	–	–	–	9
Vendor financing	45	–	(15)	–	(3)	27
Finance lease liabilities	1,249	(1,249)	–	–	–	–
Dividends payable	354	–	(11,773)	–	17,500	6,081
Other	87	–	(1)	–	(1)	85
Total liabilities from financing activities	191,726	(1,249)	2,192	(10)	17,701	210,360

	1 January 2017	Cash flows	Foreign exchange movement	Acquisition from new subsidiaries	New leases	Other	31 December 2017
Bank and corporate loans	137,562	2,754	(26)	49	–	1,550	141,889
Bonds	48,978	(642)	–	–	–	(243)	48,093
Promissory notes	9	–	–	–	–	–	9
Vendor financing	50	(9)	–	6	–	(2)	45
Finance lease liabilities	412	(118)	–	–	1,407	(452)	1,249
Dividends payable	302	(12,385)	–	–	–	12,437	354
Non-hedge derivative	3,726	(4,896)	–	–	–	1,170	–
Other	94	(7)	–	–	–	–	87
Total liabilities from financing activities	191,133	(15,303)	(26)	55	1,407	14,460	191,726

22. Accounts payable, provisions and accrued expenses

Accounts payable, provisions and accrued expenses consisted of the following as at 31 December 2018 and 2017:

	31 December 2018	31 December 2017
Payables for purchases and construction of property, plant and equipment	24,038	15,176
Payable to personnel	13,356	11,270
Payable for operating activities	22,837	14,886
Other taxes payable	7,170	8,662
Payable to interconnected operators	2,590	1,801
Payable for purchases of software	2,635	1,386
Dividends payable	6,081	354
Current provisions	1,864	1,385
Other accounts payable	7,959	5,746
Current accounts payable, provisions and accrued expenses	88,530	60,666
Non-current payables	479	313
Non-current provisions	2,611	1,920
Non-current accounts payable, provisions and accrued expenses	3,090	2,233
Total accounts payable, provisions and accrued expenses	91,620	62,899

Financial assets and liabilities are offset and the net amount reported in the balance sheet where the Group currently has a legally enforceable right to offset the recognised amounts, and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The amount payable by the Group are offset against receivables from the operators in the amount of 628 and presents net in the balance sheet.

At 31 December 2018 and 2017 non-current provisions includes the obligations of Non-state Pension Fund Alliance under the pension plans:

	31 December 2018	31 December 2017
The non-state obligations under the contracts of mandatory pension insurance	636	497
The obligations under the contracts of non-state pension provision, classified as an investment, with a discretionary participation feature benefits	1,953	1,401
The obligations under the contracts of non-state pension provision, classified as an insurance, with a discretionary participation feature benefits	22	17
Total non-current provisions	2,611	1,915

23. Other non-current and current liabilities

Other non-current liabilities consisted of the following as at 31 December 2018, 2017:

	31 December 2018	31 December 2017
Contract liabilities		
for installation services, CPE and other	11,065	–
advances received	5,519	5,006
Deferred revenue	470	563
Government grants	4,088	814
Total other non-current liabilities	21,142	6,383

Subsidies from government have been received for the purchase of certain items of property, plant and equipment. There are no unfulfilled conditions or contingencies attached to these grants.

The following table summarizes the changes of Subsidy from government for the years ended 31 December 2018 and 2017:

	2018	2017
At 1 January	814	61
Received during the year	3,641	772
Released during the year	(367)	(19)
At 31 December	4,088	814

Other current liabilities consisted of the following as at 31 December 2018 and 2017:

	31 December 2018	31 December 2017
Contract liabilities		
for installation services, CPE and other	5,667	–
advances received from operating activities	6,209	6,644
Advances received from non-operating activities	451	1,110
Advances received from various debtors	419	349
Advances received for disposed PPE	265	154
Advances received for disposal of other assets	13	7
Deferred revenue	372	371
Total other current liabilities	13,396	8,635

Contract liabilities transactions for the reporting period set out below:

	CPE	Installation services	Total
Contract liabilities at 1 January 2018	8,524	2,731	11,255
Deferred during the year	945	10,524	11,469
Revenue included in contract liabilities at the beginning of the year	(2,613)	(1,679)	(4,292)
Revenue from contract liabilities recognised during the year	(114)	(1,586)	(1,700)
Contract liabilities at 31 December 2018	6,742	9,990	16,732
Current	2,455	3,212	5,667
Non-current	4,287	6,778	11,065

The transaction price allocated to the remaining contract liabilities as at 31 December 2018 are as follows:

	2018
Within one year	5,667
After one year but not more than three years	7,051
More than three years	4,014
	16,732

24. Employee benefits

According to staff agreements, the Group contributes to pension plans and also provides additional benefits for its active and retired employees.

As at December 2018 the employee benefits liability includes the defined contribution plans (DCP) liability of 2,934 and defined benefit plan (DBP) liability of 1,741 (2017: 2,020 and 2,713).

Defined contribution plans

The non-state pension fund Alliance maintain the defined contribution plan of Group in 2017-2018. In 2018 the Group expensed 980 (2017: 594) in relation to defined contribution plans and nil (2017: 717) in relation to the rectructuring of its DBP obligations into DCP obligations.

Defined benefit plans and other long-term employee benefits

To become eligible for benefits under the plan upon retirement the participant must achieve the statutory retirement age and fulfill certain minimum seniority requirements.

As at 31 December 2018, the Group employed 10,357 participants of defined benefit plan (2017: 111,713) and supported 4,814 pensioners eligible for post-employment benefits (2017: 34,402).

As at 31 December 2018 and 2017 net defined benefit plan liability comprised the following:

	2018	2017
Present value of obligations on defined benefit plans	1,741	2,721
Fair value of plan assets	–	(8)
Present value of unfunded obligations	1,741	2,713

Net expenses/gains for the defined benefit plan recognized in 2018 and 2017 were as follows:

	2018	2017
Current service cost	49	85
Interest cost	95	324
Expected return on plan assets	–	(1)
Past service cost	(1,227)	(1,618)
Net (income) for the defined benefit plan	(1,083)	(1,210)

Net income/expense for the defined benefit plan, excluding interest cost and return on plan assets, is included in the consolidated statement of comprehensive income in the line "Wages, salaries, other benefits and payroll taxes". Return on plan assets and interest cost are recognized respectively in "Other investing and finance gain" and "Finance costs" line items of these consolidated statements of comprehensive income.

Past service cost in the table above is a result of reduction of social obligations of the Group in 2018. Past service cost in the table above is a result of transfer of part of DBP obligations into DCP obligations in 2017.

The following table summarizes movements in the present value of defined benefit obligations for the above plan in 2018 and 2017:

	2018	2017
Present value of defined benefit obligations as at 1 January	2,721	4,580
Interest cost	95	324
Current service cost	49	85
Past service cost	(1,227)	(1,618)
Benefits paid	(69)	(105)
Remeasurement (gains)/losses in OCI:	172	(545)
– actuarial gains and losses arising from changes in demographic assumptions	(8)	–
– actuarial gains and losses arising from changes in financial assumptions	(48)	49
– experience adjustments	228	(594)
Present value of defined benefit obligations as at 31 December	1,741	2,721

The following table summarizes movements in the fair value of defined benefit plan assets in 2018 and 2017:

	2018	2017
Fair value of plan assets as at 1 January	8	8
Expected return on plan assets	–	1
Actuarial losses	(8)	(1)
Benefits paid	(69)	(105)
Contributions by the employer	69	105
Fair value of plan assets as at 31 December	–	8

As at 31 December 2018 and 2017 the principal actuarial assumptions used in determining the amounts for the defined benefit plan were as follows:

	2018	2017
Discount rate	8.6%	7.6%
Increase in financial support benefits	4.0%	4.4%
Staff turnover	5% for aged 50 and below; 0% for aged above 50	5% for aged 50 and below; 0% for aged above 50
Mortality tables (source of information)	Russia 2016	1985/86 moved for 3 years for females

The sensitivity analyses below are based on a change in a significant assumption, keeping all other assumptions constant.

DBO sensitivity analyses	Change, %
Discount rate -1%	4%
Inflation +1%	4%
Mortality 10% less	5%
Disability 10% less	0%
Employee turnover 10% for all ages below 50	(10%)

The Group expects to contribute 208 to its non-state pension funds in 2019 in respect of defined benefit plans.

The following net pension liabilities were in consolidated statements of financial position in 2018 and 2017:

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	2018	2017
Net defined benefit obligations as at 1 January	2,713	4,572
Total defined benefit plan expenses, net	(1,083)	(1,209)
Contributions by the employer	(69)	(105)
Remeasurement of pension liabilities	180	(545)
Net defined benefit obligations as at 31 December	1,741	2,713

Remeasurement of pension liabilities in OCI consists of:

	2018	2017
Actuarial (gains)/losses on liabilities	172	(546)
Actuarial losses on assets	8	1
Remeasurement of pension liabilities	180	(545)

25. Income taxes

The components of income tax expense for the years ended 31 December 2018 and 2017 were as follows:

	2018	2017
Current income tax expense	(2,378)	(5,494)
Income tax for the year	(4,936)	(7,077)
Adjustments of the current income tax for previous years	2,558	1,583
Total current income tax for the year	(2,378)	(5,494)
Deferred tax (benefit)/expense	(2,049)	638
Origination and reversal of temporary differences	(1,990)	639
Changes in unused tax losses	(59)	(1)
Total deferred income tax	(2,049)	638
Total income tax expense for the year	(4,427)	(4,856)

A reconciliation of the theoretical tax charge to the actual income tax charge is as follows:

	2018	2017
Profit before tax	19,439	18,906
Statutory income tax rate (20%)	20%	20%
Theoretical tax charge at statutory income tax rate	(3,888)	(3,781)
Non-deductible expenses and non-taxable income, net	154	115
Tax on intragroup dividend income	(372)	(305)
Effect of 13% dividend tax rate applied to investments in associates and JVs	85	(176)
Effect of sale property to Telecom-5	(257)	(423)
Changes in unrecognized deferred tax assets	(149)	(286)
Total actual income tax for the year	(4,427)	(4,856)
Effective tax rate, %	22.77%	25.68%

Non-deductible expenses and non-taxable income comprised the following amounts for the year ended 31 December 2018 and 2017:

	2018	2017
Effect of other employee benefits	(124)	(131)
Non-hedge derivatives	–	(167)
Accrual of impairment loss	–	(40)
Accounts receivable	415	628
Other	(137)	(175)
Total non-deductible expenses and non-taxable income	154	115

Other non-deductible expenses and non-taxable income include income connected with depreciation of certain property, plant and equipment, promotional and sponsorship expenditures, travel expenditures in excess of certain statutory allowances.

The components of net deferred tax assets and liabilities as at 31 December 2018 and 2017, and the respective movements during 2018 and 2017 were as follows:

		Movement during 2018 recognized in						
	Balance as at 1 January 2018	Adjustment IFRS 15,16 as at 1 January 2018	Acquisition through business combina-tions	Equity	Other compre-hensive income	Profit/(loss) for the year	Disposal through business combina-tions	Balance as at 31 December 2018
Tax effects of future tax deductible items								
Property, plant and equipment	268	–	2	–	–	142	(4)	408
Intangible assets	45	–	24	–	–	(25)	–	44
Right of use assets	–	–	–	–	–	(22)	–	(22)
Unused tax losses	4	–	26	–	–	43	–	73
Trade and other accounts receivable	108	131	–	–	–	(159)	–	80
Inventories	(12)	–	1	–	–	114	–	103
Investments in associates and JVs	756	–	–	–	–	705	–	1,461
Contract cost	–	–	–	–	–	–	–	–
Employee benefits	329	–	–	–	36	(164)	–	201
Accounts payable, provisions and accrued expenses	5,195	69	9	–	–	(447)	–	4,826
Lease liabilities	–	–	10	–	–	427	–	437
Other non-current liabilities and current liabilities	–	2,017	–	–	–	1,340	–	3,357
Other	445	–	–	–	–	(181)	4	268
Gross deferred tax asset	7,138	2,217	72	–	36	1,773	–	11,236
Tax effects of future taxable items								
Property, plant and equipment	(38,424)	–	(38)*	–	–	(2,172)	–	(40,634)
Intangible assets	(2,804)	–	(435)	–	–	378	–	(2,861)
Right of use assets	–	–	(4)	–	–	(177)	–	(181)
Investments in associates and JVs	(108)	–	–	3	–	(402)	–	(507)
Accounts payable, provisions and accrued expenses	(91)	–	–	–	–	(234)	–	(325)
Contract cost	–	(2,314)	–	–	–	(150)	–	(2,464)
Employee benefits	–	–	–	–	–	–	–	–
Trade and other accounts receivable	(693)	–	–	–	–	(485)	–	(1,178)
Inventories	(5)	–	(1)	–	–	(159)	–	(165)
Loans and borrowings	(53)	–	–	–	–	(277)	–	(330)
Lease liabilities	–	–	–	–	–	21	–	21
Other non-current liabilities and current liabilities	–	–	–	–	–	3	–	3
Other	6	–	(2)	–	–	(168)	–	(164)
Gross deferred tax liability	(42,172)	(2,314)	(480)	3	–	(3,822)	–	(48,785)
Net deferred tax liability	(35,034)	(97)	(408)	3	36	(2,049)	–	(37,549)

** Certain amounts reflects measurement period adjustments made to the provisional amounts of the Twingo Telecom if the accounting for the business combination had been completed at the acquisition date. (Note 6).*

	Balance as at 1 January 2017	Movement during 2017 recognized in: Acquisition through business combina-tions	Equity	Other compre-hensive income	Profit/(loss) for the year	Disposal through business combina-tions	Balance as at 31 December 2017
Tax effects of future tax deductible items							
Property, plant and equipment	281	–	–	–	(13)	–	268
Intangible assets	32	–	–	–	13	–	45
Unused tax losses	8	–	–	–	–	(4)	4
Trade and other accounts receivable	208	–	–	–	(100)	–	108
Inventories	182	–	–	–	(194)	–	(12)
Investments in associates and JVs	570	–	–	–	186	–	756
Employee benefits	897	–	–	(109)	(459)	–	329
Accounts payable, provisions and accrued expenses	4,391	–	–	–	804	–	5,195
Other	278	–	–	–	167	–	445
Gross deferred tax asset	6,847	–	–	(109)	404	(4)	7,138
Tax effects of future taxable items							
Property, plant and equipment	(37,705)	–	–	–	(719)	–	(38,424)
Intangible assets	(3,027)	–	–	–	223	–	(2,804)
Investments in associates and JVs	(179)	–	–	–	71	–	(108)
Accounts payable, provisions and accrued expenses	(5)	–	–	–	(86)	–	(91)
Employee benefits	–	–	–	–	–	–	–
Trade and other accounts receivable	(959)	–	–	–	266	–	(693)
Inventories	–	–	–	–	(5)	–	(5)
Loans and borrowings	(396)	–	–	–	343	–	(53)
Other	(135)	–	–	–	141	–	6
Gross deferred tax liability	(42,406)	–	–	–	234	–	(42,172)
Net deferred tax liability	(35,559)	–	–	(109)	638	(4)	(35,034)

	Consolidated statement of financial position: 2018	2017
Deferred tax assets	862	647
Deferred tax liabilities	(38,411)	(35,681)
Deferred tax liabilities, net	(37,549)	(35,034)

Taxable temporary differences associated with investments in subsidiaries for which no deferred tax liabilities were recognized in the accompanying consolidated statements of financial position as at 31 December 2018 and 2017 amounted to 14,139 and 10,102 respectively. Deductible temporary differences associated with investments in subsidiaries for which no deferred tax assets were recognized in the accompanying consolidated statements of financial position as at 31 December 2018 and 2017 amounted to 7,227 and 10,531 respectively.

Deductible temporary differences for which no deferred tax assets were recognized in the accompanying consolidated statements of financial position as at 31 December 2018 and 2017 amounted to 10,345 and 11,088, respectively.

Deductible temporary differences on prior year losses are available indefinitely for offsetting against future taxable profits of companies, but in the reporting period from 1 January 2017 to 31 December 2020, prior year losses made from 1 January 2017 onwards cannot reduce the tax base for income tax for the current reporting period calculated net of prior year losses more than 50 percent.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and the deferred income tax assets and deferred income tax liabilities relate to the income taxes levied by the same fiscal authority on the same taxable entity.

The consolidated statement of comprehensive income for 2018 and 2017 includes tax expense in respect of following items of other comprehensive income:

	2018	2017
Actuarial gains and losses (Note 24)	36	(109)

26. Revenue

Revenue comprised the following for the years ended 31 December 2018 and 2017:

	2018	2017*
Fixed Telephony	69,983	78,445
Broadband Internet	80,042	70,785
TV services	34,464	27,348
Wholesale Services	79,593	77,525
VAS & Clouds	36,902	26,013
Other telecommunication services	12,076	16,854
Other non-telecommunication services	7,179	8,359
Total revenue	320,239	305,329

** The comparative information is not restated. Includes reclassification between Broadband Internet, Wholesale services, Other telecommunication, Other non-telecommunication services and VAS&Clouds. These are no impact on the consolidated statement of profit or loss and other comprehensive income.*

Revenue from VAS&Clouds includes revenue from VAS projects with governmental customers from contracts which were structured as finance leases in total amount 1,314 and 475 for the year ended 31 December 2018 and 31 December 2017 respectively.

Revenue from other telecommunication services includes sales of other equipment 3,836 and 6,998 for the year ended 31 December 2018 and 31 December 2017 respectively.

Revenue from VAS&Clouds includes rental income in amount 67 and 115 for the year ended 31 December 2018 and 31 December 2017 respectively.

Revenue from other non-telecommunication services includes rental income 3,566 and 3,467 for the year ended 31 December 2018 and 31 December 2017 respectively.

For the year ended 31 December 2018 and 2017 the Group generated revenue by the following major customer groups:

Customer Groups	2018	2017
Residential customers	137,745	136,304
Corporate/governmental customers	121,509	109,209
Interconnected operators	56,389	55,061
Other	4,596	4,755
Total revenue	320,239	305,329

Set out below is the disaggregation of the Group's revenue from contracts with customers for the period ended 31 December 2018:

2018	PJSC Rostelecom	Other operations and reconciliation	Adjustments and eliminations	Total segments
Fixed Telephony	67,350	2,685	(52)	69,983
Broadband Internet	74,086	6,065	(109)	80,042
TV services	33,385	1,491	(412)	34,464
Wholesale Services	77,187	8,868	(6,462)	79,593
VAS & Clouds	31,851	14,944	(9,893)	36,902
Other telecommunication services	9,353	6,843	(4,120)	12,076
Other non-telecommunication services	8,034	10,394	(11,249)	7,179
Total revenue from contracts with customers	301,246	51,290	(32,297)	320,239
At a point in time	4,717	3,656	(1,141)	7,232
Over time	296,529	47,634	(31,156)	313,007
Total revenue from contracts with customers	301,246	51,290	(32,297)	320,239

27. Wages, salaries, other benefits and payroll taxes

	2018	2017
Salary expenses	69,812	67,238
Share-based remuneration	3,162	2,016
Social taxes	19,866	19,287
Income from pension plans	(198)	(223)
Other personnel costs	4,708	5,063
Total wages, salaries, other benefits and payroll taxes	97,350	93,381

28. Materials, utilities, repairs and maintenance

	2018	2017
Utilities	11,316	11,127
Repairs and maintenance	8,945	8,667
Materials	5,922	6,132
Total materials, utilities, repairs and maintenance	26,183	25,926

29. Other operating income

	2018	2017
Universal communication services	10,873	11,456
Fines and penalties	1,482	990
Reimbursement of other losses incurred	130	129
Gain/(loss) on disposals of other assets	87	19
Other income	1,007	850
Total other operating income	13,579	13,444

30. Other operating expenses

	2018	2017
E-Government contract expenses	10,024	7,480
Cost of sales of customer-premices equipment	6,765	6,480
Advertising expenses	6,446	4,388
Taxes, other than income tax	5,747	4,661
Rent	4,446	8,022
Agency fees	4,404	4,387
Fire and other security services	3,148	2,993
Contributions to universal communication services fund	2,588	2,565
Support and maintenance of software and databases	2,019	2,005
Third party services and expenses related to administration	2,005	1,567
Billing expenses	1,933	1,543
Transportation and postal services	1,557	2,083
Member fees, charity contribution, payments to labour units	767	697
Audit and consulting fees	749	927
Fines and penalties	481	240
Asset insurance	122	121
Other	5,789	4,600
Total other operating expenses	58,990	54,759

31. Finance costs

	2018	2017
Interest expense on bank and corporate loans, bonds, promissory notes and vendor financing	15,073	16,847
Interest expense of defined benefit plans	95	324
Interest expense on finance lease liabilities	1,637	64
Borrowing servicing expense	470	115
Total finance costs	17,275	17,350

32. Other investing and financial gain/(loss), net

	2018	2017
Interest income from finance assets	1,769	1,611
Dividend income	7	23
Expenses related to subsidiaries' acquisition	(37)	(4)
Gain/loss on disposal of subsidiaries	10	325
Loss on change in fair value of financial assets/liabilities through profit and loss	(224)	(842)
Impairment of financial assets	(86)	–
Other loss/gains	163	(172)
Total other investing and financial gain/(loss), net	1,602	941

33. Segment information

The Management Board of Rostelecom has been determined as the Group's Chief Operating Decision-Maker (CODM).

The Group determines the following reportable operating segments: PJSC Rostelecom and other operations which presented by subsidiaries of the Group.

Management of the Group assesses the performance of the operating segments based on the IFRS data on consolidated basis. Starting from 3d quarter of 2018 the Group changed approach to OIBDA measurement: non-state pension fund program expenses were excluded. A measure of segment profit or loss reported to the management of the company is operating income before depreciation, amortization, long-term employee motivation program expenses (OIBDA) and non-state pension fund program.

Total assets are not allocated to operating segments and are not analysed by the CODM.

The tables below illustrate financial information of the reportable segments reviewed by management for the year ended 31 December 2018 and 2017. Comparative segment information for the year ended 31 December 2017 was restated in these consolidated financial statements to conform the current year presentation.

The following table illustrates information about reportable segment revenue and OIBDA for the year ended 31 December 2018:

2018	PJSC Rostelecom	Other operations and reconciliation	Adjustments and eliminations	Total segments
Revenue				
Third party revenue	301,246	51,290	(32,297)	320,239
Inter-segment revenue	4,905	27,392	–	32,297
OIBDA	90,278	10,622	–	100,900

The following table illustrates reconciliation of reportable segment OIBDA to profit before income tax for the year ended 31 December 2018:

OIBDA of reportable segments	90,278
OIBDA of other segments	10,622
Adjustments	
Depreciation, amortisation and impairment losses	(60,329)
Share of profit (loss) in equity accounted investees	(91)
Finance costs and other investing and financial gain	(15,673)
Foreign exchange loss, net	(597)
Share-based remuneration and non-state pension fund program	(4,756)
Other adjustments	(15)
Profit before income tax	19,439

The following table illustrates information about reportable segment revenue and OIBDA for the year ended 31 December 2017:

2017	PJSC Rostelecom	Other operations and reconciliation	Adjustments and eliminations	Total segments
Revenue				
Third party revenue	288,717	42,309	(25,784)	305,242
Inter-segment revenue	3,416	22,368	–	25,784
OIBDA	91,408	5,280	–	96,688

The following table illustrates reconciliation of reportable segment OIBDA to profit before income tax for the year ended 31 December 2017:

OIBDA of reportable segments	91,408
OIBDA of other segments	5,280
Adjustments	
Depreciation, amortisation and impairment losses	(56,628)
Share of profit (loss) in equity accounted investees	(2,692)
Finance costs and other investing and financial gain	(16,409)
Foreign exchange loss, net	122
Share-based remuneration and non-state pension fund program	(2,174)
Other adjustments	(1)
Profit before income tax	18,906

34. Share-based payments

Share-based program started in 2014 (ordinary shares)

In March 2014 the Board of Directors approved the employee motivation program. The program established a plan under which the participants were granted a right to purchase at a fixed price ordinary shares of the Company using proceeds from the annual bonus, which is paid depending on achievement of the KPI's, based on Free Cash Flow (FCF), net profit and Return on Invested Capital (ROIC).

The duration of the program was three years, starting from 2014. This program has expired in 2016.

The rights to purchase shares were granted to participants in 2014 and have gradual vesting for the tranches as follows: 30% tranche were vested by the end of 2014, the second 30% tranche were vested by the end of 2015, the third 40% tranche were vested by the end of 2016.

Share-based program started in 2017 (ordinary shares)

In July 2017 the Board of Directors approved the new employee motivation program. The program based on the principle of co-financing and established a plan under which the participants were granted a right to purchase of the corresponding number of shares as a part of the regular bonus payments (monthly, quarterly and/or annual) – contribution of the participant, as well as the acquisition of shares of an additional premium – the Company's contribution.

The duration of the program is 3 cycles: 1 cycle – 2017 and the first 11 months of 2018, 2 cycle – 2018 and the first 11 months of 2019, 3 cycle – 2019 and the first 11 months of 2020.

The total target package for all participants of the program consists of ordinary shares equivalent to 6% of the share capital of the Company, the total target package for all participants of the program for each of the cycles equivalent to 2% of the share capital of the Company.

The program uses the following key performance indicators: Free Cash Flow (FCF), net profit and Return on Invested Capital (ROIC).

To facilitate this new program, the Company also used a closed unit shares investment fund (RTK-Razvitie).

Total amounts 3,637 and 2,344 (including related social and personal income taxes gross-up in the amount of 839 and 560 correspodently) related to the Company's contribution per new and old motivation program were recognized as an expense in wages, salaries, other benefits and payroll taxes in the consolidated statement of profit or loss and other comprehensive income for the year ended 31 December 2018 and 31 December 2017 respectively.

The following table reconciles the share options on ordinary shares outstanding at the beginning and end of the year in accordance with old program:

	2018		2017	
	Number of options	Weighted average exercise price, RUB	Number of options	Weighted average exercise price, RUB
Balance at beginning of year	206,190	87.01	17,353,842	87.37
Conversion	–	–	1,174,787	n/d
Granted during the period	–	–	–	–
Forfeited during the period	–	–	–	–
Exercised during the year	–	–	(18,322,439)	88.13
Balance at end of year	206,190	87.01	206,190	87.01

The following table reconciles the share options on ordinary shares outstanding at the beginning and end of the year in accordance with new program:

	2018		2017	
	Number of options	Weighted average exercise price, RUB	Number of options	Weighted average exercise price, RUB
Balance at beginning of year	38,323,651	70.19	–	–
Conversion	1,122,036	70.19	–	–
Granted during the period	53,458,556*	64.02	38,323,651*	70.19
Forfeited during the period	–	–	–	–
Exercised during the year	(39,445,687)	70.19	–	–
Balance at end of year	53,458,556	87.01	38,323,651	70.19

** Including Contribution of the participant for the year ended 31 December 2018 – 11,679,499, for the year ended 31 December 2017 – 8,490,673.*

During the year period ended 31 December 2018 the new program participants exercised their rights for the 39,445,687 shares at a price 70.19 per share.

During the year ended 31 December 2017 the old program participants exercised their rights for 18,322,439 shares. The share prices at the date of exercise were:

Number of shares	Exercise price, RUB
778,956	84.01
14,624,123	87.01
17,246	93.59
2,902,114	94.59

35. Earnings per share

	2018	2017
Profit attributable to equity holders of the Group	14,154	13,697
Weighted average number of shares outstanding used in calculation of basic earning per shares	2,271,351,164	2,249,603,873
Weighted average number of shares outstanding used in calculation of diluted earning per shares	2,325,015,922	2,288,133,714
Earnings per share attributable to equity holders of the Group during the year, in RUB		
Basic earnings per share	6.23	6.09
Diluted earnings per share	6.09	5.99

Weighted average number of shares outstanding for the years ended 31 December 2018 and 2017 is adjusted for the weighted average number of treasury shares of the Group, which included to 431,544,362 (2017: 470,356,883) ordinary and 64,519,345 (2017: 64,519,345) preferred shares of the Company.

Reconciliation of weighted average number of shares used in calculation of basic and diluted earnings per shares:

	2018	2017
Weighted average number of shares outstanding used in calculation of basic earning per shares	2,271,351,164	2,249,603,873
Dilutive effect of employee motivation program vested shares	53,664,746	38,529,841
Weighted average number of shares outstanding used in calculation of diluted earning per shares	2,325,015,910	2,288,133,714

36. Financial instruments

The Group's principal financial instruments comprise cash and cash equivalents, investments, bank loans, bonds and promissory notes issued and finance leases liabilities. These instruments serve to finance the Group's operations and capital expenditures; its corporate financial transactions such as share repurchase and acquisition strategy; place available funds in course of cash management. Other financial assets and liabilities such as trade receivables and trade payables arise directly from the Group's operations. The following table presents the carrying amounts of financial assets and liabilities as at 31 December 2018 and 2017 under IFRS 9:

Classes	Measurement categories	31 December 2018	31 December 2017
Cash and cash equivalents	Assets at amortized cost	10,080	3,815
Trade and other receivables	Assets at amortized cost	51,535	56,165
Investments in equity instruments	Financial assets at fair value through profit and loss	258	353
Loans	Assets at amortized cost	3,596	2,464
Debt trading securities	Financial assets at fair value through profit and loss	5,583	4,745
Total financial assets		71,052	67,542
Bank and corporate loans	Liabilities at amortized cost	157,443	142,921
Bonds	Liabilities at amortized cost	46,715	47,072
Promissory notes	Liabilities at amortized cost	9	9
Vendor financing	Liabilities at amortized cost	27	38
Lease liabilities	Liabilities at amortized cost	21,646	1,249
Other borrowings	Liabilities at amortized cost	85	83
Trade and other payables	Liabilities at amortized cost	75,144	51,353
Total financial liabilities		301,069	242,725

The following table presents the carrying amounts of financial assets and liabilities as at 31 December 2017 under IAS 39:

Classes	Categories	31 December 2017
Cash and cash equivalents	Loans and receivables	3,815
Trade and other receivables	Loans and receivables	56,165
Available-for-sale financial assets	Available-for-sale	353
Loans	Loans and receivables	2,464
Debt trading securities	Financial assets at fair value through profit and loss	4,745
Total financial assets		67,542
Bank and corporate loans	Liabilities at amortized cost	142,921
Bonds	Liabilities at amortized cost	47,072
Promissory notes	Liabilities at amortized cost	9
Vendor financing	Liabilities at amortized cost	38
Finance lease liabilities	Liabilities at amortized cost	1,249
Other borrowings	Liabilities at amortized cost	83
Trade and other payables	Liabilities at amortized cost	51,353
Total financial liabilities		242,725

The fair value of cash and cash equivalents, current trade and other receivables, trade and other accounts payables, other current financial assets and liabilities approximate their carrying amount largely due to the short-term maturity of these instruments. The fair value of non-current trade and other receivables approximate their discounted carrying amount due to similar market and discounting rates.

The fair value of long-term debt investments and non-current accounts payable correspond to the present values of the payments related to the assets and liabilities, taking into account the current interest rate parameters that reflect market-based changes to terms and conditions and expectations.

The table below represents book and fair value of financial instruments:

		Book value	Fair value	Book value	Fair value
Classes	Level	31 December 2018	31 December 2018	31 December 2017	31 December 2017
Assets for which fair values are disclosed:					
Trade and other receivables	Level 3	51,535	51,535	56,165	56,165
Loans	Level 3	3,596	3,596	2,464	2,464
Assets measured at fair value:					
Investments in equity instruments	Level 3	258	258	353	353
Debt trading securities	Level 1	5,583	5,583	4,745	4,745
Total financial assets		60,972	60,972	63,727	63,727
Liabilities for which fair values are disclosed:					
Bank and corporate loans	Level 3	157,443	152,579	142,921	139,724
Bonds	Level 1	46,715	45,907	47,072	48,951
Promissory notes	Level 3	9	9	9	9
Vendor financing	Level 3	27	27	38	38
Lease liabilities	Level 3	21,646	21,646	1,249	1,249
Other borrowings	Level 3	85	85	83	83
Trade and other payables	Level 3	75,144	75,144	51,353	51,353
Total financial liabilities		301,069	295,397	242,725	241,407

The different levels have been defined as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

There were no transfers between Level 1 and Level 2 fair value measurements during the period, and no transfers into or out of Level 3 fair value measurements during the twelve-month periods ended 31 December 2018 and 31 December 2017.

Level 1 financial assets include quoted on MOEX debt trading securities of NPF Alliance.

Income and expenses on financial instruments

		Finance costs	Other investing and financing gains and losses							OCI	
2018	Impairment loss of finan-cial assets measured at amortized cost	Interest expense	Interest income	Dividend income	Gains/ (losses) on asset disposal	Fair value change	Impairment loss (reversal of impairment)	Other	Foreign exchange gains/ (losses)	Fair value change	Total
Cash and cash equivalents	–	–	161	–	–	–	–	–	47	–	208
Trade and other receivables	(4,057)	–	1,330	–	–	–	–	–	330	–	(2,397)
Investments in equity instruments	–	–	–	5	(24)	–	3	–	–	–	(16)
Debt trading securities	–	–	399	–	(144)	–	–	–	–	–	255
Loans	–	(51)	108	2	(56)	–	(89)	–	5	–	(81)
Total financial assets	(4,057)	(51)	1,998	7	(224)	–	(86)	–	382	–	(2,031)
Bank and corporate loans	–	(11,620)	–	–	–	–	–	–	10	–	(11,610)
Bonds	–	(3,402)	–	–	–	–	–	–	–	–	(3,402)
Vendor financing	–	–	–	–	–	–	–	–	–	–	–
Lease liabilities	–	(1,637)	–	–	–	–	–	–	–	–	(1,637)
Trade and other payables and non-hedge derivatives	–	–	–	–	–	–	–	–	(989)	–	(989)
Total financial liabilities	–	(16,659)	–	–	–	–	–	–	(979)	–	(17,638)

2017	Finance costs				Other investing and financing gains and losses					OCI	
	Bad debt income/ (expense)	Interest expense	Interest income	Dividend income	Gains/ (losses) on asset disposal	Fair value change	Impairment loss (reversal of impairment)	Other	Foreign exchange gains/ (losses)	Fair value change	Total
Cash and cash equivalents	–	–	228	–	–	–	–	–	(152)	–	76
Trade and other receivables	(2,776)	–	1,173	–	–	–	–	–	(40)	–	(1,643)
Investments in equity instruments	–	–	–	22	(7)	–	–	–	–	–	15
Debt trading securities	–	–	370	–	–	–	–	–	–	–	370
Loans	–	(54)	118	1	–	–	–	–	50	–	115
Total financial assets	(2,776)	(54)	1,889	23	(7)	–	–	–	(142)	–	(1,067)
Bank and corporate loans	–	(13,034)	–	–	–	–	–	–	26	–	(13,008)
Bonds	–	(3,759)	–	–	–	–	–	–	–	–	(3,759)
Vendor financing	–	–	–	–	–	–	–	–	–	–	–
Finance lease liabilities	–	(64)	–	–	–	–	–	–	–	–	(64)
Trade and other payables and non-hedge derivatives	–	–	–	–	–	(835)	–	–	238	–	(597)
Total financial liabilities	–	(16,857)	–	–	–	(835)	–	–	264	–	(17,428)

(a) Credit risk

Each class of financial assets represented in the Group's consolidated statement of financial position to some extent is exposed to credit risk. Management develops and implements policies and procedures aiming to minimize the exposure and impact on the Group's financial position in case of risk realization.

Financial instruments that could expose the Group to concentrations of credit risk are mainly trade and other receivables. The credit risk associated with these assets is limited due to the Group's large customer base and on-going procedures to monitor the credit worthiness of customers and other debtors.

The Group's accounts receivable and contract assets are represented by receivables from the Government and other public organizations, businesses and individuals each of them bearing different credit risk. Collection of receivables from the Government and other public organizations is mainly influenced by political and economic factors and not always under full control of the Group. However, management undertakes all possible efforts to minimize the exposure to risk of receivable from this category of clients. In particular, creditworthiness of such subscribers is assessed based on financing limits set by the Government. Management believes there were no significant unprovided losses relating to these or other receivables as at 31 December 2018 and 2017.

To reduce risk of exposure on receivables from businesses and individuals the Group implements a range of procedures. Credit risk is determined based on a summary of probabilities of occurrences and possible impact of events negatively influencing the customer's ability to discharge its obligation. A credit rating is attributed to a customer on initial stage of cooperation and, then, reassessed periodically based on credit history. As a part of its credit risk management policy, the Group arranges preventive procedures which are represented by but not limited to advance payments, request for collaterals and banks and third parties guarantees. For collection of receivables, which are past due, the Group takes a variety of actions from suspension of rendering of services to taking legal action.

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on months past due for grouping of various customer segments with similar loss patterns (Note 15).

According to the financial policy of the Group, the Group deposits excess cash available with several largest Russian banks (with high credit ratings). To manage the credit risk related to deposit of cash available with banks, management of the Group implements procedures to periodically assess the creditworthiness of the banks. To facilitate this assessment, deposits are mainly placed with banks where the Group has already had comparable credit obligations, current settlement account and can easily monitor activity of such banks.

Maximum exposures to credit risk are limited to the net carrying amounts of respective financial assets, except for guarantee (see Note 36 (e)).

(b) Liquidity risk

The Group monitors its risk of a shortage of funds by preparing and monitoring compliance with cash flow budgets. The Group's objective is to maintain a balance between continuity of funding and flexibility through the use of bank overdrafts, bank loans, bonds, etc. Cash flow budgets consider the maturity of both cash inflows and outflows from the Group's operations. Based on projected cash flows the decision is taken on either investment of free cash or attracting financing required. Realization of liquidity risk management policy provides the Group with sufficient cash to discharge its obligation on a timely basis. Financing was provided within the Group introducing the need for certain companies to raise financing from the Group parent company (PJSC Rostelecom) via cash-pooling.

Issued guarantees are disclosed in Note 36(e).

Maturity analysis as at 31 December 2018 and 2017 represented below shows undiscounted cash flows, including estimated interest payments:

	2019	2020	2021	2022	2023 and later	Total
31 December 2018						
Bank and corporate loans	24,887	12,354	25,428	51,174	91,548	205,391
Bonds	18,787	2,409	2,408	21,995	12,095	57,694
Promissory notes	–	–	–	1	8	9
Vendor financing	11	5	7	3	2	28
Lease liabilities	5,814	2,850	2,339	2,187	25,884	39,074
Other borrowings	86	–	–	–	–	86
Trade and other payables	74,663	205	50	50	175	75,143
Total financial liabilities	124,248	17,823	30,232	75,410	129,712	377,425

	2018	2019	2020	2021	2022 and later	Total
31 December 2017						
Bank and corporate loans	23,668	12,704	12,724	36,725	111,034	196,855
Bonds	14,770	18,074	1,696	1,695	22,297	58,532
Promissory notes	–	–	–	1	8	9
Vendor financing	12	11	9	3	4	39
Finance lease liabilities	474	358	300	149	566	1,847
Other borrowings	86	–	–	–	–	86
Trade and other payables and non-hedge derivatives	51,039	97	64	44	109	51,353
Total financial liabilities	90,049	31,244	14,793	38,617	134,018	308,721

(c) Market risks

Significant market risk exposures are interest rate risk, exchange rate risk and other price risk. Exposure to other price risk arises from available for sale investments quoted on active markets.

Interest rate risk

Interest rate risk mainly relates to floating rate debt primary denominated in US dollars, Russian roubles and euros and financial instruments denominated in Russian roubles. Other borrowings do not materially influence the exposure to interest risk.

	31 December 2018	31 December 2017
Fixed rate instruments		
Financial assets	22,769	12,718
Financial liabilities	(220,353)	(191,090)
	(197,584)	(178,372)
Variable rate instruments		
Financial assets	–	–
Financial liabilities	(5,572)	(282)
	(5,572)	(282)

Cash flow sensitivity analysis for variable rate instruments

The tables below demonstrate the sensitivity to a reasonably possible change in interest rates, with all other variables held constant, of the Group's profit before tax.

	2018
MosPrime (+0.75%)	(1)
MosPrime (–1%)	2
CB rate (+1%)	(123)
CB rate (–1%)	123

	2017
MosPrime (+0.5%)	(1)
MosPrime (-1.5%)	2
CB rate (+1%)	(1)
CB rate (-1%)	1

Foreign exchange risk

Currency risk is the risk that fluctuations in exchange rates will adversely affect the Group's cash flows. As a result, these fluctuations in exchange rates will be reflected in respective items of the Group's consolidated statement of comprehensive income, statement of financial position and/or statement of cash flows. The Group is exposed to currency risk in relation to its assets and liabilities denominated in foreign currencies, mostly from accounts receivable and payable from operations with international telecom operators, accounts payable for equipment, borrowings issued in foreign currencies. The Group does not have formal procedures to reduce its currency risks.

Financial assets and liabilities of the Group presented by currency as at 31 December 2018 and 2017 were as follows:

	31 December 2018		31 December 2017	
	USD	EUR	USD	EUR
Cash and cash equivalents	905	653	822	34
Trade receivables	908	376	919	198
Loans and receivables	1	–	–	–
Trade and other payables and non-hedge derivatives	(8,110)	(118)	(5,182)	(82)
Net exposure	(6,296)	911	(3,441)	150

The tables below demonstrate the sensitivity to a reasonably possible change in exchange rates, with all other variables held constant, of the Group's profit before tax:

	31 December 2018	
	USD	EUR
Strengthening of the currency (USD +14%, EUR +14%)	(881)	127
Weakening of the currency (USD -14%, EUR -14%)	881	(127)

	31 December 2017	
	USD	EUR
Strengthening of the currency (USD +11%, EUR +12.5%)	(378)	19
Weakening of the currency (USD -11%, EUR -12.5%)	378	(19)

The analysis was applied to monetary items denominated in relevant currencies at the reporting date.

Other price risk

As at 31 December 2018, the Group's assets don't include investments in quoted securities subject to other price risk.

(d) Capital management policy

Capital management policy of the companies comprising the Group is primarily focused on increasing credit ratings, improving financial independence and liquidity ratios, improving the structure of payables, and reducing cost of borrowings. Among the main methods of capital management are profit maximization, investment program management, sale of assets to reduce debt, debt portfolio management and restructuring, use of different classes of borrowings. In addition, the companies of the Group are subject to externally imposed capital requirements, which are used for capital monitoring. There were no changes in the objectives, policies and processes of capital management during 2017–2018.

The Boards of directors of the companies comprising the Group review their performance and establish a variety of key performance indicators which are based on Russian statutory accounts. The companies comprising the Group monitor and manage their debt using financial independence ratio and net debt/equity, net debt/OIBDA ratios.

(e) Guarantee

The Group guaranteed repayment of debts of Infrastruktunie investitsii-4 LLC at the amount of 13,822 to its creditors. The Group received a loan from the company to finance elimination of digital divide.

(f) Insurance risk

Insurance contracts of the Group are subject to the following main risks:

- Risk of longevity – risk of losses due to pensioners living longer than expected;
- Investment return risk – risk of losses arising from actual returns being different than expected;
- Contract holder decision risk – risk of losses arising due to contract holder experiences (surrenders) being different than expected;
- Expense risk – risk of losses due to excess of expected expenses.

NPP contracts issued by the Group in accordance with the existing Pension rules of non-state pension provision are classified for the most part as investment contracts with DPF. Accordingly, the risk of longevity is mainly related to mandatory pension insurance contracts.

The Group had obligations under mandatory pension insurance contracts as of 31 December 2018 at the amount of 636 (31 December 2017: 497).

In accordance with current legislation, the Group has an obligation to ensure a return of at least 0% p.a. on assets that cover pension contributions received from the Pension Fund of the Russian Federation, other non-government pension funds and contributors to schemes of non-state pension provision. From 1 January 2015, financial responsibility under mandatory pension insurance contracts includes ensuring a non-negative result of investing pension savings for each five-year period of the contract.

Insurance contracts are also subject to contract holder decision risk and expense risk. Contract holder decision risk (risk of termination of the contract) under mandatory pension insurance contracts is mitigated by the terms of guaranteeing the result of investing the funds of pension savings within five-year periods. Expense risk is reduced through expenses control and regular cost analysis.

The pension obligations are not sensitive to changes in actuarial assumptions due to the fact that reasonably possible changes in the actuarial assumptions do not lead to the formation of a deficit as a result of the liability adequacy test.

37. Commitments and contingencies

(a) Legal proceedings

The Group is subject to a number of proceedings arising in the course of the normal conduct of its business (refer to (b) below). Management believes that the ultimate resolution of these matters will not have a material adverse effect on the results of operations or the financial position of the Group.

(b) Taxation

Russian tax, currency and customs legislation is subject to varying interpretations and changes occurring frequently. The management's interpretation of the provisions of the law as applied to the operations and activities of the Group may be challenged by the relevant regional or federal authorities.

From 2019 VAT rate is increased from 18% to 20%. Foreign suppliers of electronic services must register in Russian tax authorities to pay VAT.

In 2017 the concept of unjustified tax benefit was legislatively established for all taxes levied on the territory of the Russian Federation with a focus on the presence of a business purpose in the conduct of business operations, as well as confirmation of the fulfillment of obligations under the agreements concluded by the parties to the contract, or by the person to whom these obligations were transferred to contract or law. This change significantly modifies the concept of recognizing the fact that taxpayers receive unjustified tax benefits, which will have a significant impact on the prevailing judicial practice. At the same time, the practical mechanism for applying this rule has not yet been fully established, and judicial practice on the changes introduced is not formed.

These changes, as well as the latest trends in the application and interpretation of certain provisions of Russian tax legislation, indicate that the tax authorities can take a more assertive position in interpreting legislation and verifying tax calculations. As a consequence, tax authorities may file claims for those transactions and accounting methods for which they did not make claims before. As a result, significant taxes, penalties and fines may be assessed. Determining the amount of claims for possible but not presented claims, as well as assessing the likelihood of an unfavorable outcome, is not possible. Tax inspections can cover three calendar years of activity, immediately preceding the year of verification. Under certain conditions, earlier tax periods may be subject to verification.

Transfer pricing legislation effective in the Russian Federation from 1 January 2012 allows to tax authorities to control prices set up in transactions between related parties and impose additional tax liabilities to in case transfer price deviates from market level.

The transfer pricing rules specify an obligation for the taxpayers to prepare transfer pricing documentation with respect to controlled transactions and prescribe basis and mechanisms for accruing additional taxes and interest in case prices in the controlled transactions differ from the market level.

The transfer pricing rules primarily apply to cross-border transactions between related parties, as well as to certain cross-border transactions between independent parties, as determined under the Russian Tax Code. In addition, the rules apply to in-country transactions between related parties if the accumulated annual volume of the transactions between the same parties exceeds a particular threshold of RUB 1 billion.

Since practice of applying the new transfer pricing rules by the tax authorities and courts is not widely developed, it is difficult to predict the effect of the new transfer pricing rules on these consolidated financial statements.

Management believes that its interpretation of the relevant legislation is appropriate and that it is probable that the Group's tax, currency and customs positions will be sustained upon examination. Management of the Group believes that it has adequately provided for tax liabilities in the consolidated statements of financial position as at 31 December 2018 and 2017. However, the general risk remains that relevant authorities could take different position with regard to interpretative issues and the effect could be significant.

(c) Licenses

Substantially all of the Group's revenues are derived from operations conducted pursuant to licenses granted by the Russian Government. These licenses expire in various years from 2019 up to 2024.

The Group has renewed all other licenses on a regular basis in the past, and believes that it will be able to renew licenses without additional cost in the normal course of business. Suspension or termination of the Group's main licenses or any failure to renew any or all of these main licenses could have a material adverse effect on the financial position and operations of the Group.

(d) Capital commitments

As at 31 December 2018, contractual commitments of the Group for the acquisition of property, plant and equipment amounted to 21,983 (2017: 14,340).

38. Related party transactions

(a) The Government as a shareholder

As indicated in Note 1, the Government of the Russian Federation controls the Company by indirect holding of 53% of the Company's ordinary shares through Vnesheconombank and Federal Agency of State properties management. It is a matter of the Government policy to retain a controlling stake in sectors of the economy, such as telecommunications, that it views as strategic.

(b) Interest of the Government in the telecommunications sector in the Russian Federation and the protection of that interest

Effective telecommunications and data transmission are of great importance to Russia for various reasons, including economic, social, strategic and national security considerations. The Government has exercised and may be expected to exercise significant influence over the operations of the telecommunications sector and consequently, the Group. The Government, acting through the Federal Tariff Service and the Federal Telecommunications Agency, has the general authority to regulate certain tariffs. In addition to the regulation of tariffs, the telecommunication legislation requires the Group and other operators to make certain revenue-based payments to the Universal communication services fund, which is controlled by the Federal Telecommunications Agency. Moreover, the Ministry of Telecom and Mass Communications of the Russian Federation has control over the licensing of providers of telecommunications services.

(c) Associates and joint ventures

On 1 April 2014 the Group obtained significant influence over T2 RTK Holding as a result of the reorganization. Transactions with companies of T2 RTK Holding were as follows:

	2018	2017
Revenue	15,197	12,030
Interest income	176	223
Purchase of telecommunication services	(7,583)	(5,777)
Purchase of other services	(143)	–

The amounts of receivables and payables due from companies of T2 RTK Holding were as follows:

	31 December 2018	31 December 2017
Accounts receivable	2,571	3,180
Allowance for doubtful receivables	(16)	(7)
Accounts payable and accrued expenses	(480)	(884)
Loans and borrowings	–	–

The Group is also involved in various telecommunication services with entities in which it has investments, including associates and joint ventures over which it exerts significant influence. A summary of these transactions is as follows:

	2018	2017
Revenue	333	338
Gain/(loss) on disposal of property, plant and equipment*	1,084	2,697
Interest income	222	184
Purchase of telecommunication services	(577)	(301)
Rent*	–	(517)
Purchase of other services	(653)	(250)
Purchase of property, plant and equipment and intangible assets	(3,935)	(1,959)
Cost of sales of customer-premices equipment	(222)	–
Amortisation*	(1,074)	–
Finance costs*	(49)	–

** JV Telecom-5.*

The amounts of receivables and payables due from these entities were as follows:

	31 December 2018	31 December 2017
Accounts receivable	413	353
Financial assets	2,229	1,665
Right of use assets*	940	–
Allowance for doubtful receivables	(22)	(6)
Accounts payable and accrued expenses	(3,724)	(958)
Lease liabilities*	(1,094)	–
Loans and borrowings	(247)	(148)

** JV Telecom-5.*

28 December 2016, the Group and LLC Sberbank Investicii ("Sberbank") entered into the agreement to increase the share capital of LLC Telecom-5 ("Telecom-5"), the Group's subsidiary. Sberbank and the Group made a cash contribution into Telecom-5 in amount of 2,000 each. As a result, on 28 December 2016 the Group lost control over Telecom-5. At the date of disposal the carrying value of net assets of Telecom-5 and result of its disposal was nil. Starting from that date the Group ceased consolidation of Telecom-5 and began its further accounting as an investment in joint venture. The Group retained 50 percent of interest in Telecom-5 which was recognized at its fair value of 2,000 as at 28 December 2016.

25 December 2017, the Group and Sberbank agreed to increase the share capital by 2,400 each. The Group retained 50 percent of interest in Telecom-5.

25 December 2018, the Group and Sberbank agreed to increase the share capital by 803 each. The Group retained 50 percent of interest in Telecom-5.

In December 2017 the Group sold buildings with the carrying value of 594 to its joint venture Telecom-5 for cash consideration of 4,800 resulting in a profit of 4,206. As a result of this transaction, the Group eliminated its share of unrealised profit of 2,103 to the extent of the Group's interest in joint venture Telecom-5.

In December 2018 the Group sold buildings with the carrying value of 178 to its joint venture Telecom-5 for cash consideration of 1,607 resulting in a profit of 1,292, including leaseback of (137). As a result of this transaction, the Group eliminated its share of unrealised profit of 646 to the extent of the Group's interest in joint venture Telecom-5.

(d) Transactions with other government-related entities

Decree of the Government of the Russian Federation No. 453-r dated 21 March 2011 PJSC Rostelecom appointed sole executor of works as part of the state program of the Russian Federation "Information Society 2011-2020". PJSC Rostelecom shall provide the following tasks:

(a) Creation of a common infrastructure to support the decisions of state tasks, ensuring the provision of services for various branches of the public sector.

(b) Create a national platform of distributed computing to provide solutions as services to federal, regional and municipal authorities.

This task the operator has already performed in a significant amount by implementing standard solutions for e-government in the regions under Saas. Services based on cloud computing will enjoy both government agencies and commercial customers.

(c) The development of institutions of electronic signature in Russia. The system of certification centers create a common space of trust, in which every citizen of Russia will be able to obtain an electronic signature and electronic signature can be identified in any region of Russia.

During 2018 the Group recognised revenue related to a significant project with the Ministry of Digital Development, Communications and Mass Media of the Russian Federation, under the contract to operate the infrastructure of e-government in the amount of 2,822 (2017: 1,936). For other individually immaterial contracts Group's revenue in 2018 amounted to 63,123 (2017: 55,891).

Under *The Decree of the Government of the Russian Federation* No. 437-r dated 26 March 2014 Rostelecom has the responsibility for the provision of universal communication services starting from 1 April 2014. In May of 2014 the Federal Communications Agency and Rostelecom signed a contract for the provision of universal communication services for 10 years and the total amount of financial support of RUB 163 billion.

In 2018 the Group received revenue under the contract concluded with the Ministry of Communications and Mass Communications of the Russian Federation, to connect hospitals to the internet, in the amount of 1,558 (2017: 470).

In accordance with Federal Law *On Communication* PJSC Rostelecom as a single universal service provider for the entire territory of the Russian Federation shell ensure the functioning of:

(a) Telephone services using payphones, multifunction devices, information kiosks (informants) and similar devices;

(b) Data services and provide access to the "Internet" information and telecommunication network using multiple access means;

(c) Data services and provide access to the "Internet" information and telecommunications network with access points.

The total volume of income recognized by the Company under this contract for 2018 amounted to: 10,873 (2017: 11,456).

To provide universal telecommunication services Rostelecom contracted FSUE (Federal State Unitary Enterprise) Russian Post as an agent facilitating data services and providing access to the Internet information and telecommunication network using multiple (public) access points without a use of an end-user equipment. FSUE Russian Post is a Russian state company, operations of which are individually significant for disclosure purposes. For 2018 the cost of agency contracts amounted to 568. During 2017 corresponding expenses amounted to 721. In 2016 with the Federal State Unitary Enterprise "Russian Post" concluded a contract for the provision of integrated communication services for a period of 5 years for a total amount of 8,500. For 2018 revenue under this contract amounted to 1,580 (2017: 1,475).

The Group received loans from government-controlled banks PJSC Sberbank, PJSC Bank VTB, PJSC Sviaz-bank and others. The outstanding balances from these banks amounted to 150,577 as at 31 December 2018 (31 December 2017: 110,118). Interest rate of these loans varies from 6.25% to 10.50%. During 2018 the Group obtained loans from these banks in the amount of 399,536 (2017: 437,659), made repayments in amount of 369,678 (2017: 468,025). Interest expense accrued on those loans during year ended 31 December 2018 amounted to 10,609 (2017: 11,130).

In 2014, the Company received a borrowing from the state-related special project company (Infrastructure investment-4 LLC) for implementation of the investment project "Bridging the Digital Divide in the sparsely populated areas of Russia". The balance of the borrowing 31 December 2018: 5,265 (31 December 2017: 6,480). During year ended 31 December 2018 the Group made repayments in amount of 1,899 (2017: 2,162). Interest expense accrued on this borrowing year ended 31 December 2018 amounted to 684 (2017: 947).

The Group has in aggregate but not individually significant transactions with other government-related entities including but not limited to providing telecommunication services, consuming services having both production and miscellaneous nature, depositing and borrowing money. All these transactions are carried out in the course of normal day-to-day business operations on the terms comparable to those with other entities which are not government-related. Management assesses these transactions as individually insignificant, except government-related banking deposits.

The amount of funds placed on deposits with government-controlled banks for the year ended 31 December 2018 is 743 (2017: 4,516) with related income recognised in profit and loss of 20 (2017: 27) and amounts repaid back to the Company's account of amounted to 311 (2017: 6,879).

The amount of the Group's cash and cash equivalents kept on the accounts opened with the government-controlled banks on 31 December 2018 is 5,937 (31 December 2017: 1,586). As of 31 December 2018 the Company's account with the Federal Treasury had the balance of 3,265 (31 December 2017: 1,822).

(e) Remuneration of key management personnel

The key management personnel for the purpose of these consolidated financial statements comprises Management Board's members, the Board of Directors' members and Vice-Presidents.

Remuneration to the key management personnel for the year ended 31 December 2018 amounted to 852 (2017: 749). Remuneration includes salaries, bonuses, payments for participation in the work of management bodies and other short-term benefits.

In 2017 the Board of Directors of the Company approved a new long-term motivation program for the period 2017-2019 (Note 34). The amount of expenses related to the key management personnel for 12 months 2018 is 1,093 (2017: 1,047).

In 2018 the Group made a contribution of 17 to the non-state pension fund (2017:8) for its key management personnel.

The remuneration amounts are stated exclusive of social taxes.

39. Assets held for sale

The following table illustrates information on assets held for sale for the year ended 31 December 2018 and 2017.

	31 December 2018	31 December 2017
Assets		
Property, plant and equipment (note 7)	554	997
Total assets held for sale	554	997

Before the classification of property, plant and equipment as held for resale, the recoverable amount was estimated for certain items and impairment loss was identified for the years ended 31 December 2018 and 2017 amounted to 218 and 74 respectively, and is included in depreciation, amortization and impairment losses in the consolidated statements of profit or loss and other comprehensive income.

40. Subsequent events

In January 2019, the Group attracted funds under short-term loan agreements with credit institutions in the amount of 50,000. At the same time on short-term loans the Group repaid principal debt amount of 34,350.

In February 2019 the Group acquired 50% of LLC "Digital for business" for the cash consideration of 150 from SC "MF Digital".

In March 2019 the Group acquired from individuals 100% of LLC "Infolink" for the cash consideration 104 and 100% of LLC "Svyazstroy-21" for the cash consideration of 244.

The dividends for 9 month 2018 (Note 20) were paid to shareholders.

Glossary

4G	The fourth generation of mobile technology with advanced requirements. 4G usually includes a family of advanced technologies enabling bandwidths of over 100 Mbps
5G	The fifth generation of mobile technology achieving higher bandwidths than 4G, driving greater mobile availability, extremely reliable large-scale networking of devices, lower latencies, bandwidths of 1 Gbps – 2 Gbps, and lower energy consumption by batteries. 5G adoption will drive the expansion of the Internet of Things
ACRA	Analytical Credit Rating Agency
API (Application Programming Interface)	An interface between two different applications so that they can communicate with each other, used to simplify the use of outputs from one application in another application (for example, the use of a public map service in a delivery application)
ARPU	Average revenue per user
B2B	Business-to-business
B2C	Business-to-customer
B2G	Business-to-government
B2O	Business-to-operator
BDD	Bridging the Digital Divide national programme
Big data	Large amounts of varied structured and unstructured data efficiently processed by horizontally scaled software tools
CAGR	Compound average growth rate
Capex	Capital expenditures for acquiring or upgrading non-current assets
CDN	Content Delivery Network, a large online network of servers geographically distributed across several data centres to serve content to end users with high availability and high performance
Cloud services	A model for enabling on-demand network access to a shared pool of configurable computing resources
CRM	Customer Relation Management software
DDoS(Distributed Denial of Service)	An attempt to make an online service unavailable by overwhelming it with traffic from multiple sources.
Digital Economy	The Digital Economy of the Russian Federation programme approved by the Russian Government's Decree dated 28 July 2017
DLDTN	Domestic long-distance transit node
DWDM	Dense Wavelength Division Multiplexing
EBITDA	Earnings before interest, taxes, depreciation, and amortisation (an evaluation metric, also known as pre-tax profit)
FCF	Free cash flow
FOCL	Fibre-optic communications line
FTTB (fibre-to-the-building)/FTTx	Broadband network architecture using optical fibre to provide all or part of the local loop used for last mile telecommunications
GC	Group of companies
HQ	Headquarters of PJSC Rostelecom
IFRS	International Financial Reporting Standards
IoT/IIoT (Internet of Things /Industrial Internet of Things)	The internet-based interconnection of devices embedded in everyday objects enabling them to send and receive data
IP/MPLS	Multiprotocol Label Switching – a routing technique in high-performance telecommunications networks that directs data from one node to the next based on short path labels rather than long network addresses, thus avoiding complex lookups in a routing table
IPTV	A system through which television services are delivered using the internet protocol suite over a packet-switched network such as a LAN or the internet
Issuer	An entity or an individual issuing securities to support and finance their business
IT	Information technology
IZTN	Inter-zone transit node
KPIs	Key performance indicators
Last mile	Final leg of the telecommunications networks that deliver telecommunication services to retail end users
LTDP	Long-Term Development Programme
MRF	Macroregional branch of PJSC Rostelecom
MVNO (Mobile Virtual Network Operator)	A telecommunications operator that does not own the mobile network infrastructure over which it provides services to its customers under its own brand
NFV (Network Functions Virtualisation)	Virtualisation of physical network elements of a telecommunications network
NPS (Net Promoter Score)	An index reflecting consumer loyalty to a product or company (likelihood to recommend) and used to gauge repurchase intent
O2O (operator-to-operator)	Rostelecom's project, Operator for Operators, aimed to offer network infrastructure support, operation, and development services to other operators
OIBDA	Operating income before depreciation and amortization (an evaluation metric)
OSS/BSS (Operation Support System / Business Support System)	An umbrella term describing software applications that support internal business processes of telecoms operators
OTT (over the top)	Delivery of video signals from a content provider directly to a user's device over the internet bypassing an operator

Pay TV	Subscription-based television services provided by both analogue and digital cable and satellite television, as well as via digital terrestrial and internet television
PBX	Private Branch Exchange
PON	Passive Optical Network, a cost-efficient broadband technology
ROIC	Return on invested capital
RPS	Rostelecom's Production System
RRS	Rostelecom Roznichnye sistemy (Rostelecom Retail Systems)
S&A	Subsidiaries and affiliates
SDN (Software Defined Network)	An approach facilitating computer network management
Smart Home	A high-tech solution for integrating diverse household systems under artificial intelligence control
Smart TV	An advanced television set with integrated internet and digital interactive feature
Subscriber	An individual or an entity with a valid contract who has used any service entailing data traffic, a subscription fee, or a service charge in the past six months
TEA	Transit Europe–Asia terrestrial cable system
TMT	Telecom, Media, and Technology
TSR (Total Shareholder Return)	Return on investment in equity
Utilities	Utilities
VAS	Value Added Services
VDI (Virtual Desktop Infrastructure)	A technology creating a virtual IT infrastructure to deploy full-scale workstations on a single server hosting multiple virtual desktops
vIMS (Virtualised IP Multimedia Subsystem)	An architectural framework for delivering IP-based multimedia services
VoD (video on demand)	A technology enabling customers to select and view content any time they need. VoD is often delivered to television sets and desktops over IPTV
VPN/IP VPN	A virtual private network for expanding a dedicated network through a public network (the internet), enabling desktops to send and receive data via a shared or public network as if the desktop was directly connected to the private network, while taking advantage of the public network functionality, security policy, and management capabilities
Wi-Fi	Wireless local area networking (WLAN) of devices
Yarovaya law	A package of laws, including: Federal Law No. 374-FZ, On Amendments to Federal Law On Countering Terrorism and Individual Legislative Acts of the Russian Federation with regard to Establishing Additional Measures to Counter Terrorism and Ensure Public Safety, dated 6 July 2016. Federal Law No. 375-FZ, On Amendments to the Criminal Code of the Russian Federation and the Criminal Procedure Code of the Russian Federation with regard to Establishing Additional Measures to Counter Terrorism and Ensure Public Safety, dated 6 July 2016

Contact Details

Full company name

Public Joint Stock Company "Rostelecom"

Abbreviated name

PJSC "Rostelecom"

State registration certificate number and date

Initial state registration details: Certificate No. 021.833 dated 23 September 1993

Legal entity registration details

Certificate of entry into the Unified State Register of Legal Entities of an entity registered before 1 July 2002 (OGRN 1027700198767) series 77 No. 004891969 dated 9 September 2002

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