Rostelecom

SUSTAINABILITY
REPORT '21

Rostelecom

Content

Chairman's **statement**

**Dear Shareholders,
In 2021, Rostelecom consolidated its leadership in key markets by maintaining momentum in its critical business segments, modernising infrastructure, launching new products and services, and successfully engaging with major government and corporate partners.**

Despite external headwinds affecting the Company's performance in 2021, the Rostelecom team's well-coordinated and effective efforts helped achieve the targets set by the Company's Board of Directors and shareholders.

One of the year's key highlights was the approval of the Company's updated 2025 development strategy by Rostelecom's Board of Directors in April 2021. This strategy focuses on strengthening the Company's leadership across its traditional markets as well as in innovative sectors. Rostelecom aims to become the country's largest telecom operator in the retail market by subscriber base and revenue, while remaining a recognised national champion driving the development of the Russian telecom market and maintaining strong partnerships with business and the state.

In November 2021, the Company presented its strategic vision for the Data Centre and Cloud Services and Information Security clusters as part of its new strategy. Already in 2021, the efforts to deliver the strategy's ambitious vision resulted in the improved performance of these business segments: Rostelecom has significantly boosted its position in the cloud services and data centre market, as well as in cybersecurity, by bringing its proprietary innovations to the market.

Rostelecom's clear competitive advantage is its network infrastructure, which covers all Russian regions, allowing us to provide various digital services, including internet access, even in the remotest communities. For many years, Rostelecom has been a key partner for the government in the rollout of modern digital

Over many years, Rostelecom has been successfully adopting sustainable business development practices and using advanced technologies to train employees and educate customers, as well as protect the environment and improve the well-being of society.

GRI 2-22

infrastructure within the Digital Economy programme. In 2021, we implemented a number of projects critical for various sectors of the economy and public administration, which contributed to the improvement of the existing telecom architecture, boosting information security, bridging the digital divide, and bringing communications services and internet access to public authorities, local governments, healthcare facilities, and other social infrastructure facilities.

Over many years, Rostelecom has been successfully adopting sustainable business development practices and using advanced technologies to train employees and educate customers, as well as protect the environment and improve the well-being of society. Rostelecom strictly complies with all applicable laws, is guided by the principles of transparency and accountability, and is committed to ethical stakeholder engagement. Our efforts are aligned, as far as possible, with the United Nations Sustainable Development Goals (UN SDGs) in areas of security, education and environmental protection.

In the reporting year, Rostelecom presented its first strategic ESG[1] goals to 2025, highlighting the significance of these initiatives for the sustainable development of the Company, society and the telecom industry.

As one of Russia's largest employers, Rostelecom is committed to providing comfortable working conditions for its people and creates opportunities for development and self-fulfilment. In 2021, Rostelecom's salary expenses totalled close to RUB 100 billion. The Company has invested about RUB 0.5 billion in employee training while health and safety expenses came in at RUB 1.6 billion.

Rostelecom is committed to reduce its environmental footprint and foster an environmental culture in society. In 2021, we sent over 33 tonnes of miscellaneous waste for recycling, up 4.6% year-on-year. During the year, the Company invested a total of RUB 164 million in environmental projects and activities.

For the third year running, Rostelecom has been included in the Bloomberg Gender-Equality Index, which is not accidental as about half of our workforce are women, and they play a major role at all levels including the Company's governance structure.

The consistency and quality of Rostelecom's sustainability efforts are also reflected in the Company's high ESG rankings.

In the reporting year, the Company topped the ESG ranking by the National Rating Agency across all ESG metrics in the non-financial sector.[2] Rostelecom also ranked among the top companies for sustainable development on the 2021 ESG indices compiled by the Russian Union of Industrialists and Entrepreneurs (RSPP); namely, the RSPP Sustainable Development Vector Index (Group A) and the RSPP Responsibility and Transparency Index (Group A).

Investing in human capital development is one of our priorities. Rostelecom has in place several programmes for employee motivation and development as well as for onboarding young professionals. The Company provides its employees with a wide range of training programmes and drives productivity by improving working conditions and implementing social support and process digitisation programmes.

Our initiatives to improve corporate governance performance have also received well-deserved praise from experts. In 2021, Rostelecom ranked among the leaders of the National Corporate Governance Index[3] for completeness and quality of disclosures. The Russian Institute of Directors assigned Rostelecom a rating of 7++, reflecting our strong corporate governance practices.[4]

On behalf of the Board, I would like to thank my colleagues and all of Rostelecom's employees for their valuable contribution to corporate performance. Unfortunately, the severe deterioration of the geopolitical situation already in early 2022, as well as the unprecedented sanctions pressure faced by Russia and the country's individual industries and companies, force us to be more cautious in our forecasts for the future. Nevertheless, I am convinced that the direction that we set — to grow Rostelecom into a leading integrated provider of digital services and products and an attractive and reliable partner for all customers — will remain unchanged despite the current environment.

Sergey Ivanov
Chairman of the Board of Directors
PJSC Rostelecom

1   ESG stands for Environmental, Social, Governance.
2   https://www.ra-national.ru/sites/default/files/analitic_article/%D0%A0%D1%8D%D0%BD%D0%BA%D0%B8%D0%BD%D0%B3_ESG_%D0%9F%D0%9D%D0%9A_1.pdf#page=5.
3   http://cgindex.ru/wp-content/uploads/2021/12/National-CG-Index-2021.pdf.
4   http://rid.ru/nacionalnyj-rejting/rezultaty-nrku.

Letter from
the President

Dear Shareholders, Partners and Colleagues,

Over the past years, we have faced a number of challenges that have impacted many areas of our activities. The year 2022 will be even more challenging, with geopolitical tensions and considerable uncertainty on financial and commodity markets likely to affect some of the Company's strategic initiatives and the development of certain business segments.

Nevertheless, we are optimistic about the future. The achievements of the Rostelecom team and the performance we delivered in 2021 set the Company up for a continued steady growth in the future.

Rostelecom's revenue increased by 6%, OIBDA 13%, free cash flow 43%, and net profit 26%. The Company's solid financial results and steady improvements in business performance were enabled, among other things, by our highly effective cost control. In 2021, Rostelecom consistently improved operational efficiency, including by transforming its management model and driving cost reduction in internal processes. Due to its stronger operating cash flow, the Company implemented some investment projects ahead of schedule and kept its CAPEX/revenue ratio at moderate levels while also reducing its relative debt burden.

Strong financial and operational performance for the year was largely driven by changes enabled through Rostelecom's 2025 updated strategy, adopted in 2021. The Company is dynamically evolving as Russia's largest integrated provider of digital services and solutions and a reliable partner for society, business and the state.

During the year, we continued to implement major strategic projects, including those within the Digital Economy national programme. Each of these initiatives makes a difference for millions of people and is a milestone in building a common digital space in Russia.

As part of the project to bridge the digital divide, Rostelecom has installed internet access points in almost 14,000 localities. In addition, mobile services have been brought to hundreds of sparsely populated municipalities, and we plan to further expand mobile coverage to maximise the accessibility of modern communications services for residents of these areas.

Also in 2021, Rostelecom completed an ambitious project to bring internet connectivity to social infrastructure facilities, which connected more than 30,000 organisations all across Russia. These customers included primary care centres and rural health posts, educational organisations, state and local government authorities, polling places, fire stations, and other social infrastructure facilities. Importantly, the implementation of the project generated demand for Russian-produced fibre optic cables and telecommunications equipment.

As part of efforts to enhance our E-Government service, an updated multipurpose portal with an improved interface and performance was launched in 2021, driving its popularity and boosting user activity. The portal's services are already available to 95 million people across the country. During the year, the number of visitors to the portal increased by more than 50%, with the average monthly service requests doubling. Through the portal, Rostelecom made it easier for citizens to receive payments for school-age children and enabled the issuance of vaccination certificates, remote e-voting, online university enrolment and many other important public services.

In 2021, Rostelecom also set up a digital infrastructure for the 2021 All-Russian Population Census. The Company has supplied regional authorities with tablets for census takers that run on the only domestic mobile operating system, Aurora, which Rostelecom is rolling out.

During the year, Rostelecom successfully grew and improved its product range, increasing the share of innovative digital services, expanding its business, and strengthening its market position in key segments.

The mobile, fixed access and Pay TV segments have traditionally performed well. Even more impressive growth has been achieved in cloud services, information security, data centres and smart digital services for households, business and government customers.

We continued upgrading our access networks to provide customers with high-quality digital services driven by modern communications technologies, with the capacity of Rostelecom's backbone network increased by almost a quarter. Almost 40 million households were passed by modern high-speed fibre.

Rostelecom's mobile business continues to go from strength to strength. In mobile, the Company remains the only player with double-digit growth rates in an already mature market, driven by its clear edge of industry-leading NPS.[1] In 2021, we focused on the quality of connections and the retention of key customers, who are the most active data users and the company's biggest profit generator. As a result, we expanded our customer base to 47.5 million subscribers on the back of a significant increase in the number of active mobile data users, improved churn rates and double-digit ARPU growth rates.[2]

In 2021, the number of fibre-to-the-home customers grew three times faster than the market. Fibre broadband revenue growth was also outpacing the market.

The Pay TV subscriber base grew close to 11 million customers, largely driven by a migration to the Wink platform: the user base for this service increased by tens of percent during 2021.

As part of its efforts to deliver strategic priorities in 2021, Rostelecom consolidated its dominant position in the data centre market, both in terms of active rack count and revenue growth, and in innovative cloud technology, primarily through explosive growth in IaaS revenue.[3]

The Information Security cluster's revenue grew by almost 50% over the year, with a marked increase in recurring service revenue from proprietary cybersecurity solutions.

Rostelecom makes a significant contribution to the sustainable development of society and the telecom industry. We create long-term economic, environmental and social value for both current and future generations.

Investing in human capital development is one of our top priorities. Rostelecom has in place a range of programmes for employee motivation and development as well as for onboarding young professionals. The Company provides its employees with a wide range of training courses and drives productivity by improving working conditions and implementing social support and process digitisation programmes.

Rostelecom made it to the top of the 2021 Corporate Philanthropy Leaders ranking in a competition held by the Donors Forum with the support of Russia's Federation Council, Ministry of Science and Higher Education, Ministry of Culture, and Ministry of Economic Development among other partners. The Company was named the best in Group A — Best Practice.[4]

On behalf of the entire Rostelecom management team, I would like to express my deep gratitude to all employees for their boldness, ambition, agility in responding to changes, and selfless dedication, sometimes stretching themselves to their limits. Thanks to each and every one of you, we have not only maintained but also enhanced our position in the market.

We have even more ambitious tasks ahead of us, and we can only achieve them together.

Mikhail Oseevsky
President of PJSC Rostelecom

1 Net Promoter Score — an index that measures consumer loyalty to a product or company (willingness to recommend) and is used to gauge repurchase intent.
2 Average Revenue per User.
3 Infrastructure as a Service.
4 https://www.donorsforum.ru/reports/obyavleny-lidery-korporativnoj-blagotvoritelnosti-2021-goda/.

ROSTELECOM — ABOUT US

Rostelecom conducts its business responsibly, as telecom services have a wide-ranging impact on many aspects of public life. Our progress on key sustainability performance metrics is detailed below. For additional metrics and comments on progress, see respective sections of this Report. Key operational metrics can be found in our Annual Report.

Key sustainability performance metrics

Employees

–7.2%

year-on-year

Average headcount, thousand people
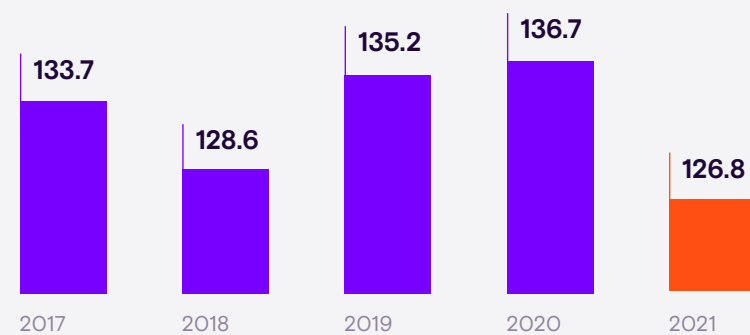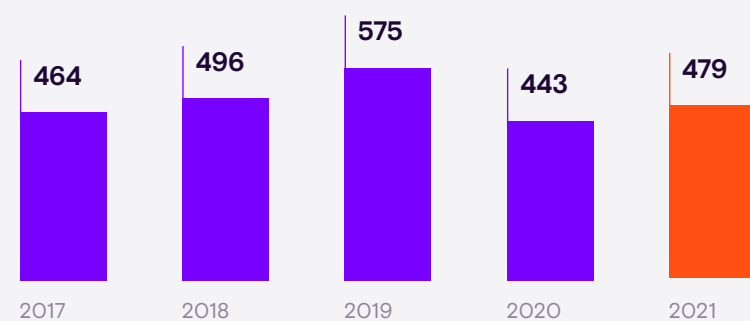
	2017	2018	2019	2020	2021
	133.7	128.6	135.2	136.7	126.8

+8.1%

year-on-year

Employee training costs, RUB m

	2017	2018	2019	2020	2021
	464	496	575	443	479

–13.2%

year-on-year

Rate of work-related injuries per 1,000 employees

	2017	2018	2019	2020	2021
	0.82	0.51	0.44	0.38	0.33
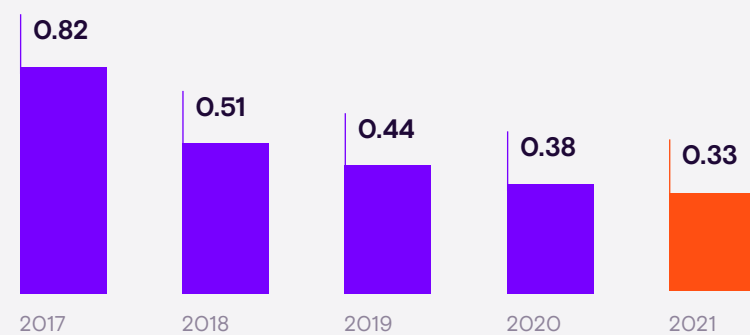
Society

–16.1%

year-on-year

Charity expenses, RUB m

	2017	2018	2019	2020	2021
	170	192	201	211	177
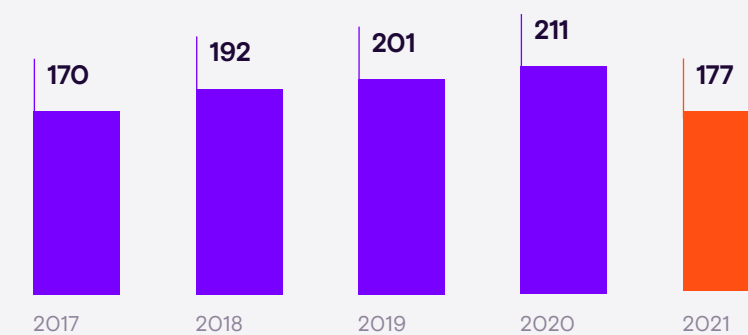
Planet

–4.3%

year-on-year

Direct (Scope 1) GHG emissions, tonnes of CO_2 equivalent

	2017	2018	2019	2020	2021
	187,173	181,429	184,436	180,943	173,249
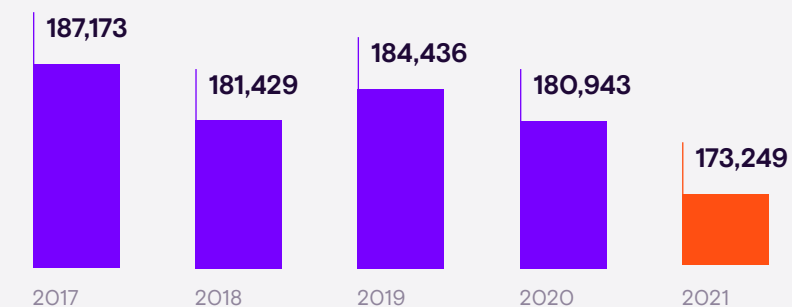
+14.5%

year-on-year

Energy consumption, GWh

	2017	2018	2019	2020	2021
	1,398	1,344	3,042	2,817	3,225
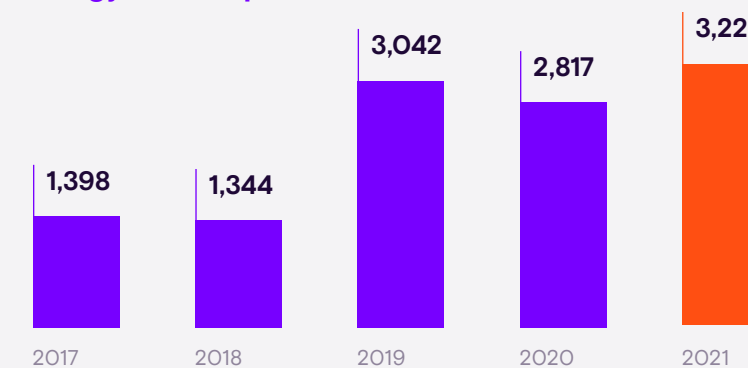
+4.7%

year-on-year

Amount of waste, thousand tonnes

2017	2018	2019	2020	2021
34.6	34.1	34.1	31.8	33.3
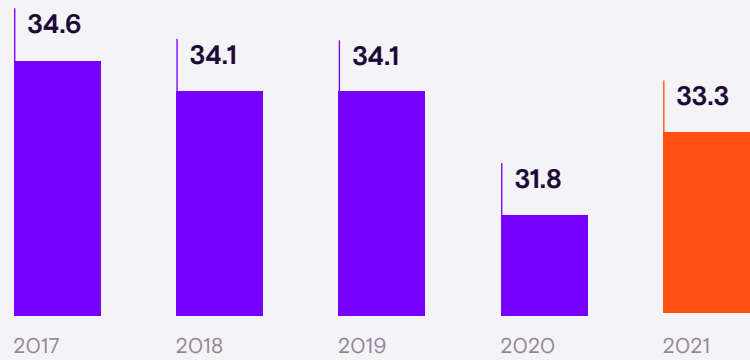
+6.3%

year-on-year

Water withdrawal, thousand cu m
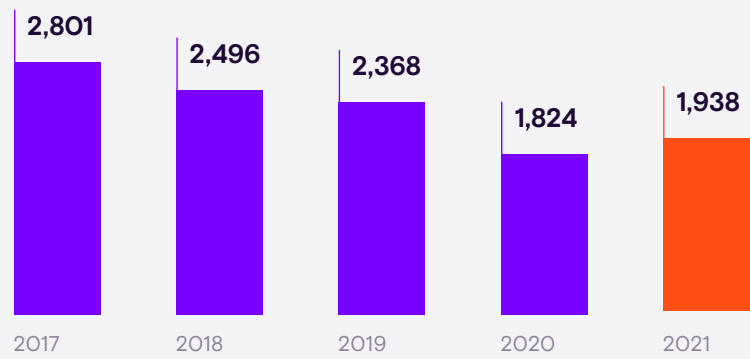
2017	2018	2019	2020	2021
2,801	2,496	2,368	1,824	1,938

1.2 Ratings and awards

FTSE4Good

Rostelecom has been consistently included in the FTSE4Good Index series since 2017

MOEX МОСКОВСКАЯ БИРЖА / РСПП

Rostelecom is also included in the two sustainability indices of the Moscow Exchange and the Russian Union of Industrialists and Entrepreneurs. At the end of 2021, the Company became a leader in the RSPP Sustainable Development Vector Index (Group A) and the RSPP Responsibility and Transparency Index (Group A)

Bloomberg Gender-Equality Index 2022

In early 2021, our gender equality efforts earned global recognition as Rostelecom was included in Bloomberg's 2022 Gender-Equality Index — for the third year in a row

CDP DRIVING SUSTAINABLE ECONOMIES

Rostelecom has been providing annual climate change reports to the international Carbon Disclosure Project (CDP) since 2015.

In 2021, following a review of its report, the CDP affirmed Rostelecom's environmental rating at "C"[1]

S&P Global

In 2021, Rostelecom's Final ESG Score in the S&P Global Ratings ESG Evaluation report was 40[1], up 10 points from the year before, with particularly high scores on human capital development and environmental policy

HPA

In 2021, Rostelecom topped the ESG ranking by the National Rating Agency in the non-financial sector

АК&М РЕЙТИНГОВОЕ АГЕНТСТВО

In 2021, Rostelecom ranked among the top three largest telecommunications companies in Russia in the social performance rating.

The agency included 45 companies with the best ESG disclosure practices in its fourth annual ranking. The agency also upgraded Rostelecom's sustainability reporting rating to Resg1, the highest level of social disclosure in the company's public reports

RAEX PRO

In November 2021, Rostelecom was rated the best Russian company for ESG disclosure among providers of integrated telecommunications services by the independent European rating agency RAEX-Europe. The agency's current ranking includes 155 Russian companies from 24 various industries

Форум Доноров

Rostelecom made it to the top of the 2021 Corporate Philanthropy Leaders ranking in a competition held by the Donors Forum with the support of Russia's Federation Council, Ministry of Science and Higher Education, Ministry of Culture, and Ministry of Economic Development among other partners. The Company was named the best in Group A — Best Practice

Ростелеком Технологии возможностей

Rostelecom published its tenth corporate non-financial/sustainability report for 2020 and a certificate of its public assurance from the Russian Union of Industrialists and Entrepreneurs (RSPP).

Rostelecom won an award of the Leaders of Russian Business: Dynamics and Responsibility 2020 competition in the High Quality of Sustainability Reporting category

1   Based on 2020 data.

1.3

Rostelecom's structure
and geography
of operations

With a unified approach across all regions, we can deliver large-scale and highly efficient projects. We focus our efforts on supporting social projects in all regions and ensuring digital equality and affordable communications not only in cities, but also in the most remote and small communities.

Rostelecom continuously improves its social policy in line with the Company's and the government's strategic goals and the national social and economic development. The Company comprises over 60 regional branches and over 200 subsidiaries and affiliates engaged in providing services across Russia.

Rostelecom continuously expands its footprint, implementing projects and programmes that make a difference across Russia.

What is Rostelecom

Building digital Russia

Our mission is to provide convenient and high-quality digital services for a comfortable life and effective business.

In 2021, Rostelecom presented its updated strategy announcing new development areas combined with leadership in all traditional businesses.

GRI 2-6

Rostelecom is the undisputable leader in the Russian digital services market. The Company targets different customer segments: households, private businesses, government authorities, and municipalities and is focused on developing innovative digital technologies within a segment- and cluster-based model.

The Company is actively expanding its footprint in the markets with high growth potential, takes advantage of fixed-mobile convergence and has the necessary infrastructure to implement and roll out technologies of the future.

The Company invariably emphasises that social responsibility is crucial to long-term success. As part of its updated development strategy, Rostelecom presented the Company's ESG lomg-term goals for the first time.

In this Sustainability Report, we would like to highlight our achievements and present an updated vision for the Company as well as talk about new digital products and the resilience of traditional businesses. Rostelecom is committed to providing comprehensive disclosure and enhancing the Company's investment case.

1.4 Strategic vision and priorities

Rostelecom's ambition is to maintain its leadership in all traditional communications segments while successfully developing digital business, including through new strategic partnerships.

To deliver its strategic priorities, the Company transitions to a customer-centric segment- and cluster-based development model with a focus on cost efficiency leadership. Traditional customer segments will be supplemented with dedicated fast-growing clusters such as Data Centres and Cloud Services, Information Security, Digital Health, Digital Regions, Public Sector Digital Services and Products.

Strategy 2021–2025 results

By 2025

1 Rostelecom becomes the largest integrated telecommunications and ICT player and undisputable leader across all key customer market segments by 2025

2 Company value to grow at least 1.5x, supported by significant improvements in profitability and stable dividend growth

3 Firm foundation for future growth, underpinned by a solid customer base and 25% growth in revenues from new services

4 Rostelecom is a key partner in digitalising public service

Rostelecom 2025 vision

Who?

A digital partner
for society, business and the state

A customer-centric digital group of companies

A powerhouse that shapes the Russian telecommunications market	Leadership in selected new business segments	Customer-centric transformation, cost efficiency leadership	Sustainable financial growth

How?

People

Digital framework

Network infrastructure and distributed data centre network	New solutions: information security and cloud services	Leading role in digitising public services	Own IT cluster

ESG
and sustainable business

Creating a sustainable digital space

As part of its strategy to 2025, Rostelecom stated and presented its ESG long-term goals for the first time.

Rostelecom's responsible approach to business implies openness and honesty with customers, partners, investors and other stakeholders, as well as a strong focus on charitable and volunteering activities and building positive and mutually beneficial relationships between the Company and its employees. Rostelecom sees care for the future of society as its principal social role.

Rostelecom has integrated the United Nations Sustainable Development Goals (UN SDGs) into the management of the Company's operations and considers them when preparing annual reports and designing sustainability projects.

ESG initiatives

As part of its updated strategy, Rostelecom continues to consistently pursue its stated ESG goals until 2025, highlighting the importance of the Company's sustainability initiatives.
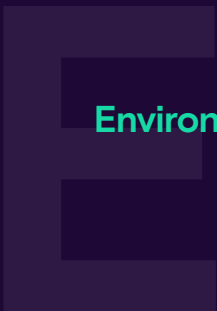
Environmental

- Reduce energy consumption (excluding the Data Centres and Cloud Services cluster) by 15% by end-2025
- Increase the use of renewable energy
- Implement programmes to collect and recycle used cables, network equipment and devices
- Launch Green Office environmental management systems across all offices by 2025

Social

- Gender equality: achieve female representation both in management and across the Company at 40% by 2025
- Regional equality: functional decentralisation through Company-wide competence centres in the regions and creation of equal opportunities for career migration

Corporate governance

- Integrate ESG in procurement management by 2025
- Promote ESG principles among customers by offering products and solutions that drive responsibility

Business model

Resources

Finance

580.1 bn RUB
Revenue

118.7¹ bn RUB
CAPEX

32.5 bn RUB
FCF

218.8 bn RUB
OIBDA

Intellectual property

11.5 bn RUB
Innovative R&D investment

Employees

126.8 thousand
Total headcount

82 %
employees trained

Brand and reputation

11.5 p.p.
ahead of the nearest
competitor by NPS
in the mobile business

No. 1
by awareness
in the broadband and Pay
TV segments

Environment

164 m RUB
Environmental expenditure

Leadership in key markets

SEGMENTS

B2C

9.8 million
fibre broadband customers²

>3 million
Wink customers

49 %
Share of digital products
in the segment revenue

B2B

1.2 million
broadband + VPN subscribers

+37 %
virtual PBX customer base growth

+39 %
Wi-Fi revenue growth

B2O

Connectivity with more than
230 telecom networks
in **70 countries**

Servicing infrastructure of other operators
under the O2O project³:
>190 thousand km of fibre;
>100 thousand base stations.

Technology platform upgrade ▶ **40.1 Tbps** backbone network capacity

Improvement of operational efficiency ▶ Total real estate space reduced by **5%**

Risk management

ESG initiatives and sustainable
business development

DIGITAL CLUSTERS

Data centres and cloud clusters

13.7 thousand
racks in 2021

>1,100
customers

No. 1
in the data centre
(28%) and IaaS (19%)
markets⁴

2.2x
growth in private cloud
revenue

Information security

We protect **over 70**
of Russia's top 100
businesses

+12 %
growth in recurring
revenue from proprietary
products

Digital regions

4.4 thousand
traffic enforcement
cameras

~150
weigh stations

~0.5 million
electricity meters

370 thousand
smart surveillance
cameras for entrance
halls

Public sector digital services and products

Public Services Portal

Video surveillance and online broadcasting
for the Unified State Examination

Unified Biometric System

Digital infrastructure for the All-Russian Population
Census

Digital health

49
regions using digital healthcare services

Value creation for stakeholders

Shareholders

17.4 bn RUB
Total dividend for 2020
RUB 5 per ordinary share

86.6 RUB
Ordinary share price as
at 31 December 2021

Employees

99.5 bn RUB
Salary expenses

479 m RUB
Investment in training

Government

9.0 bn RUB
Income tax

13.9 RUB bn
Other taxes

**Customers: individuals,
households, business and
government customers,
other operators**

Advanced, high-
performance digital
ecosystems covering
a wide range of tasks
for retail, business and
government customers

Society

992 m RUB
Member fees, charitable
giving, payments
to trade unions

1.5 %
Reduction in emissions
of air pollutants¹

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1 Excluding government programmes.
2 Number of internet users connected
   via fibre access networks.
3 Operator to Operator project.
4 Source: iKS-Consulting.

1.5 Corporate governance system

Good corporate governance is an essential tool for defining the Company's goals and the means to achieve them, as well as ensuring that shareholders have effective control over the Company's activities. Rostelecom's structured corporate governance framework meets international and Russian best practice standards — the three-tier corporate governance model demonstrates its effectiveness, defines the three lines of defence to ensure the safety and efficient use of funds provided by shareholders — and is aimed at reducing risks that cannot be assessed by investors.

GRI 2-13

Principles

- Balance between the interests of shareholders, management, and stakeholders
- Equal treatment of all shareholders and protection of their rights
- Accountability of the Board of Directors, the President and the Management Board to shareholders
- Informational and financial transparency

Priority

- Focus on stakeholder interests and relations
- Compliance with business conduct and ethics
- Timely and accurate information disclosure
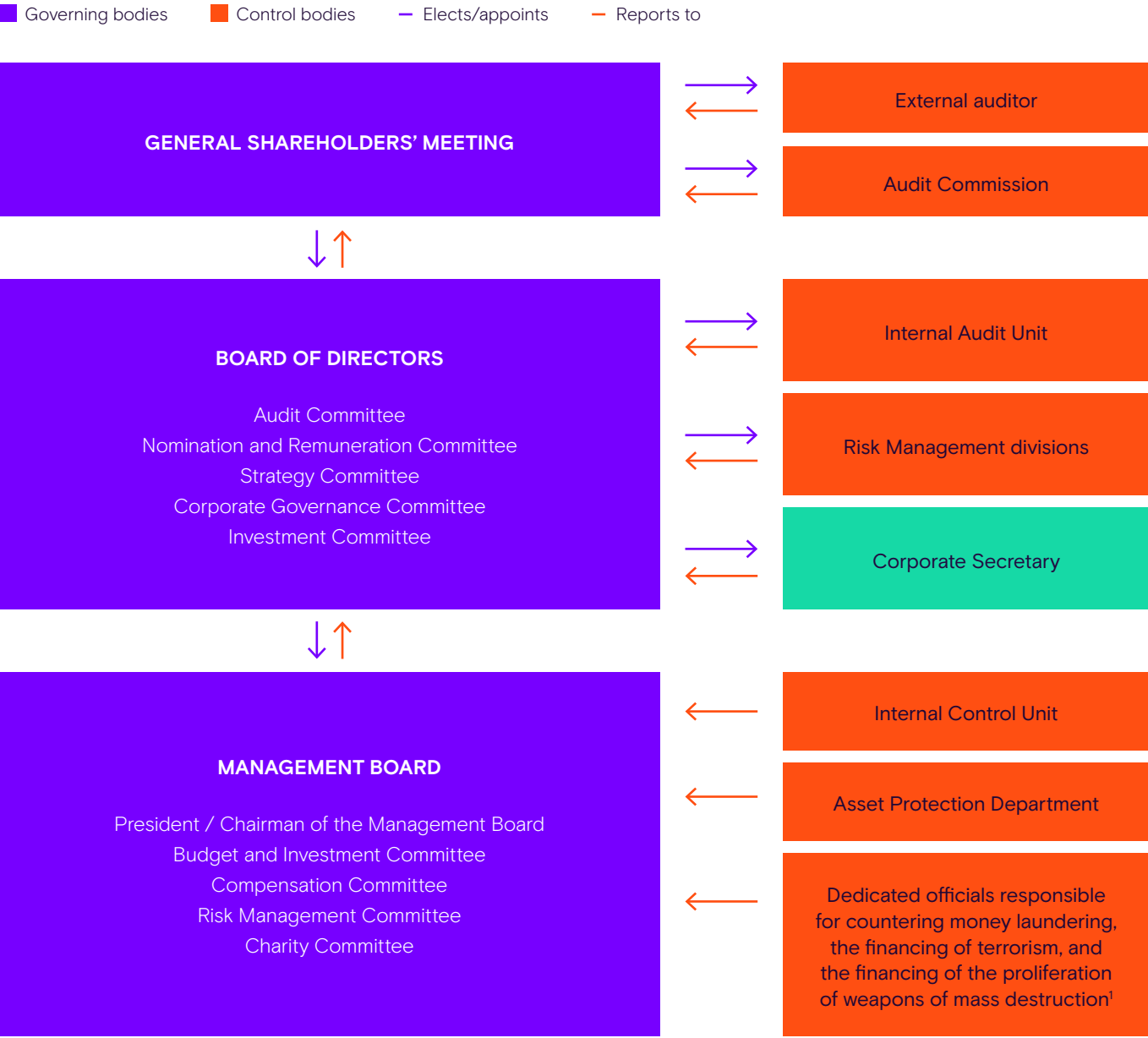- Corporate social responsibility

Enhancement focus

- Continuous improvement of internal controls and audit
- Continuous improvement of corporate governance practices
- Development of electronic services that enable shareholders to exercise their rights effectively
- Improvement of the IT system that automates the Management Board and committees' processes

PJSC Rostelecom's corporate governance structure

GRI 2-9

In accordance with its Charter, Rostelecom is governed by:

- the General Shareholders' Meeting (GSM);
- 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).

■ Governing bodies   ■ Control bodies   — Elects/appoints   — Reports to

GENERAL SHAREHOLDERS' MEETING
- External auditor
- Audit Commission

BOARD OF DIRECTORS
Audit Committee
Nomination and Remuneration Committee
Strategy Committee
Corporate Governance Committee
Investment Committee
- Internal Audit Unit
- Risk Management divisions
- Corporate Secretary

MANAGEMENT BOARD
President / Chairman of the Management Board
Budget and Investment Committee
Compensation Committee
Risk Management Committee
Charity Committee
- Internal Control Unit
- Asset Protection Department [2]
- Dedicated officials responsible for countering money laundering, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction[1] [2]

1   Dedicated officials responsible for the implementation of internal controls to counter the legalisation (laundering) of proceeds of crime, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction.
2   For more details, see the Corporate Governance: Anti-corruption and Procurement section, page 220.

Key policies

PJSC Rostelecom has in place 22 policies and internal regulations governing its corporate governance framework. Six of them were revised in 2021.

Key corporate governance policies of PJSC Rostelecom[1]

Document name	Last effective date
Charter	28 June 2021
Regulations on the General Shareholders' Meeting	14 June 2019
Regulations on the Audit Commission	18 June 2018
Regulations on the Board of Directors	18 June 2018
Regulations on the President	18 June 2018
Regulations on the Management Board	18 June 2018
Corporate Governance Code	27 December 2007
Code of Ethics	15 October 2019
Anti-corruption Policy	6 December 2019
Internal Audit Policy	26 April 2019
Regulations on Internal Audit	25 June 2021
Regulations on Addressing Reports Submitted via the Ethics Hotline	29 June 2020
Risk Management Policy	25 June 2021
Regulations on the Integrated Risk Management System	18 June 2021
Internal Control Management Policy	23 August 2019
Procedure for Implementing, Maintaining and Developing the Internal Control System	4 March 2021
Environmental Policy	2 April 2019
Information Disclosure Policy	30 September 2015
Dividend Policy	19 April 2021
Policy of Access to Insider Information	19 June 2020
Regulations on Receiving, Reviewing, and Retaining Complaints and Claims Related to Accounting, Accounting Internal Control Procedures, Fraud, Audit Examinations and the Code of Ethics Compliance	2 October 2008
Regulations on the Corporate Secretary and the Corporate Secretary's Office	13 September 2019

Management of subsidiaries and affiliates

Rostelecom Group comprises PJSC Rostelecom, its subsidiaries and affiliates. As at 31 December 2021, the Group included 217 subsidiaries and affiliates (see the full list in Appendix 5 to this Annual Report)[1].

The Company views its subsidiaries and affiliates as a major growth point for its business, dedicating digital clusters for new strategic initiatives, which comprise several subsidiaries or affiliates operating in interrelated areas. The creation of key digital clusters continued in 2021: Data Centres and Cloud, Information Security, Digital Regions, Public Sector Digital Services and Products, and Digital Health. A cluster management methodology was developed and approved, and the ownership structure of subsidiaries and affiliates assigned to the clusters was optimised. Rostelecom interacts with the parent company of each cluster, which is responsible for engaging with, and managing, other companies within the business segment. Rostelecom meanwhile continues to oversee and monitor these companies.

Approaches to corporate governance based on interest in subsidiaries and affiliates

Minority interest	Interest <50%	Interest >50%
Participation in general shareholders' meetings, protection of Rostelecom rights as a shareholder	Governance aligned with the shareholders' agreement in place to ensure: • nominations by Rostelecom for top management positions; • participation in the activities of the Board of Directors and control bodies; • outsourcing of support functions (as agreed with the partner).	Integration into Rostelecom's corporate governance framework and culture, including: • building a unified corporate governance model for subsidiaries and affiliates; • appointing sole executive bodies and most representatives in the collective governing and control bodies at subsidiaries and affiliates; • a unified financial planning and treasury system; • outsourcing support functions; • centralising the internal control and audit functions; • developing unified approaches and documents.

Governance principles at subsidiaries and affiliates

Proportionality and transparency	Governance tools should be appropriate to the scale and objectives of subsidiaries and affiliates and be unambiguous and understandable to employees.
Consistency and holistic approach	The governance tools at subsidiaries and affiliates should allow the use of systems analysis and synthesis in every decision made by the leadership and cover all aspects of the subsidiary's or affiliate's activities. Relations between Group companies should be those of a mutually beneficial partnership.
Efficiency and effectiveness	Unprofitable subsidiaries and affiliates are liquidated or measures are taken to improve their performance. Governance tools should be easy to integrate into existing information systems. Information flows should meet the principle of minimal sufficiency.
Compliance	Governance tools and decisions should comply with the laws of Russia and other countries in which the subsidiary or affiliate operates. Particular attention should be paid to compliance with anti-corruption laws.
Collective decision-making and sole responsibility of the leadership	Rostelecom participates in the appointment of CEOs and board members at subsidiaries and affiliates. Company divisions provide analytical support to elected members of the boards of directors of subsidiaries and affiliates nominated by Rostelecom.
Delegation of powers, centralisation and decentralisation of leadership functions, limitation of authority and accountability for results for heads of subsidiaries and affiliates	Heads of subsidiaries and affiliates are responsible and accountable for the activities of their respective subsidiary or affiliate. The constituent documents of the subsidiaries and affiliates should determine transaction limits beyond which heads of subsidiaries and affiliates may not enter into transactions independently or dispose of, or encumber, property of their respective subsidiaries and affiliates.
Priority of governance functions over the structure when establishing a subsidiary or affiliate and priority of structure over governance functions in existing subsidiaries and affiliates	When establishing or acquiring companies, Rostelecom implements governance and control systems across its subsidiaries and affiliates as quickly as possible. As these institutions are formed, the entire governance framework and structure of subsidiaries and affiliates are optimised.
Feedback	We leverage feedback from our subsidiaries and affiliates to improve related governance and control tools.
Motivation to achieve goals and objectives	Managers and employees across subsidiaries and affiliates should be motivated by incentives for achieving targets set for their respective subsidiaries and affiliates. Incentives for Rostelecom employees responsible for subsidiaries and affiliates should factor in achievement of strategic goals set for the respective subsidiaries and affiliates.
Creating a corporate collaboration environment	Development and implementation of methodologies and procedures governing the coordination of information and material flows in relations with subsidiaries and affiliates.

Involvement of the Board of Directors in governing subsidiaries and affiliates

Rostelecom's Board of Directors determines the Company's position on:

- general shareholders' meetings of subsidiaries and affiliates in which Rostelecom is the sole shareholder;
- matters reviewed by subsidiaries' and affiliates' governing bodies with regard to acquiring shares of other business entities, including at the time of their establishment, if the value of the transaction exceeds 15% of the book value of total assets owned by such subsidiary or affiliate as at the last reporting date;
- matters reviewed by subsidiaries' and affiliates' governing bodies with regard to the acquisition and disposal of Rostelecom's shares by them.

Forming boards of directors at subsidiaries and affiliates

Candidates to boards of directors of subsidiaries and affiliates are selected based on the principles of overall competence, balance of qualifications and experience, succession planning, and compliance with legal requirements. Each board of directors is chaired by a Rostelecom top manager in charge of a Rostelecom business segment in which the relevant subsidiary or affiliate is operating.

Key improvements in 2021

In 2021, Rostelecom became the first partner of JSC VTB Registrar to join its unique proprietary initiative, MarketDesk. The MarketDesk platform is designed for remote sale of small blocks of shares by individuals whose securities are accounted for in Rostelecom's share register. In 2021, services offered by the platform were provided to shareholders free of charge.

Corporate governance level

Corporate governance rating assigned by the Russian Institute of Directors: 7++ — advanced corporate governance practice.

In 2021, Rostelecom ranked among the top companies for complete and high-quality disclosure of compliance with corporate governance principles, according to the National Corporate Governance Index.

1　Affirmed in January 2021.
2　Please, see: http://cgindex.ru/wp-content/uploads/2021/12/National-CG-Index-2021.pdf.

Compliance with the Corporate Governance Code[1]

Code section	Full compliance					Partial compliance					No compliance					Total number of principles under each section of the Code
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021	
Rights and equal opportunities for shareholders in exercising their rights	11	12	12	13	13	2	1	1	–	–	–	–	–	–	–	13
Board of Directors	30	32	32	32	32	5	4	4	4	4	1	–	–	–	–	36
Corporate Secretary	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–	2
Remuneration system for Board members, executive bodies, and other key executives	8	8	8	8	9	2	2	2	2	1	–	–	–	–	–	10
Risk management and internal control system	6	6	6	6	6	–	–	–	–	–	–	–	–	–	–	6
Company disclosures and information policy	6	6	6	7	6	1	1	1	–	1	–	–	–	–	–	7
Material corporate actions	3	3	3	4	4	2	2	2	1	1	–	–	–	–	–	5
Total	**66**	**69**	**69**	**72**	**72**	**12**	**10**	**10**	**7**	**7**	**1**	**–**	**–**	**–**	**–**	**79**

1 For 2017–2020 — based on the methodology recommended by the Bank of Russia's Letter No. IN 06-52/8 dated 17 February 2016, and for 2021 — by Letter No. IN-06-28/102 dated 27 December 2016. For more details, see Appendix 1, Report on Compliance with the Corporate Governance Code Recommended by the Bank of Russia, to this Annual Report: https://www.company.rt.ru/ir/agm/files/2021/Appendix_1_to_annual_report_2021_eng.pdf.

Improvement plans

Rostelecom will continue to improve its corporate governance framework. In particular, plans for 2022 include further development and rollout of digital services and remote communication channels for shareholders to facilitate access to rights, subject to all applicable legal requirements.

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[2].

During 2021, Rostelecom's Annual General Shareholders' Meeting[3] was held on 28 June, and no Extraordinary General Shareholders' Meeting were held.

Number of participants in Annual and Extraordinary General Shareholders' Meetings

	AGSM[4] 2019	EGSM[5] 2019	AGSM 2020	EGSM 2021
Paper ballots	1,141	6	9	10
Did not vote (only registered for the meeting)	65	0	0	0
E-proxy voting (ISO — via a depository)	46	92	42	35
E-voting system by JSC VTB Registrar[6]	1,513	1,480	1,848	1,928
E-voting system by NSD[7]	118	167	162	279
Total	**2,883**	**1,745**	**2,061**	**2,252**

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[1].

Evaluation of the Board of Directors' performance[2]

GRI 2-18

In early 2022, an independent consultancy, JSC VTB Registrar, evaluated the overall performance of the Board of Directors as well as the performance of its committees and each Board member, including the Chairman. The weighted average score of the Board of Directors was 5 out of 5. The consultancy noted the balanced composition of the Board and the high performance of the Board and its committees.

Based on the evaluation results, it was recommended the following: to additionally focus on import substitution and cybersecurity issues, as well as the risk management system as a whole.

Induction of Board members

GRI 2-17

An onboarding system and induction programmes are an important part of the Board's effective performance.

The Company has in place the induction procedures for new Board members. They are familiarised 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.

At the first meeting of the Board of Directors, the President briefs the new Board members on Rostelecom's strategy and business, as well as on key projects implemented by the Company or scheduled for the coming corporate year.

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1   New version No. 21 was approved by the Company's Annual GSM on 28 June 2021 (Minutes No. 1 dated 29 June 2021). The full text of the current version is available at https://www.company.rt.ru/en/ir/corporate_governance/docs.
2   New version No. 11 was approved by the Company's Annual GSM on 14 June 2019 (Minutes No. 1 dated 18 June 2019). The full text of the current version is available at https://www.company.rt.ru/en/ir/corporate_governance/docs.
3   Minutes No. 1 dated 29 June 2021: www.company.rt.ru/en/ir/agm/events/gosa/detail/2020/.
4   Annual General Shareholders' Meeting.
5   Extraordinary General Shareholders' Meeting.
6   Please, see: pos.vtbreg.ru.
7   Please, see: www.e-vote.ru.

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1   New version No. 16 was approved by the Company's Annual GSM on 18 June 2018 (Minutes No. 1 dated 20 June 2018). The full text of the current version is available at https://www.company.rt.ru/en/ir/corporate_governance/docs.
2   For more details on the Board of Directors' performance evaluation, see Appendix 2, Governance and Control Bodies, to this Annual Report at https://www.company.rt.ru/ir/agm/files/2021/Appendix_2_to_annual_report_2021_rus.pdf.

Key principles of the Board of Directors

Make 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.

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.

GRI 2-12

Requirements for nominees to the Board of Directors

GRI 2-10

When selecting nominees to the Board of Directors, Rostelecom is guided by Russian and international corporate governance standards. The Company strives to compose the Board of Directors so that it is able to make fair and independent judgements and adopt all appropriate corporate resolutions in a timely and effective manner.

Persons nominated to the Board of Directors must have an impeccable business and personal reputation, as well as the professional qualifications necessary for effective decision-making by the Board, and must not raise any doubt as to whether they will act in the interests of the Company and its shareholders.

A conflict of interest gives a strong reason to doubt that the nominee will stay objective and unbiased, acting in the best interests of the Company, and it is therefore not advisable to nominate to the Board of Directors persons who hold an interest in, sit on executive bodies of, or are employed by Rostelecom's competitors.

Independent directors are enabled to influence decisions made by the Board. The Company aims for at least one third of the Board to be made up of independent directors.

Independent directors make a positive contribution to shaping objective assessments when the Board of Directors makes decisions on all matters within its remit, thus ensuring that the interests of all Rostelecom shareholders are balanced as much as possible.

Director independence

7	3	1

- ■ Non-executive
- ■ Independent
- ■ Executive
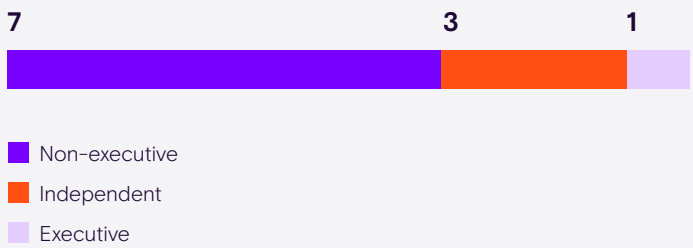
11

directors elected annually

53.7 years old

average age of the Board members[1]

5.1 years

average tenure of the Board members

1   Average age and tenure of Board members as at 31 December 2021.

Composition of the Board of Directors

Competences of the Board of Directors

Qualifications of the Board of Directors' members

The liability of the Company's directors was insured for EUR 25 million, with additional insurance coverage of EUR 920 thousand for each independent director (EUR 4.6 million in total).

No conflicts of interest involving members of the Board of Directors were identified in 2021. Board members quarterly fill in questionnaires listing all potential drivers of a conflict of interest.

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

Board members' attendance at Board and its committees' meetings

Board of Directors' membership before the General Shareholders' Meeting on 28 August 2021

Board of Directors' membership after the General Shareholders' Meeting on 28 June 2021

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1   For more information about the issues considered at the meetings of the Board of Directors and committees of the Board of Directors, see Appendix No. 3 «Information on meetings of the Board of Directors and its committees» to this Annual Report: https://www.company.rt.ru/ir/agm/ files/2021/Appendix_3_to_annual_report_2021_rus.pdf.

Matters discussed by the Board of Directors

Topic	Number of matters discussed
Audit, risk management and internal control	15
Matters of General Shareholders' Meetings	16
Organising the activities of the Board of Directors and its committees	7
Miscellaneous	4
Approval of interested party transactions	13
Approval of transactions regulated by the Charter	28
Strategy and development	22
Management of subsidiaries and affiliates	25
Management of non-core assets	10
HR management	22
Approval of internal documents	7
Issuing of securities	3
Total number of matters discussed	**172**

Key 2021 results

Monitored the implementation of the overall strategy and strategic projects:
- Digital Economy of the Russian Federation national programme;
- 5G network deployment;
- Census on the basis of the Aurora OS Russian mobile platform;
- Construction of a new fibre-optic cable link under the working title of TEA NEXT (Next Generation Transit Europe–Asia), spanning Russia from west to east;
- Cybersecurity provision.

Developed and approved PJSC Rostelecom's updated strategy following the consolidation of the 100% stake in the operator on the basis of which the Group develops its mobile business.

Updated PJSC Rostelecom's Long-Term Development Programme, key performance indicators system and Innovative Development Programme to roll out the Company's new strategy.

Plans for 2022

Monitor the implementation of the approved strategy of Rostelecom Group, adjust the strategy if necessary.

Focus on developing the key strategic business lines — Data Centres and Cloud, Information Security, and Digital Health.

Additionally focus on Rostelecom's further efforts to deploy 5G networks.

15

Board meetings held in 2021

3

Board meetings held in person

12

Board meetings held in absentia

172

matters discussed by the Board

Board committees' performance in 2021

Audit Committee[1]

8 meetings held **in the reporting year,** 2 of them in person

27 matters discussed

The Audit Committee responsible for discussing matters of:

- accounting statements;
- internal and external audit;
- countering employee and third-party misconduct;
- compliance with the Code of Ethics;
- risk management.

Strategy Committee[1]

4 meetings held **in the reporting year,** 2 of them in person

9 matters discussed

The Strategy Committee responsible for discussing matters of:

- strategic goals and strategy implementation;
- priority areas and progress on strategic plans;
- distribution of profits, including dividends;
- the Company's performance and growth prospects over the longer term;
- relations with the organisations in which the Company has interest, including disposal of interest in other entities;
- trading Company securities;
- financial and business evaluation models;
- reorganisation and liquidation of the Company and its controlled entities;
- using reserve and other funds;
- major and interested party transactions.

Nomination and Remuneration Committee[2]

1 meeting was held **in the reporting year in absentia**

6 matters discussed

The Nomination and Remuneration Committee responsible for discussing matters of:

- development, review and implementation of the Remuneration Policy;
- performance evaluation of the Company's executive bodies and key executives;
- early termination of employment contracts with members of the Company's executive bodies and other key executives;
- recommendations to the Board of Directors on the Corporate Secretary;
- disclosure of information on remuneration policy and practice and on the management's shareholding in the Annual Report;
- qualifications and responsibilities of Board members, membership enhancement priorities and selection of new candidates;
- appointment of members of the Management Board, including the Chairman, and determining the terms of their employment contracts.

Corporate Governance Committee[2]

1 meeting was held **in the reporting year in absentia**

2 matters discussed

The Corporate Governance Committee responsible for discussing matters of:

- preparing for, and holding, the Annual and Extraordinary General Shareholders' Meetings;
- approaches to information disclosure and rules for handling information that is not publicly available;
- preparing amendments to, and approving new versions of, regulations on the Company's governing bodies;
- corporate conflict settlement;
- compliance with international standards and requirements of stock exchanges;
- approval of the Company's registrar and terms of the agreement with the registrar.

1   New version No. 4 of the Regulations on the Audit Committee of PJSC Rostelecom's Board of Directors was approved by the Board of Directors on 6 August 2020 (Minutes No. 24 dated 6 August 2020). The full text of the document is available at https://www.company.rt.ru/en/ir/corporate_governance/board/.

2   New version No. 4 of the Regulations on the Nomination and Remuneration Committee of PJSC Rostelecom's Board of Directors was approved by the Board of Directors on 6 August 2020 (Minutes No. 24 dated 6 August 2020). The full text of the document is available at https://www.company.rt.ru/en/ir/corporate_governance/board/.

1   New version No. 4 of the Regulations on the Strategy Committee of PJSC Rostelecom's Board of Directors was approved by the Board of Directors on 6 August 2020 (Minutes No. 24 dated 6 August 2020). The full text of the document is available at https://www.company.rt.ru/en/ir/corporate_governance/board/.

2   New version No. 5 of the Regulations on the Corporate Governance Committee of PJSC Rostelecom's Board of Directors was approved by the Board of Directors on 6 August 2020 (Minutes No. 24 dated 6 August 2020). The full text of the document is available at https://www.company.rt.ru/en/ir/corporate_governance/board/.

Key matters discussed by committees in 2021

Audit Committee

- Recommendations to the Board of Directors on the Company's auditor;
- RAS and IFRS reports;
- Bonus payments to the Senior Auditor and Senior Risk Manager;
- Internal Audit Unit performance reports and activity plans, including the recognition of the risk management and internal control system as generally effective, except for areas where certain observations or deficiencies were noted that require specific corrective action;
- Regulations on the Internal Audit;
- Risk management programme for 2021;
- Risk management results;
- Recommendations on the appointment of the Company's Senior Risk Manager.

Nomination and Remuneration Committee

- Report on achieving key performance indicators for 2020;
- Report on the key results of the Board of Directors' performance evaluation;
- Bonus payments to the President and Corporate Secretary.

Strategy Committee

- Strategy for 2021–2025;
- Long-Term Development Programme and Innovative Development Programme for 2021–2025;
- Dividend Policy for 2022–2024;
- Adjustment of the business plan for 2021;
- Business plan for 2022.

Corporate Governance Committee

- Report on compliance with the information policy;
- Inclusion of the matter on approval of PJSC Rostelecom's Charter (version No. 21) in the agenda of the 2020 Annual General Shareholders' Meeting.

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 is elected by the Board of Directors. The Corporate Secretary reports to the Board of Directors.

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

1   For more details on the Corporate Secretary, see Appendix 2, Governing and Control Bodies, to this Annual Report at https://www.company.rt.ru/ir/agm/files/2021/Appendix_1_to_annual_report_2021_rus.pdf.

President and Management Board

8

Members of the Management Board

47.5 years old

Average age of the Management Board members

7 years

Average tenure of the Management Board members

22

Management Board meetings held in person in 2021

Composition of the Management Board

Management Board's performance report

Management Board members' attendance at meetings

Meetings in person / in absentia   **22**

Key matters discussed by the Management Board

Operations and operational excellence

- Performance reports on the business plan and drafting the business plan for 2021.
- Enhancement of corporate project management.
- Implementation status and key priorities of Rostelecom's production system.
- Procurement optimisation.
- Monitoring the progress of key strategic projects:
  - Bridging the Digital Divide;
  - Providing Internet Access for Hospitals and Out-Patient Clinics;
  - Arranging for Video Surveillance and Ensuring the Operation of the Broadcasting Portal During the Elections in Russia.
- Changes in the organisation of the Company's branches and optimisation of employees' performance when working remotely.

The Company's growth

- Drafting the Company's strategy to 2025.
- Strategies of the business segments and key subsidiaries.
- Target IT architecture development and transformational solutions for telecom networks.
- Developing digital services in healthcare.

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

- Preliminary review of interested party transactions.

Social responsibility

- Charity and sponsorship initiatives.

Management Board committees' performance report

To improve the performance of the Management Board, the Company has in place four committees.

43

meetings held in the reporting year, 25 of them in person

91

matters discussed

Budget and Investment Committee

Committee functions

The Budget and Investment Committee facilitates the linkages between, and alignment of, the budget and investment processes, monitors their progress and makes relevant proposals to the Management Board.

Key 2021 results

- Reviewed and assessed the Company's investment projects and programmes for 2021 and 2022, made go/no-go decisions.
- Reviewed 2022 budgets of business units and branches as part of preparing the Company's draft consolidated budget for 2022.
- Monitored the performance of the 2021 investment plan.

Plans for 2022

- Review and assess the Company's investment projects and programmes.
- Review budgets of business units and branches as part of preparing the Company's draft consolidated budget.
- Monitor the performance of the investment plan.

27

**meetings held
in the reporting year,**
24 of them in person

126

matters discussed

Compensation Committee

Committee functions

The Compensation Committee is responsible for discussing matters of:

- headcount increases and sources of financing;
- one-off bonuses to employees;
- covering elective surgery costs for Company employees;
- determining the terms of the Company's Housing Programme.

Key 2021 results

- Determined the terms of the Company's Housing Programme.
- Resolved to cover elective surgery costs for Company employees.
- Made decisions on headcount increases and sources of financing.
- Approved the reimbursement of rental costs.
- Approved reclassification[1] rules.
- Approved the list of employees to be assigned a different category under the Long-Term Incentive Programme.
- Approved the allocation of defined contributions for employees of PJSC Rostelecom's Corporate Centre and subsidiary pursuant to the Private Pension Insurance Programme.
- Approved incentives for employees of the Corporate Customer Relations Department.
- Approved a system of targeted financial incentives for employees of the B2O segment.
- Approved a new approach to motivating full-time installers.
- Approved an addendum to the memorandum on the approach to financial incentives for employees of PJSC Rostelecom's Property Management Department.
- Decided to delegate some matters within the remit of the Compensation Committee to be discussed by the Organisational Development and HR Management Unit of the Company's Corporate Centre to streamline the work of the Compensation Committee.

Plans for 2022

Discuss the following matters:

- Changes to the incentive system of the Company's business units.
- Reclassification ratios.
- Bonus payments to employees.
- The Housing Programme.
- Headcount increases and sources of financing.
- Covering employees' medical treatment costs.

3

**meetings held
in the reporting year,**
1 of them in person

6

6 matters discussed

14

**in-absentia meetings held
in the reporting year**

32

matters discussed

Risk Management Committee

Committee functions

The Risk Management Committee coordinates the development of the risk management system (RMS) and ensures efficient risk management at all levels to make balanced business decisions.

Key 2021 results

- Approved the Risk Management Programme.
- Discussed risk management matters to be further submitted to the President, the Management Board, the Board of Directors, and the Board's Audit Committee.
- Issued instructions to the RMS participants and approved risk management measures.
- Regularly supervised risk management procedures for all risks and at all organisational levels.
- Monitored mitigation activities and key risk indicators.

Plans for 2022

- Improve risk management processes: risk identification and assessment, development of risk management measures, RMS control and monitoring.

Charity Committee

Committee functions

The key objectives of the Charity Committee are to review donation requests from individuals or legal entities and advise the Company's governing bodies on charitable giving.

Key 2021 results

- Recommended a donation of RUB 157 million to support education, care, spiritual heritage, environment, and sports.

Plans for 2022

- Develop recommendations for charitable giving in 2022.

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1   Moved amounts from other cost items to employee costs.

Control bodies[1]

Revision commission

Key role

- Control of financial and business activities in the periods between meetings of general meetings of shareholders.

Key 2021 results

- At the beginning of 2022, an audit of the Company's financial and business activities for 2021 was conducted by way of full and random inspections of individual transactions, including the Annual Report and annual accounting (financial) statements[2].
- In the course of 2021, revision of the company's operations was also conducted in the following areas:
  - assessment of the efficiency of financial and business operations, analysis of the remuneration system, including KPI review;
  - compliance with legal acts when carrying out financial and economic activities in the main areas of the company's activities;
  - analysis of the ICS, CRMS and internal audit system, budget and investment plan execution, and effectiveness of disposition
  - analysis of the company's real estate management program, including the procedure for implementation and execution of transactions in 2021, and analysis of the effectiveness of equity investment management;
  - execution of the instructions of the President of the Russian Federation and the Government of the Russian Federation and recommendations of the Revision Commission based on the results of the inspection for 2020.

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 2021 results

- Executed the audit action plan, achieved economic benefits.
- Provided recommendations on improving risk management, internal controls and corporate governance, as well as independent and objective assurance and consultations aimed to enhance Rostelecom's performance, generating additional revenue and savings.
- Introduced IT solutions in audit, taking into account trends towards digitalisation and sharing experience between project teams.
- Signed agreements with certain subsidiaries for paid internal audit services to improve risk management.

Risk Management divisions

Key roles

- Build, monitor, and maintain the RMS.

Key 2021 results

- Reviewed cases dealing with risks related to business continuity, components shortage crisis, and import substitution risks; approved measures to manage these risks.
- Prepared the Risk Management Programme for 2022.
- Provided methodological support to subsidiaries and affiliates in preparing the Risk Management Programme.
- Assessed the target maturity level of the RMS using the maturity model of the autonomous non-profit organisation of continuing professional education Institute for Strategic Risk Analysis in Decision Making.
- Updated the regulatory and methodological framework of the RMS, including at subsidiaries and affiliates.

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1   For more details on the performance of control bodies, see Appendix 2, Governance and Control Bodies, to this Annual Report at https://www.company.rt.ru/ir/agm/files/2021/Appendix_2_to_annual_report_2021_rus.pdf.

2   The Revision Commission issued an unqualified positive opinion and confirmed reliability of data contained in the Annual Report and annual accounting (financial) statements of the PJSC Rostelecom for 2021.

Internal Control Unit

Key role
- Assist management in building an effective internal control system (ICS).

Key 2021 results
- Approved the Company's ICS development strategy.
- Drafted the Guarantee Map[1] for 2021.
- Ensured that business is involved in the ICS development through internal control training, introduction of self-assessment and periodic reporting.
- Analysed risks and control procedures for key business processes and developed recommendations to improve the ICS.
- Regularly monitored the progress on measures to improve the ICS.
- Organised the preparation and submission of reports on the ICS to the Federal Tax Service of Russia (FTS) in line with the requirements for companies applying the horizontal tax monitoring regime.
- Updated the ICS framework.

External audit

Key role

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

In 2021, following a public tender, the Annual General Shareholders' Meeting[2] selected LLC Ernst & Young as PJSC Rostelecom's auditor (the "Auditor") in respect of RAS and IFRS reporting for 2H 2021 and 1H 2022, with the fee for audit services of Rostelecom's financial statements in accordance with RAS and IFRS totalling RUB 104.3 million (inclusive of VAT)[3].

The auditor confirmed the accuracy of the 2021 financial statements.

1   The Audit Commission issued an unqualified opinion and confirmed the accuracy of the data contained in PJSC Rostelecom's Annual Report and annual accounting (financial) statements for 2021.
2   Minutes No. 1 dated 29 June 2021.
3   For more details on the auditor's fee and the auditor selection procedure, see Appendix 2, Governance and Control Bodies, to this Annual Report at https://www.company.rt.ru/ir/agm/files/2021/Appendix_2_to_annual_report_2021_rus.pdf.
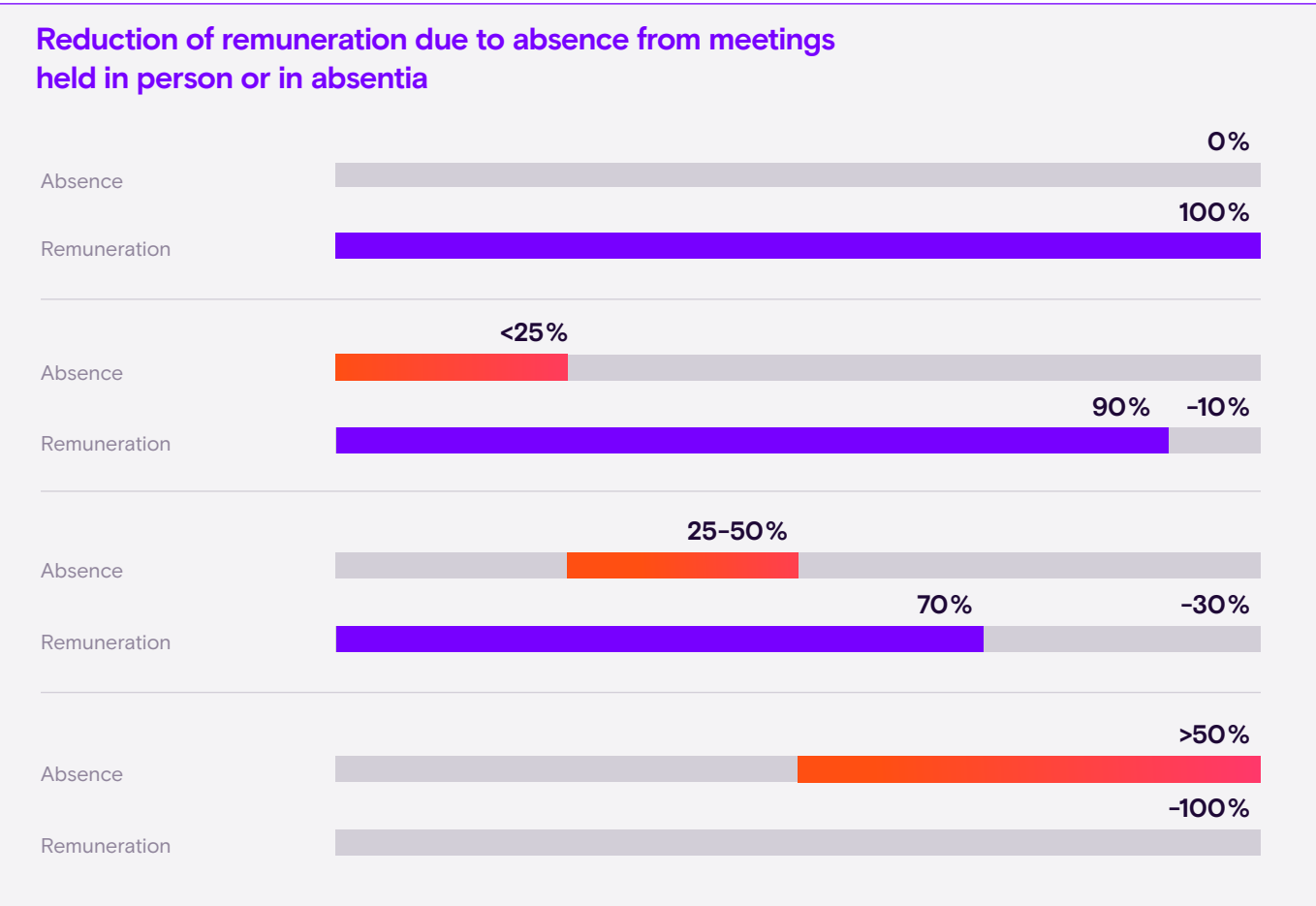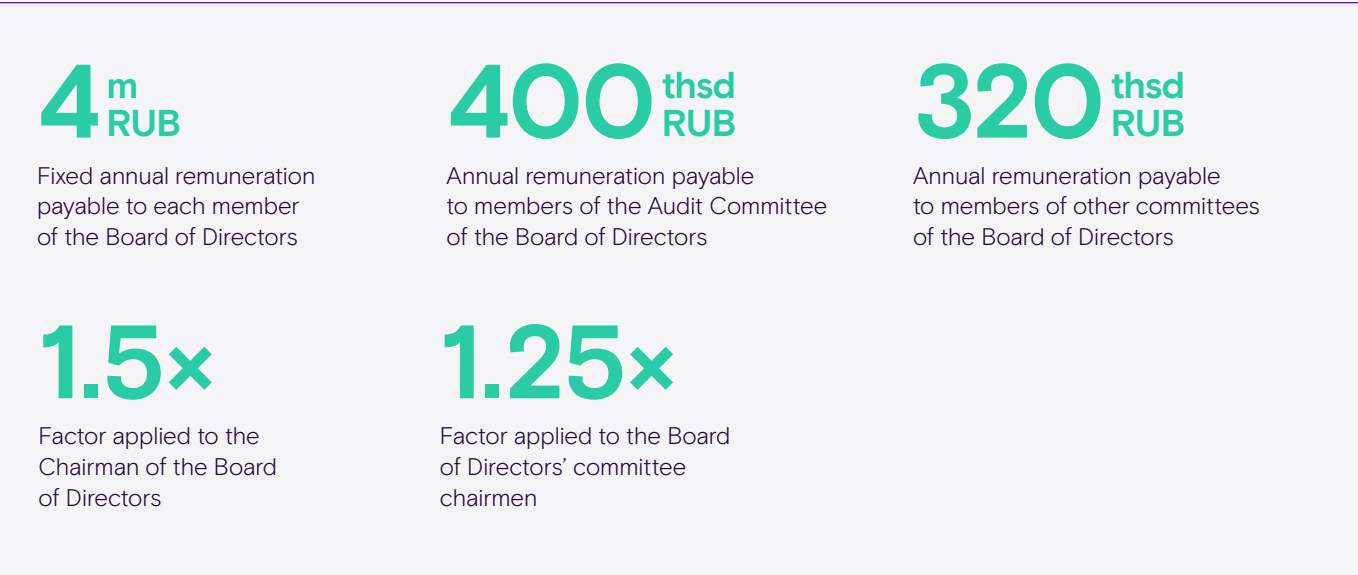
Remuneration

Board of Directors

GRI 2–19   GRI 2–20

Individual payments to members of the Board of Directors in office from 7 August 2020 to 28 June 2021, RUB.

4 **m RUB**

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

400 **thsd RUB**

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

320 **thsd RUB**

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

1.5×

Factor applied to the Chairman of the Board of Directors

1.25×

Factor applied to the Board of Directors' committee chairmen

Reduction of remuneration due to absence from meetings held in person or in absentia

Absence — 0%
Remuneration — 100%

Absence — <25%
Remuneration — 90% −10%

Absence — 25–50%
Remuneration — 70% −30%

Absence — >50%
Remuneration — −100%

No reimbursement of expenses or other payments were made to members of the Board of Directors in 2021, no loans (credit facilities) were granted.

In 2021, 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 employees.

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

Separate payments are not provided for the performing functions of the Management board members.

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.

Payments to Management Board members are made on the basis of employment contracts signed with all employees. No special remuneration is payable to Management Board members for serving on the Management Board.

Severance to the President and Management Board members 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.

Components of remuneration payable to members of the Management Board

Payments to the Management Board and the highest paid employees in 2021, RUB

Revision Commission

800 thsd **RUB**

Annual remuneration payable to members of the Revision Commission

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

Payments to members of the Revision Commission in 2021, RUB

1.3×

Factor applied to the Chairman of the Revision Commission

1.1×

Factor applied to the Secretary of the Revision Commission

1.6

Risk management

Risk management system

Rostelecom has in place a risk management system for effective modelling, assessment and mitigation of risks, structured in full compliance with the requirements of domestic and international regulators. The Company monitors and adopts best practices in risk management, regularly updating its relevant internal documents and focusing on continued automation and digitisation of its risk management system to enable further development.

Rostelecom's risk management system (RMS) emphasises effective management decision making regarding risks and uncertainties and on capturing identified opportunities to achieve strategic goals.

Rostelecom's key internal documents regulating risk management:

- PJSC Rostelecom's Charter
- Risk Management Policy
- Regulations on the Board of Directors
- 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 and measurable corporate goals set by the Board and management. The Board of Directors approves Rostelecom's Risk Management Programme every year and monitors its execution on a quarterly basis. Quarterly progress reports on risk management and relevant matters are reviewed at the meetings of the Management Board's Risk Management Committee, which approve follow-up risk management initiatives.

The Risk Management Programme includes:

- simulation modelling of actual/plan variance ranges for business plan items
- a list of strategic and corporate risks and corresponding potential risk scenarios
- key strategic and corporate risk indicators and thresholds
- strategic and corporate risk management activities.

At least once a year, the Company's internal audit function conducts an independent evaluation of the risk management system's effectiveness and performance over the previous period.

The 2021 performance evaluation of the risk management system suggests that the system is effective, scoring well above average. The Risk Management Programme takes into account the Company's strategic focus, legal requirements, and external changes. Risk management objectives were achieved through regular monitoring of the system's performance by the Risk Management Committee of the Management Board and updating the Risk Management Programme during the reporting period.

In 2021, risk management focus was shifted to business continuity, components shortage crisis, and import substitution risks.

This was due to factors such as:

- COVID-19 pandemic: lower production volumes and growth rates, economic crisis, changes in logistics flows, and longer delivery times
- US sanctions policy against China: insufficient technology-driven production, panic moods in the markets for electronics components for equipment manufacturers, and rising metal costs
- delivery of major public contracts: the need to provide multiple telecom equipment items within short timeframes, and supplies of Telecommunication Equipment of Russian Origin for public projects
- changing laws on setting equipment quotas.

The Company analysed these factors and adopted a set of measures to minimise their negative impacts should they materialise.

In 2022, the Company plans to further develop its risk management system through the following activities:

- Improving compliance with Russian and global standards, the effectiveness of the risk management system, and the integration methods to embed risk management tools into the Company's operations
- Developing a training course available to all employees at Rostelecom's Corporate Online University to raise awareness and ensure clear understanding and implementation of risk management measures
- Driving the further rollout of the risk management system at subsidiaries and affiliates
- Enhancing the management of operational risks, including business continuity risk

Risk management actors

| Actor	Roles and responsibilities
Board of Directors	Defines the operating principles and improvement areas of the risk management system; carries out overall monitoring of risk management performance
Audit Committee	Oversees the operation of, and identifies gaps in, the risk management system; makes recommendations to the Board of Directors
The Company's management	Manages key risks and regularly monitors the risk management system
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 system
Business units and employees	Manage risks within their areas of responsibility

Risks of the Rostelecom Group
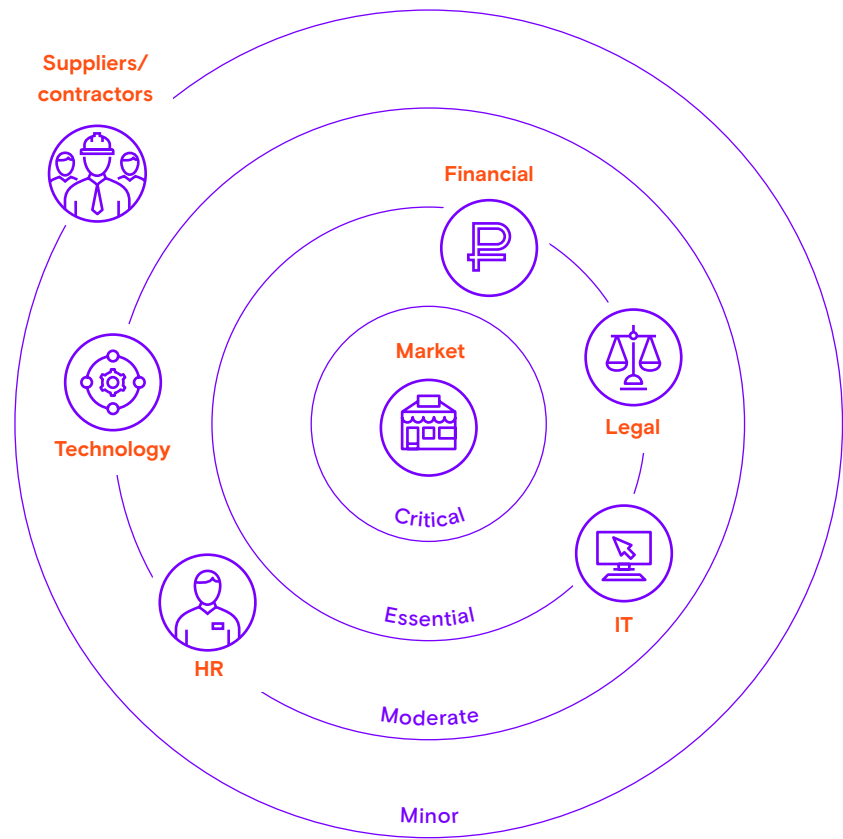
Risk management interactions within Rostelecom Group[1]

- ☐ Headquarters
- — Administrative reporting
- — Functional reporting
- — Methodological support
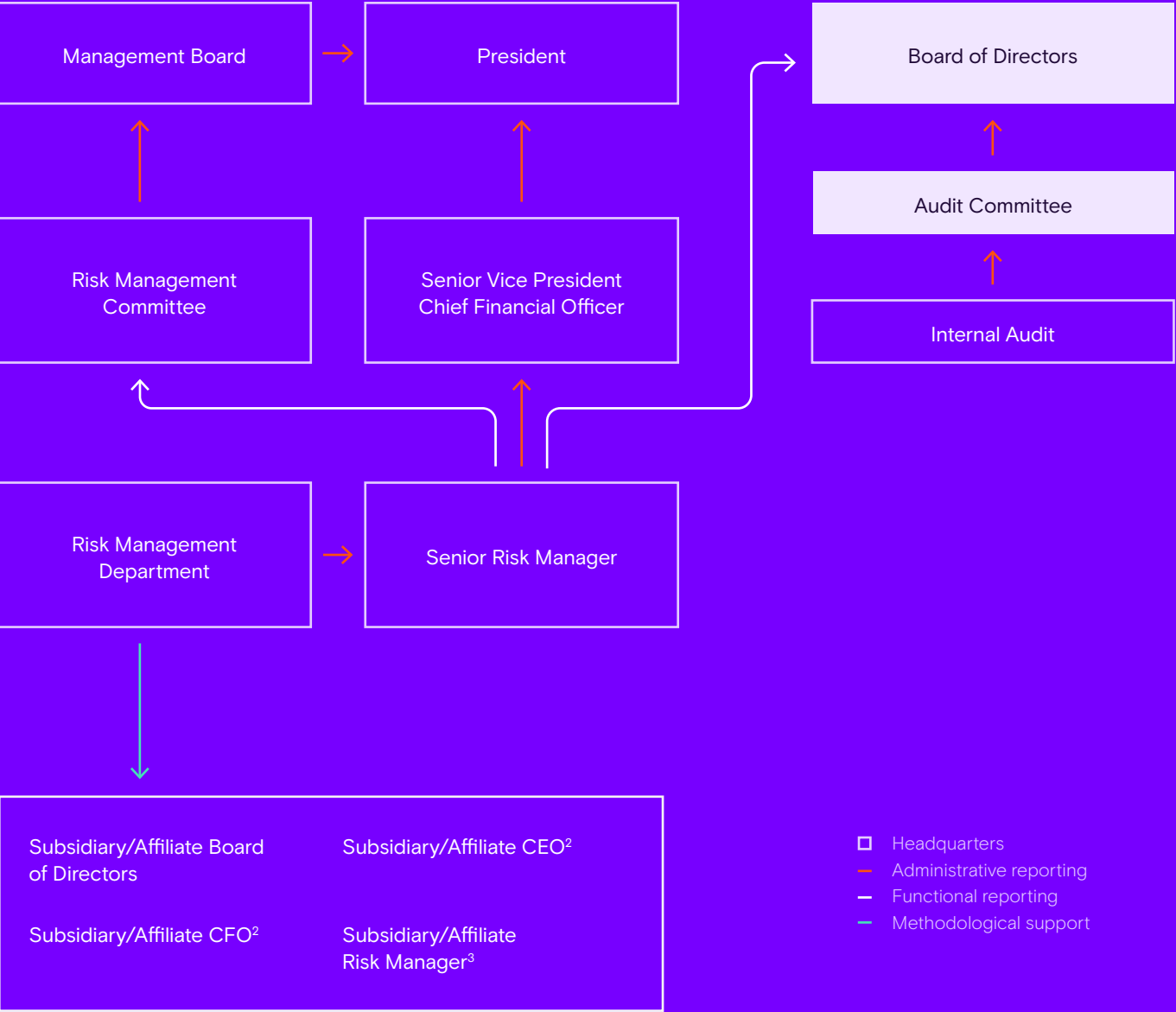
1   The Company's management is involved in the activities of the Risk Management Committee as risk owners and risk mitigation owners. The Committee has 11 members (President, Senior VPs, and VPs). The President of PJSC Rostelecom is the Committee Chairman.
2   Subject to changes depending on the organisational structure of a specific subsidiary or affiliate.
3   If applicable.

Integration of risk management with the Company's cross-functional processes

Risk management is linked to strategic planning, budgeting, and the implementation of investment projects and products, as well as to other cross-functional processes at the Company.

Strategic planning

When developing strategic plans, risks affecting the achievement of strategic goals are identified and analysed, and simulation modelling is carried out.

Budgeting

Analysis and acknowledgement of risks associated with non-achievement of key financial KPIs, and their simulation modelling.

Investment planning for projects and products

Analysis and acknowledgement of project and product risks associated with non-achievement of target NPV and other indicators, and their simulation modelling followed by the development of risk mitigation measures.

Procurement procedures

Detailed review and acknowledgement of risks when selecting suppliers and contractors, followed by the monitoring of key indicators on an interactive dashboard.

Training

Training programmes are run on a regular basis for employees involved in risk management. The Corporate Online University has the Risk Management System training course available to all Rostelecom employees.

Sustainability risk management

Apart from managing the aforementioned risks, Rostelecom strives to consider sustainability risks in conducting its business.

HSE risks

To minimise these risks, Rostelecom approved an HSE and fire safety policy, which outlines the key objectives, principles, and focus areas to create safe working conditions, keep all employees safe and healthy and ensure industrial, fire and environmental safety. In 2020–2021, due to the COVID-19 pandemic, special attention was paid to the health and safety of employees: Rostelecom provided all the necessary personal protective equipment, carried out regular disinfection of production facilities, and moved most office staff to work from home. These risks are monitored in line with the Company's business plan.

Anti-corruption risks

The Company identifies corruption risk as a key hypothesis in controlling the risk of legal violations, penalties, and financial and reputational damage. The Risk Management Programme enables monitoring of indicators related to identified affiliate relationships, completion of anti-corruption training, and submission of declarations by employees in positions exposed to a higher corruption risk.

Risk of skilled personnel shortage

The Risk Management Programme covers the risk of shortages in key personnel. The rationale for including this risk is the creation of a single IT landscape and platforms for launching new digital and converged products, as well as improving customer relations. The HR strategy 2025 focuses on ramping up digital skills and capabilities and digital literacy. In line with the Company's strategic priorities for employee development in 2021–2025, the 2021 Risk Management Programme tracked the metrics for training and advanced training completion and certification rates across digital skills programmes. The Company also monitors the turnover rate of the Group's employees aged under 30.

1.7

Supply chain

8 DECENT WORK AND ECONOMIC GROWTH

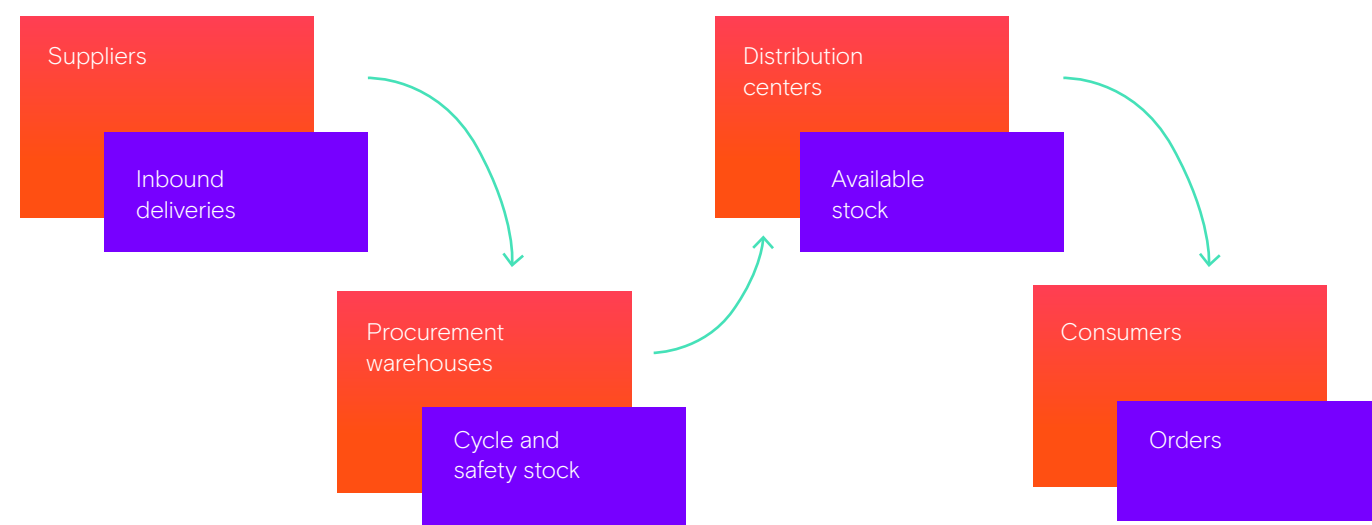**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**

GRI 2-6

Rostelecom treats its suppliers responsibly and integrates best practice in sustainability into its supply chain. The Group selects suppliers that honour their commitments and operate in good faith, honestly and transparently.

The Company works with suppliers from across Russia with due consideration of the impact of its activities. The Group selects suppliers that meet high standards of environmental protection, occupational safety and human rights.

Rostelecom considers supply chain management an integral part of business development and tracks its products and services throughout their entire lifecycle. The Company is constantly looking for new ways to develop its supply systems, improve its economic performance and meet growing stakeholder expectations.

Elements of Rostelecom's supply chain

We build our supply chain with due consideration of our impact on society. Rostelecom provides its employees with comfortable working conditions and controls the quality and delivery time of procured products. The Company manages its inventories and logistics responsibly to minimise negative environmental impacts.

Suppliers

Inbound deliveries

Procurement warehouses

Cycle and safety stock

Distribution centers

Available stock

Consumers

Orders

Supply management at Rostelecom Group

Drives the strategic agenda	Ensures safety and decent working conditions	Promotes environmental protection	Underpins the economic and financial health of the Group entities

Our top priorities in procurement:

- Transparency and openness of the procurement cycle
- Competitive procurement
- Implementation of the import substitution strategy
- upport and development of small and medium-sized enterprises

Procurement process at Rostelecom Group

Procurement

Contracting/ Logistics

Feedback/ Adjustments

Demand planning / Inventory management
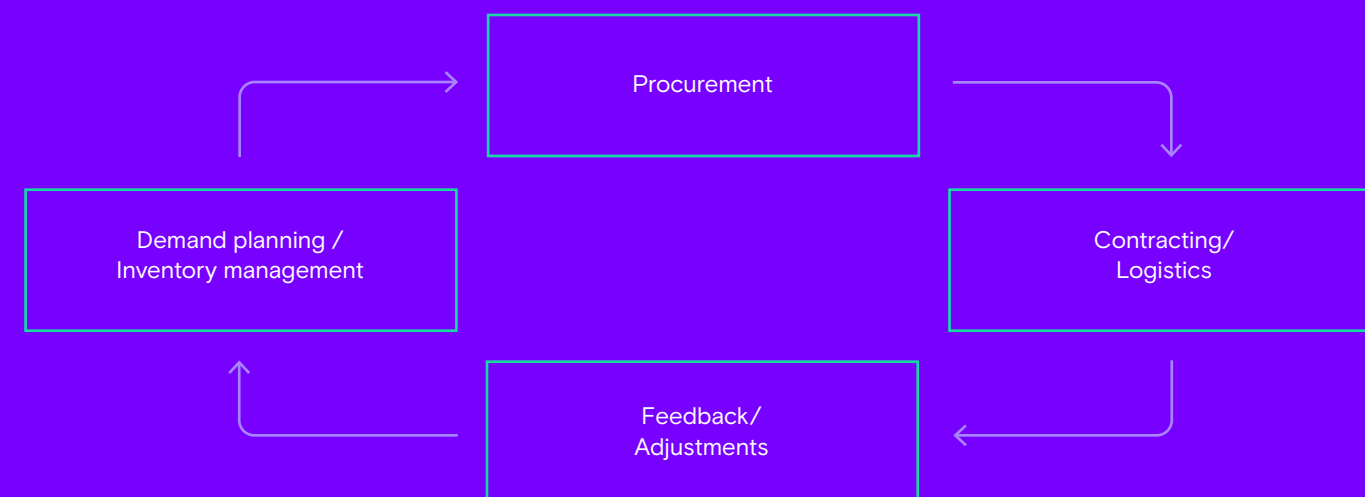
Procurement activities at Rostelecom are governed by:

- Federal Law No. 223-FZ, On Procurement of Goods, Works and Services by Certain Types of Legal Entities, dated 18 July 2011 (as amended and supplemented)
- PJSC Rostelecom's Regulations on Procurement
- PJSC Rostelecom's Code of Supplier Business Ethics

Logistics and procurement strategy

Information on all items that the Company seeks to procure is available at:

- the website of the Unified Procurement Information System (zakupki.gov.ru),
- Rostelecom's corporate website (zakupki.rostelecom.ru),
- websites of electronic trading platforms.

Rostelecom's logistics and procurement strategy is focused on improving operational efficiency and service level. To improve efficiency, we robotise or outsource operations and manage our staff effectively, while automating and centralising our organisation to enhance our customer service.

Digital technology development and business digitalisation contribute to the continuous transformation of our supply chain. Rostelecom leverages electronic procurement of goods and services. This approach is in line with Russian laws and is transparent to stakeholders.

Key procurement initiatives

In 2021, Rostelecom continued to transform and develop its procurement despite COVID-19 restrictions. To digitise procurement, Rostelecom is developing a transparent order allocation engine based on the Smart Procurement solution and rolling out a unified procurement framework for Group companies.

In 2021, we launched a unified procurement system based on E1-SRM[1] in three of our affiliates and prepared two more for the system launch.

Also in 2021, the Company:

- centralised its procurement function at a single supply chain unit
- transitioned to category management in procurement
- commenced business process standardisation
- introduced business partners.

Rostelecom monitors compliance of its procurement activities with legal requirements. We have launched a centralised process to control compliance with local content quotas in procurement in accordance with Resolution of the Russian Government No. 2013, On the Minimum Content of Russian Goods in Procurement, dated 3 December 2020. The Company also controls SME share in procurement, including procurement of innovative products.

1 E1-SRM is a specialised off-the-shelf IT solution for procurement automation by companies covered by Federal Law No. 223-FZ.

Logistics and procurement in 2021 in numbers:

37+ **thsd**

contract documents posted by the contract management function

28 **bn RUB**

total value of procurement contracts

−19 %

6.9 **days**

average order processing time

+4.5 p.p.

96 **%**

of contract documents signed via the EDF system

+3.5 p.p.

90 **%**

of source documents on inventory and fixed assets received through the EDF system

2.0 **p.p.**

less procurement below RUB 500,000

In 2021, the Group made significant changes to its procedures for providing customer premises equipment in the B2C and B2B segments. We have re-engineered the process to manage the return and refurbishment of customer premises equipment and launched a medium-term forecasting process for suppliers. The Company has also changed its procurement over to a service-based model. These changes will allow Rostelecom to manage inventories more efficiently and optimise working capital and costs.

The most significant development in 2021 was the procurement function moving to a new management model. While previously procurement had been conducted independently in each macroregion, we introduced a centralised functional vertical. This has increased the process efficiency by 25%.

In 2021, Rostelecom stabilised its process for small procurement below RUB 500,000 through electronic marketplaces, with time to place an order down by 45% and the total volume of small procurement through this channel reaching 67%.

The supplier engagement via the electronic document flow (EDF) system has also seen some changes. In 2021, we moved a large part of document flow to the EDF system: 90% of signed source documents and 96% of contract documents.

The Company also began automating the sale of non-liquid assets. In 2021, the Company arranged their sale through Smart Procurement and sold 15 lots of non-liquid assets for a total of more than RUB 45 million.

39,544

counterparties across Russia engaged with Rostelecom Group in 2021

541 **bn RUB**

The total cost of products and services procured by Rostelecom Group

Main categories of goods and services procured by Rostelecom

Category	Value in 2021, RUB m	Proportion in Rostelecom procurement, %
Commercial services	88,340	29
Construction works and services	80,670	26
Administrative services	43,052	14
Network equipment	29,022	9
Software and related works	26,583	9
IT equipment (servers, data storage system, workstations)	15,754	5
Customer premises equipment	12,353	4
IT technical support	6,662	2
Marketing	2,839	1
Post-warranty support services for network equipment	2,703	1
Total	**307,978**	**100**

Commercial procurement is procurement for the B2X segment.

One of our main procurement principles is to maintain intense competition between suppliers, including SMEs. In 2021, the average number of bidders in our competitive tenders remained almost flat year-on-year at 2.9, demonstrating the effectiveness of our procurement procedures.

In 2021, Rostelecom won the Guaranteed Transparency award of the National Procurement Transparency Rating. The single most important rating factor was compliance with the standards of procurement transparency and cost-effectiveness.

In 2021, Tatyana Karaseva, Chief Procurement Officer at Rostelecom, won the Independent Rating of Chief Procurement Officers in two categories:

- Best CPO in Procurement Management Innovation
- Best CPO in E-commerce.

The ranking is compiled by the RAEX International Group of Rating Agencies and the Association of Chief Procurement Officers.

Import substitution

30.5 bn RUB

Domestic products accounted for 68% of all radio and electronic equipment procured in 2021

Key requirements for suppliers

The company has formalised the basic requirements for suppliers, including ESG requirements. We publish requirements for each procurement opportunity with a notice, procurement-related documents, and terms of reference. Procurement-related documents list the requirements for absence of signs of insolvency, tax and levy arrears, and criminal record of a potential supplier's top managers. The terms of reference reflect the legislative and regulatory requirements, as well as requirements and expectations for products and services. Procurement policies establish principles for ensuring the quality of purchased products.

In a public tender, Rostelecom assesses supplier qualifications, risk of default and bid conformity to the Company's requirements. Rostelecom's due diligence on a potential counterparty includes checks into their business reputation, integrity and solvency. In some cases, we evaluate suppliers' experience in similar projects as well as the qualifications of their staff. All contracts must include an anti-corruption clause.

Rostelecom monitors environmental compliance during work execution and acceptance.

Rostelecom's Code of Supplier Business Ethics defines mandatory ESG criteria for its counterparties in the following areas:

- Product, work and service quality
- Environmental protection
- Occupational health and safety
- Protection of employee rights

The Code of Supplier Business Ethics is publicly available at www.zakupki.rostelecom.ru/docs/code (in Russian).

Feedback from suppliers

Several hotlines are available to suppliers to contact Rostelecom on the following matters:

- Procurement activities
- Planned and current procurement
- Feedback and complaints about completed procurement

These hotlines include a universal hotline zakupki.rostelecom.ru and a dedicated hotline for small and medium-sized enterprises (SMEs) msp@rt.ru.

In 2021, Rostelecom provided clarifications to more than 30 suppliers. Their queries primarily concerned the Company's SME Partnership Programme as well as the procedure for and other information on inclusion in the domestic product register.

Promoting the National SME Development Policy

8 DECENT WORK AND ECONOMIC GROWTH

Rostelecom supports the national SME development policy, with an SME Partnership Programme in place.

For more details on Rostelecom's SME Partnership Programme goals and targets, see the Company website at www.zakupki.rostelecom.ru/msb (in Russian).

Supplier education goes a long way in helping us to foster supplier engagement. In 2021, through a partnership with Russian Small and Medium Business Corporation (RSMB Corporation), Rostelecom held a series of workshops on SME participation in procurement in line with Federal Law No. 223-FZ, On Procurement of Goods, Works and Services by Certain Types of Legal Entities, dated 18 July 2011. The workshops covered the following themes:

- Procurement by large customers
- SME participation in procurement under this law
- Compliance with anti-corruption legislation and ethical business practices
- Existing financial and non-financial SME support programmes

Below is the 2021 analytics on workshops held by Rostelecom and RSMB Corporation, broken down by federal district of the Russian Federation.

73 workshops

The Company held In 2021, attended by **5,296 SMEs**, in Saint Petersburg, Khabarovsk, Volgograd and other regional centres of the Russian Federation.

District	Number of participants	Number of workshops
Far Eastern Federal District	449	10
Volga Federal District	1,383	13
Northwestern Federal District	742	11
North Caucasian Federal District	160	3
Siberian Federal District	480	9
Ural Federal District	297	4
Central Federal District	853	12
Southern Federal District	458	7
Russia (workshops for self-employed and workshops under accelerator programmes)	474	4
Total	**5,296**	**73**

SMEs access to Rostelecom's procurement

136 bn RUB

contracts with SMEs total value in 2021

of the total number of contracts

59 %
in 2021

67 %
in 2020

39.2 bn RUB

the aggregate value of contracts awarded to SMEs through special procurement procedures

it corresponds

19.9 %

of Rostelecom's total procurement in 2021

1.8 Responsible business practice

Corporate governance: anti-corruption and procurement

| 4 QUALITY EDUCATION | 8 DECENT WORK AND ECONOMIC GROWTH | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS |

Compliance and anti-corruption efforts

GRI 2-27

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

Key regulations on anti-corruption compliance procedures:

- Anti-corruption Policy[1]
- Code of Ethics[2]
- 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 Giving
- Regulations on Addressing Reports Submitted via the Ethics Hotline

The procedures ensuring compliance with anti-corruption laws are set out in the Company's business process regulations. Similar documents and compliance processes are implemented at subsidiaries and affiliates in which PJSC Rostelecom's effective interest is above 50%.

Key anti-corruption focus areas in 2021

- Employee training
- Feedback channels
- Conflict of interest management
- Subsidiary relations

No confirmed cases of corruption or bribery were reported across the Group in 2021.

1   For more details on Rostelecom's Anti-corruption Policy, see the Company's website at www.company.rt.ru/en/ir/corporate_governance/docs/.
2   For more details on Rostelecom's Code of Ethics, see the Company's website at www.company.rt.ru/en/ir/corporate_governance/docs/.

Council for Business Transparency

Rostelecom cooperates with the government and non-governmental organisations on anti-corruption and has a Council for Business Transparency in place. The Council held two meetings in 2021, attended by representatives of the Russian Ministry of Digital Development, Communications and Mass Media and the Chamber of Commerce and Industry, as well as by members of the media and anti-corruption non-governmental organisations.

The Council reviewed matters related to the implementation of anti-corruption measures and procurement transparency, as well as statistics on received reports, including those on suspected corruption.

Asset Protection Department (compliance)

Key roles

- Improving corporate culture in terms of anti-corruption, prevention of embezzlement and conflicts 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 whistleblowing hotline and an anti-corruption portal

Key 2021 results

12 thsd
employees successfully completed compliance training

- For the second year in a row, Rostelecom topped the national Anti-corruption Ranking of Russian Business, receiving the highest rating class, A1, from RSPP experts[3].
- Developed and implemented the Company's 2021 compliance programme
- Fine-tuned the system to improve the processing of conflict of interest declarations
- Updated a number of internal documents, including PJSC Rostelecom's Internal Labour Regulations as regards holding employees accountable for non-compliance with anti-corruption requirements
- Compliance training was successfully taken by about 12 thousand employees
- Continued to roll out anti-corruption programmes at new subsidiaries and affiliates (19 companies) in which Rostelecom's cumulative interest is above 50%

3   https://media.rspp.ru/document/1/8/e/8e772aa62f5acdeec97734ac8a77d522.pdf#page=30.

Dedicated officials responsible for countering money laundering, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction

| Key roles	Mitigating the risk of the Company being involved in money laundering and the financing of terrorism
Key 2021 results	In 2021, following the remote monitoring of the internal control system for countering money laundering, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction, the Federal Financial Monitoring Service (Rosfinmonitoring) and the Federal Service for Supervision of Communications, Information Technology and Mass Media (Roskomnadzor) assigned PJSC Rostelecom the lowest, "green" level of risk of being involved in money laundering and the financing of terrorism. Based on that scoring, Roskomnadzor has not included Rostelecom in the annual inspection schedule, which substantially reduces the risk of regulatory penalties in 2022.

Interactions with counterparties

The Company is committed to engage only those counterparties that demonstrate legal compliance and comply with anti-corruption laws in their operations. To develop business relations with counterparties supporting Rostelecom's Anti-corruption Policy and demonstrating zero tolerance for corruption, the Company approved its Code of Supplier Business Ethics and an anti-corruption clause, which allows the Company and its subsidiaries to terminate a contract where the counterparty was found to have breached the commitment to refrain from any actions prohibited by anti-corruption laws. The clause is included in all expenditure contracts exceeding RUB 500,000.

To raise the awareness of business partners about anti-corruption legal requirements and Rostelecom's ethical business standards, the Company developed an interactive distance learning course for contractors and suppliers in 2021, to be launched in 2022.

Employee training

GRI 205-2

All Rostelecom employees are made aware of anti-corruption policies and procedures when they are hired. When anti-corruption procedures are amended, updated documents are sent out to all employees who have workstations with access to the Company's electronic document management system.

Rostelecom holds regular anti-corruption trainings for its employees. All new employees take a mandatory online induction course on the key principles set out in the Code of Ethics.

In 2021, about 12 thousand employees took online training on the Code of Ethics and on anti-corruption measures.

Employees who took anti-corruption training in 2021, by Company unit, %

17%	17%	14%	13%	11%	9%	7%	7%	4%
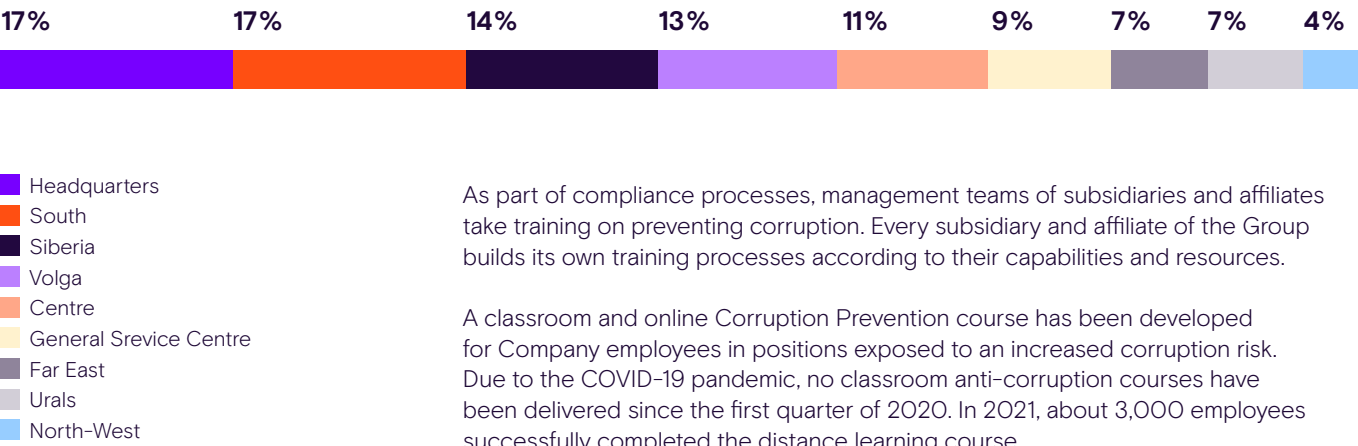
- Headquarters
- South
- Siberia
- Volga
- Centre
- General Srevice Centre
- Far East
- Urals
- North-West

As part of compliance processes, management teams of subsidiaries and affiliates take training on preventing corruption. Every subsidiary and affiliate of the Group builds its own training processes according to their capabilities and resources.

A classroom and online Corruption Prevention course has been developed for Company employees in positions exposed to an increased corruption risk. Due to the COVID-19 pandemic, no classroom anti-corruption courses have been delivered since the first quarter of 2020. In 2021, about 3,000 employees successfully completed the distance learning course.

Anti-corruption portal (in Russian):

www.nocorruption.rt.ru

Whistleblowing hotline:
8-800-1-811-811

Ethics hotline:
ethics@rostelecom.ru

Feedback channels

GRI 2-16

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

Since 2020, the reports received via Rostelecom's whistleblowing hotline and anti-corruption portal have been recorded, processed and addressed automatically by the Reports module of the automated Compliance Control system. The system uploads reports received via the feedback channels, enables users to track response deadlines and provide timely feedback to whistleblowers, monitor the performance of the units responsible for handling reports, and generate reporting documents.

In order to protect anonymous whistleblowers, in 2021, we completed an upgrade of the anti-corruption portal's functionality to enable reporting without revealing the whistleblower's name and e-mail. Whistleblowers can receive feedback on the status or outcome of their report from employees of the compliance team using the PIN generated by the system when the report is recorded.

The Company guarantees confidentiality for those reporting suspected corruption. Whistleblowers reporting violations in good faith are protected by the Company against any form of retaliation or discrimination.

Topics of reports received via the whistleblowing hotline and anti-corruption portal in 2021, %

| 35% | 27% | 19% | 16% | 3% |

- ■ Subscribers
- ■ Compliance
- ■ HR processes
- ■ Other
- ■ Procurement
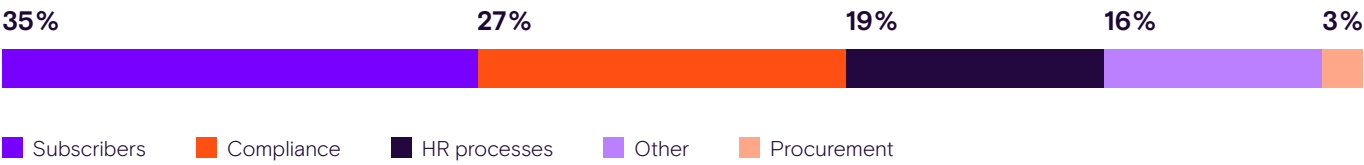
Conflict of interest management

GRI 2–15

Since 2018, Rostelecom has been using an automated Compliance Control system to resolve conflicts of interest. Rostelecom employees with a conflict of interest, as well as employees in positions exposed to an increased corruption risk, regularly complete electronic declarations. Using pre-determined criteria, the system automatically identifies employees who should submit declarations, and monitors timely completion of declarations by these employees, thus eliminating the human factor from mandatory disclosures.

In 2021, we continued addressing the risks of employees not filing a declaration or having affiliation with business partners. These risks are included in Rostelecom's Risk Management Programme.

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

In 2021, Rostelecom continued to roll out anti-corruption programmes at new subsidiaries and affiliates (19 companies) in which the Company's cumulative interest is above 50%.

For these subsidiaries and affiliates, Rostelecom develops roadmaps for rolling out anti-corruption programmes, including:

- adjustments to Rostelecom's standard anti-corruption regulations
- assessment of corruption risks
- implementation of controls
- management of conflicts of interest
- anti-corruption training
- handling reports received via feedback channels.

The expenditure contracts signed by subsidiaries and affiliates also contain an anti-corruption clause, which allows them to terminate a contract where the counterparty was found to have breached the commitment to refrain from any actions prohibited by anti-corruption laws.

Measures to counter the legalisation of proceeds of crime, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction

PJSC Rostelecom fully implements internal controls to counter the legalisation (laundering) of proceeds of crime, the financing of terrorism, and the financing of the proliferation of weapons of mass destruction.

2021 saw rollouts of major legislative changes aimed at preventing foreign or international non-governmental organisations whose activities are declared undesirable from entering Russia. In particular, telecom operators were obliged to control transactions involving receipt or spending of funds by a non-profit organisation, regardless of the amount.

Rostelecom is currently the leader among telecom operators in this matter, primarily due to the daily monitoring of financial transactions by non-profit organisations from its subscriber base.

1.9

Protection of human rights

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
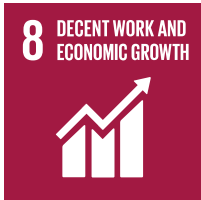
Protecting and respecting human rights are foundational to Rostelecom's operations.

Human rights are protected by Russian and international law, and promoted by the following corporate regulations:

- Russian labour law
- PJSC Rostelecom's Code of Ethics
- UN Global Compact principles
- Universal Declaration of Human Rights
- ILO Declaration on Fundamental Principles and Rights at Work
- UN Guiding Principles on Business and Human Rights

The Group is committed to protecting and respecting human rights and assesses its risks and impact in this area. We inform our staff and contractors about the Company's standards, principles and regulations for performing all business processes with integrity.

Rostelecom and all subsidiaries and affiliates strictly adhere to the principle of non-discrimination against employees in labour rights and freedoms, or benefits on grounds of:

- gender, race, colour, ethnicity, language, origin, age, place of residence, religious views, beliefs, membership in (or failure to join) particular civic associations or social groups
- material, marital, social, or official status
- any other circumstances unrelated to the employee's professional performance.

Rostelecom is committed to providing employees with equal opportunities in recruitment, hiring, evaluation, promotion, development, training, discipline, and compensation. Mutual respect and trust in each other are foundational to Rostelecom's corporate culture.

Rostelecom has in place a collective bargaining agreement to make sure our employer-employee relationships are based on the principles of social partnership, which seeks to improve Rostelecom's operational efficiency and protect social and labour interests of both employees and the employer. The collective bargaining agreement sets out the approaches that have been aligned between employees and the employer across social, labour and associated relations, pay and working conditions, working hours, social and labour guarantees, and benefits.

PJSC Rostelecom's Code of Ethics sets out the employees' right to engage in any political, educational, charitable, or community activities unless they impact the diligent performance of their jobs and contradict or harm the Group's interests. Rostelecom does not restrict the right of its employees to form or join any non-governmental organisations that represent their interests.

All Rostelecom employees and contractors are required to complete trainings and a series of courses on human rights. Rostelecom monitors and evaluates employee achievements to ensure that human rights are respected across all units.

An effective grievance mechanism is a key tool in protecting human rights. Our employees can report violations of their rights via any feedback channel operated by the Group (for more details, see the Responsible Business Practice section).

Rostelecom does not use child labour. Similarly, there have been no incidents of forced or compulsory labour or infringements on the rights of indigenous minorities across Rostelecom Group.

Rostelecom calls all companies and organisations it engages with to observe and respect human rights. To become our long-term partners, all suppliers must share the Group's ethos and fully comply with applicable laws in their operations. Rostelecom only engages with those companies that demonstrate principles of legal compliance, have zero tolerance for corruption, respect human rights, and promote employee health and safety.

The Group is also committed to upholding and protecting human rights for society as a whole. Rostelecom engages in Information Society (2011–2020), Russia's national programme aimed, among other things, at promoting human rights and fundamental freedoms, including the right of every person to information. The Group strives to achieve a high information security level that will protect private life, personal and family privacy and ensure security of restricted information.

SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO

Adherence to high sustainability and governance standards is central to Rostelecom's growth strategy and culture, and key to long-term value creation for the entire Group.

GRI 2-23   GRI 2-24

GRI 2-25

company.rt.ru/
en/social/

Rostelecom operates in line with the principles of sustainable and responsible development focused on creating and enhancing long-term economic, social and environmental benefits for both current and future generations.

As a leading federal telecommunications company, Rostelecom not only strives in a way that drives balanced, sustainable business growth and shareholder value creation, but also aims to make a positive contribution to the sustainable development of Russia, its society and the telecommunications industry. The Company fully embraces the UN's 2030 Agenda for Sustainable Development and is committed to the UN Sustainable Development Goals (SDGs), successfully integrating them into its operations. Rostelecom recognises the importance of partnerships between all stakeholders to address the most serious social, environmental and economic problems of humanity and building a shared future.

ESG

Rostelecom has set up a dedicated Sustainability section on its website, highlighting the Company's key sustainability metrics, documents and policies

Our approach

Sustainability is an integral part of the Company's strategy, under which Rostelecom continues to consistently implement ESG principles and integrate economic, environmental and social goals and objectives into its key processes and corporate decision-making.

Rostelecom's sustainability activities aim to:

- promote a digital strategy to transform Russia's economy
- bridge the digital divide for all sectors of Russia's society
- contribute to the social and economic development across the Company's footprint
- promote the industry's technological advancement and innovation
- modernise technological infrastructure and support technical upgrades
- develop intellectual and human capital
- create jobs and improve quality of life.

Rostelecom's approach to sustainability management is aimed at:

- compliance with laws and regulations
- effective sustainability risk management
- an ongoing dialogue with stakeholders to effectively address the most significant sustainability matters
- consistent implementation of industry best practices and recommendations of international sustainability standards.

Our sustainability approach is consistent with Rostelecom's corporate values.

- Development: creating the future
- Simplicity: making complex things simple
- Human touch: working for people
- Adaptability: adapting technology to find a solution

Sustainable Development Goals

Rostelecom is integrating the United Nations Sustainable Development Goals (UN SDGs) into the management of the Company's operations and considers them when designing sustainability projects.

Rostelecom Group is committed to sustainable development. The Company creates long-term economic, environmental and social value for both current and future generations. Rostelecom not only operates in a way that drives business growth and shareholder value creation but also makes a significant contribution to the sustainable development of Russia, its society and the telecommunications industry.

Sustainable Development Goals prioritised by Rostelecom

First priority goals

Goal 9

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

Rostelecom is committed to improving its operational efficiency and reducing its environmental footprint. Our core efforts focus on developing information and communication infrastructure and improving its accessibility.

Examples of projects:
- Information Infrastructure federal project
- Developing 5G mobile network

Goal 8

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

Rostelecom protects labour rights and provides a safe and secure work environment for all its employees while also promoting this approach among its contractors. The Company is introducing the Vision Zero concept. We also develop digital solutions for workplace safety and injury monitoring.

Examples of projects:
- Digital Worker platform
- Industrial digital outsourcing of occupational health services

First priority goals

Goal 4

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

We cooperate with universities and schools, develop IT educational programmes, hold competitions and olympiads, and organise internships.

Examples of projects:
- IT College
- Rostelecom Lyceum

Goal 11

Make cities and communities inclusive, safe, resilient and sustainable

Rostelecom is piloting the Smart City standard in several Russian cities. The standard involves digitalising almost all areas of urban life: road safety, maintaining courtyards, enhancing education platforms, etc. In the future, the Company plans to roll out the project to other cities.

Examples of projects:
- Smart City
- A road safety system
- A waste management monitoring system

Goal 10

Reduce inequality within and among countries

Rostelecom supports private entrepreneurship in Russia. The Company holds competitions and educational events for entrepreneurs, and financially supports key initiatives with the highest potential. We also provide socially vulnerable groups with opportunities for digital inclusion.

Examples of projects:
- Social Impact Award international programme
- ABC of the Internet

Second priority goals

Goal 17

Strengthen the means of implementation and revitalise the global partnership for sustainable development

Rostelecom promotes sustainability principles among its contractors and suppliers. We work with universities, non-profit organisations (NPOs) and the government on sustainability projects. We also develop technologies and specific solutions to enable our customers to improve their environmental and safety performance

Second priority goals

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

Rostelecom takes a responsible approach to compliance and demands the same from its contractors. The Company maintains a high level of transparency and compliance, as evidenced by a number of independent assessments

Goal 12

Ensure sustainable consumption and production patterns

Rostelecom is committed to reducing its resource consumption and increasing the recycling rate. The Company is implementing the Green Office concept. We also promote responsible consumption among the population and have organised collection of used batteries and old mobile phones at our stores

Goal 13

Climate action

Forest fires heavily contribute to climate change. Rostelecom has designed and deployed a forest fire monitoring system across several Russian regions, to detect forest fires at early stages, significantly reducing fire response time

Goal 15

Life on land

Rostelecom has developed solutions to detect illegal logging activities. Video recording systems are used to recognise the type of vehicle and cargo, in particular round timber. The video surveillance data is transmitted to government services, where specialists monitor the legality of each haul of timber trucks

Our ESG priorities

Environment
- Effective environmental control and management system
- Energy efficiency
- Waste management
- Reducing emissions
- Responsible consumption

Social impact
- Employee training and development
- Ensuring workspace safety
- Supporting employees and encreasing engagement
- Philanthropy
- Digital services foe better quality of life

Corporate govenance
- High corporate govenance standards
- Fair remuneration
- Shareholder rights
- Anti-corruption
- High procurement standards

2.2 Stakeholder engagement

Stakeholders and engagement mechanisms

10 REDUCED INEQUALITIES | **16 PEACE, JUSTICE AND STRONG INSTITUTIONS** | **17 PARTNERSHIPS FOR THE GOALS** | GRI 2-26 | GRI 2-29

Understanding stakeholder expectations is critical to identifying key focus areas in the sustainable development strategy. Rostelecom sees effective engagement with a wide range of stakeholders as a major success factor in the implementation of its strategy.

The Company regularly assesses the influence of stakeholders on its current operations and strategic development, as well as the existing practices of engaging with external stakeholders and their dependence on operating results.

In the course of its business, Rostelecom Group strives to balance the interests of all stakeholders, maximising full and timely disclosure of information material to them and responding to incoming requests.

Having assessed the influence of stakeholders on Rostelecom's current operations and strategic development, as well as the existing practices of engaging with external stakeholders and their dependence on operating results, we have identified the following significant stakeholder groups:

- Shareholders
- Government authorities
- Business partners
- Investors, employees
- Mass media
- Customers
- Environmental organisations
- Scientific and expert community
- Local communities
- Non-governmental organisations

The Company adheres to a systematic approach to social matters and community investment management, reducing social risks, ensuring long-term positive relations with the regions of operation and building a reputation of a socially responsible company.

We advocate a regular open communication with stakeholders and build it based on the principle of corporate social responsibility.

Rostelecom leverages various communication channels to engage its stakeholders – General Shareholders Meeting, events such as congresses, exhibitions and presentations, informing via mass media, social media and corporate publications, hotlines for employees, federal communication projects, and regional projects. All Rostelecom Group subsidiaries and affiliates also have their own programmes for engaging with local communities.

Information transparency at the core of Rostelecom's stakeholder engagement

We strive to maximise the openness and transparency of our business and are committed to an active, regular and constructive dialogue with stakeholders. We maintain mutually beneficial cooperation and partnerships with all stakeholders by promptly responding to requests and wishes, as well as publishing material information on all aspects of the Company's business.

We recognise that information transparency is an indispensable component of trust-based relationships with stakeholders. As part of its active stakeholder engagement, Rostelecom provides quality information on its operational, environmental, social and corporate governance performance. This approach helps us to balance the interests of all stakeholders and avoid potential risks associated with trade secrets.

To further enhance the Company's investment case and maintain a trusting dialogue with its stakeholders based on openness, transparency and public accountability, Rostelecom Group discloses information in line with:

- Russian laws
- requirements and recommendations of the Bank of Russia
- requirements of the Moscow Exchange
- international sustainability standards
- internal documents of PJSC Rostelecom, its subsidiaries and affiliates.

Rostelecom discloses information by disclosing stages of the procedure to issue securities and by publishing resolutions of the Board of Directors, Annual Reports, annual accounting (financial) statements, Sustainability Reports, and other documents. PJSC Rostelecom's Board of Directors establishes the rules of, and approaches to, disclosures, which are formalised in the Company's Information Disclosure Policy.

Key principles of the 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.

143.4 thsd

regional media publications (58% of the media flow)

101.3 thsd

federal media publications (40,9% of the media flow)

3.3 thsd

foreign media publications (1,3% of the media flow))

The Company continuously improves its communication infrastructure – for instance, a KPI system was introduced at PJSC Rostelecom's press service as part of the efforts to improve its performance. Rostelecom tracks media mentions, evaluates the relevant content and surveys members of the media on its press service performance.

Analysing media flow quality since 2018, last year the Company saw its product news receiving the largest share of mentions, at 214.3 thousand publications (86.43%). Social and corporate news garnered 14.4 thousand (5.83%) and 19.2 thousand (7.75%) media mentions, respectively.

The most widely covered speakers were Mikhail Oseevsky, President of the Company; Alexander Kosarim, Content Policy Director; Valery Ermakov, Senior Vice President for Corporate and Government Segments; and Igor Lyapunov, Vice President for Information Security

Every year, the Company implements a number of projects to engage with federal and regional journalists. The 10th Together into the eFuture regional media and blogger competition attracted about 1,500 participants in 2021. Regional media submitted more than 2,500 publications and TV stories covering the telecommunications industry, technology trends, and innovative solutions and services.

248 thsd

media mentions of Rostelecom projects in 2021.

of which 106 thousand publications were focused on the Company

344.9 mn

potential users – the total audience reach in 2021.

The Company's media activity trending upwards.

Information on all material aspects of its business on the website

www.company.rt.ru/en/

Rostelecom Group uses a wide range of communication channels to engage with stakeholders.

Rostelecom and its subsidiaries maintained a total of five social media accounts with an aggregate subscriber base exceeding 830 thousand in 2021. Every day, our employees promptly handle queries submitted via social media, fielding 541,629 questions in 2021.

Rostelecom publishes news on corporate projects, incentive programmes and employee benefits on its intranet portal. In 2021, the portal had 40 million visits, almost triple the number from the year before (13 million). We continue to publish the Rostelecom Vestnik, a corporate newsletter for our colleagues, also available online since April 2020 at https://vestnik.rostelecom.ru. Twice a year, Rostelecom PRO, a themed customer magazine, is issued both in print and digital. Our corporate TV covers all regions within Rostelecom's footprint.

The Company also discloses information on the corporate information disclosure website run by Interfax (www.e-disclosure.ru). Annual and sustainability reports also serve as a public communication vehicle to engage all stakeholders.

Stakeholder engagement during the pandemic

During the pandemic, Rostelecom focused on:

1. communications upgrades
2. business customers
3. employees
4. subscribers
5. availability of online education
6. special services
7. cybersecurity.

Throughout 2020–2021, Rostelecom closely monitored the COVID-19 situation and took all possible measures to ensure uninterrupted digital services so that the Company's customers, partners and employees could stay connected at all times and use all services available to them. To this end, Rostelecom reviewed the channels of communication and proposed new mechanisms in addition to traditional formats of stakeholder engagement.

The digital environment is becoming a key enabler of development across economic, environmental and social dimensions, determining the potential and opportunities for the nation's further development. To provide support to various sectors – government, society, business, non-profit organisations, media, science, education – the Company needs to stay ahead of the curve in driving the development and improvement of digital technologies.

Success in life and business in a secure digital environment is a key objective of digital transformation, concerning all aspects of people's lives, government and business.

Shareholder and investor relations

In 2021, Rostelecom's management and IR team continued to make active use of digital platforms and online investor communication channels amid the pandemic and the shift to remote work. In the reporting year, the Company took part in eight online investment conferences.

The Investor Day was a major highlight of 2021, with Rostelecom presenting its updated development strategy to 2025 along with FY2021–2023 dividend policy[1], followed by a series of virtual NDRs with key investors. At an online meeting with investors and analysts in the autumn of 2021, Rostelecom management further detailed their view on value creation through the transition to a segment- and cluster-based management model and also shared the Company's vision for developing digital clusters as part of the previously approved 2025 strategy. Management also presented a digital cluster acceleration scenario with the potential for additional increase in business value. In total, Rostelecom held about 50 meetings with the investment community throughout 2021, mostly online.

1   Covers dividend payments in 2022–2024.

Communication with employees

>50 thsd

Rostelecom employees have shifted to remote working arrangements

Starting from March 2020, more than 50 thousand Rostelecom employees have shifted to remote working arrangements enabled through the existing remote access infrastructure for Rostelecom's IT resources. All employees were provided with virtual workplaces, remote access to corporate mail, necessary IT systems and solutions for audio and videoconferencing. To facilitate this shift to remote work, we launched a special portal at remote.rt.ru.

A Rostelecom subsidiary launched a suite of free online courses on topics relevant during self-isolation, from setting up a remote workplace and managing teams remotely to tips on dealing with stress and anxiety. The Company launched a direct line with the Company's President, a hotline, pulse surveys, and a Telegram bot. A special portal for employees was set up, which became a valuable source of corporate news and COVID-19 data, as well as a space for positivity, useful information and socialising for those working from home.

Communication tools have undergone a substantial transformation to enable access to content from any device: instead of newspapers online digest newsletters were introduced in offices; screens in offices were replaced by social networks and posters – by messengers and text messages.

Early in the pandemic, the Together We Can Do It radio broadcast started airing, featuring messages by top managers, discussions, life hacks, quizzes, and games. The broadcast's reach has grown to about 80 thousand employees.

Safety amid the COVID-19 pandemic

The COVID-19 pandemic has increased Rostelecom's focus on employee health and safe working conditions.

Rostelecom prioritises the health and safety of its people, particularly those employees who, due to the nature of their jobs, need to be present in-person. The Company has taken all required organisational measures, providing employees with the necessary personal protective equipment and regularly disinfecting business premises.

Remote work was enabled by the Company's proprietary software solutions, such as the Tionix Virtual Desktop (VDI) modules, located at Rostelecom's data centres. Thermometers, disposable masks and gloves, and hand sanitiser were deployed at every entrance and every floor across the Company's office spaces to protect employees at workplaces. Employees also periodically took PCR tests for the coronavirus.

Field crew members were regularly provided with personal protective equipment – disposable coveralls and gloves, safety goggles and face masks, shoe covers, and hand sanitiser and moisturisers. The Company has created walk-through videos, clearly explaining how to properly use PPE, apply hand sanitiser as well as safely dispose of PPE items.

>350

employees received specialist consultations on COVID-19 through our Telemedicine platform

All measures taken to curb the spread of COVID-19 were aligned with the recommendations of the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor), including due consideration for the local requirements by the administrations of relevant regions of the Russian Federation.

Despite the fact that COVID-19 infection is not an insured event under the corporate VHI programme, during 2021, Rostelecom arranged for more than 15 thousand COVID-19 tests for employees, and more than 350 employees received specialist consultations on COVID-19 through our Telemedicine platform. For all COVID-19 patients, the Company has arranged specialist consultations and helped to obtain other medical services as necessary. For very severe cases, Rostelecom arranged for transportation to Moscow, transferring the ill employees to for-profit hospitals authorised to handle COVID-19 cases. The Company has arranged a COVID-19 vaccination for more than 1,500 employees who had difficulty in obtaining this service under their compulsory health insurance policies.

Special services

Rostelecom has developed a service that can detect coronavirus from lung X-rays. The solution enables remote diagnostics and is based on a radiological information system that accumulates X-ray images. The technology can be used for the early detection of infection symptoms, enabling immediate action. At the moment, the solution is undergoing pilot trials for AI-driven automatic image recognition.

Rostelecom subsidiaries have developed services for doctors working with COVID-19 patients as part of the Unified Digital Healthcare Platform rolled out across Russian regions and were the first in Russia to integrate the services with the federal data tracking resource. The services allow ambulance teams to receive real-time information on the availability of beds for coronavirus patients. Healthcare organisations and regional healthcare ministries can also benefit from online tracking of available isolators, beds and medical equipment for COVID-19 patients. In addition, the system maintains a register of doctors working with COVID-19 cases.

Voice Assistant 122, an intelligent information system for voice communication between a robot assistant and a live person following a set script, was launched in five Russian regions. The assistant relieves call centres and handles up to 50% of patient queries. The House Call script successfully processed up to 65% of calls while the Booking a Vaccination Appointment script handled up to 35% of cases without passing the call to a human operator.

AI projects were implemented in three Russian regions to improve early detection of diseases, including cancer, through automated diagnostic services based on medical images (fluorography, mammography, and CT scan of the lungs). The use of this AI technology during the COVID-19 pandemic helps detect signs of coronavirus such as pneumonia and other complications, and treat them effectively.

The service for telemedicine consultations was launched in five regions, with 81 healthcare facilities connected. More than 17 thousand consultations were provided by 9 thousand doctors of different specialties using this service.

The E-prescription service was launched in 5 regions, with 139 healthcare facilities connected. More than 2,000 doctors received relevant training and 2,000 pharmacies joined the service. A total of more than 930 thousand prescriptions were issued.

Two Russian regions successfully piloted a remote monitoring service for confirmed coronavirus cases, including during post-COVID-19 rehabilitation. The service uses voice assistants to collect data on the patient's current condition, transmit the information to the consulting physician and, in case of a serious deterioration requiring a physician's decision on emergency hospitalisation, arrange a telemedicine consultation with the doctor on duty, available 24/7.

81
healthcare facilities connected to the service for telemedicine consultations

139
healthcare facilities connected to the E-prescription service

Business customer relations

Rostelecom offers large enterprises a unique integrated solution for highly accurate remote body temperature screening of people passing by based on thermal imaging cameras. This contactless highly precise solution can measure body temperature of up to 80 people per second at a time, minimising the risk of virus propagation across the enterprise.

The COVID-19 pandemic has triggered the accelerated digitalisation of industries across the economy and facilitated changes in the cloud service usage patterns among retail customers and businesses.

Today, business customers attach great importance to anytime access to information resources, stable connectivity and the convenience of tools supporting employee discussions of work-related issues, as well as to digital security experience for users.

For large business clients, Rostelecom has offered a suite of proven, powerful solutions that help to maintain business continuity during the pandemic. We are offering our customers internet access services, Virtual Private Networks (VPN), secure remote access, virtual data centre services and protection against DDoS attacks to support remote access to their information resources. Stable and convenient connectivity is ensured through the provision of mobile services, toll-free 8 800 numbers, virtual PBX, videoconferencing and M2M monitoring solutions, and the video surveillance service is offered for security.

To prevent the spread of the coronavirus infection, Rostelecom launched its Mask Detection Video Analytics product enabling face mask detection with options to receive alerts and view event logging data for incidents in question.
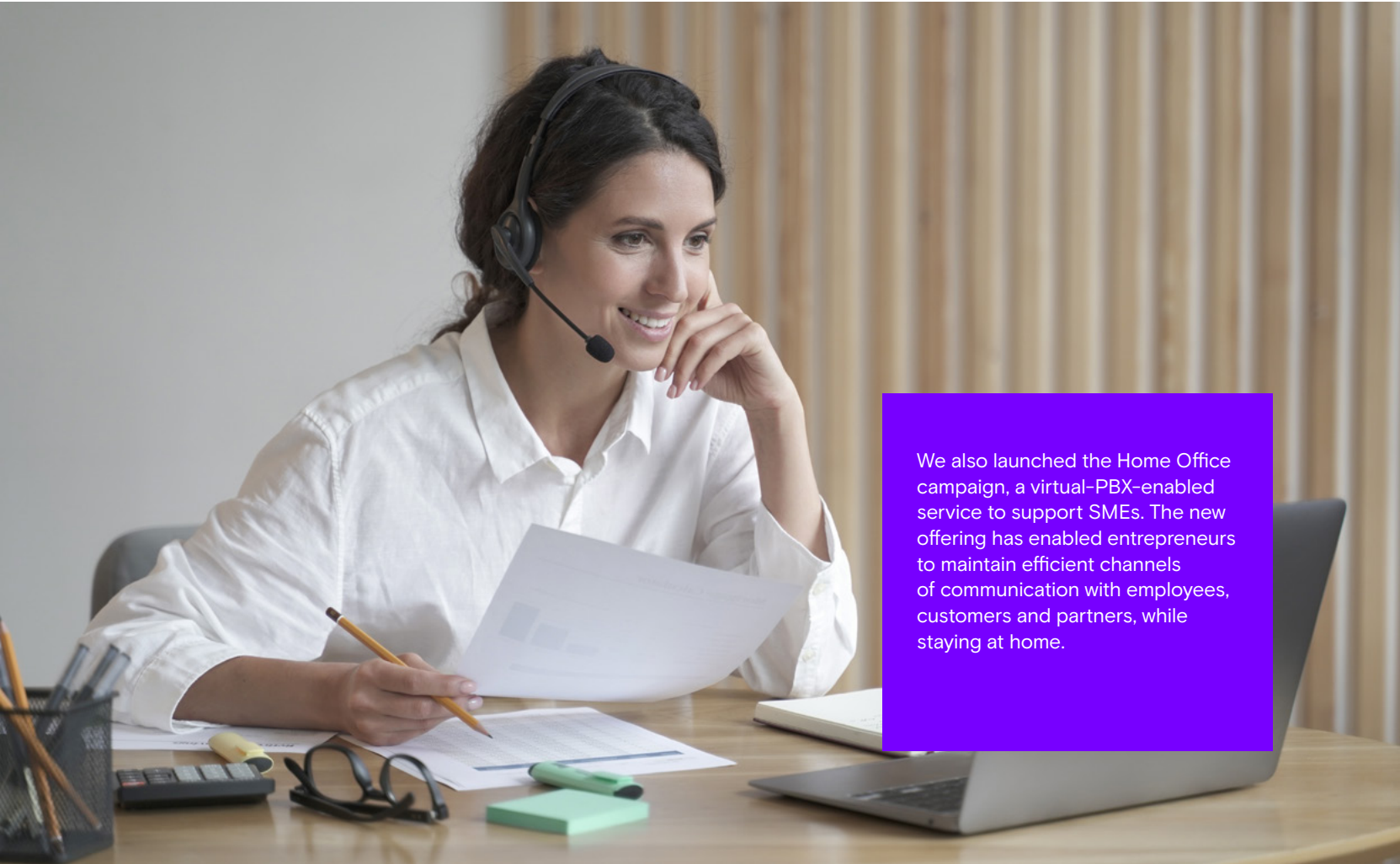
We also launched the Home Office campaign, a virtual-PBX-enabled service to support SMEs. The new offering has enabled entrepreneurs to maintain efficient channels of communication with employees, customers and partners, while staying at home.

Retail customer relations

Rostelecom has introduced special terms for fixed-line subscribers – a free deferred payment option to keep customers connected at all times. Rostelecom has introduced nation-wide free on-net calls (intra-zone and domestic long-distance networks) for landline phones.

The Company has provided unlimited on-net calls to mobile numbers of Rostelecom and its mobile subsidiary (free calls to these numbers within Russia for Rostelecom fixed-line subscribers). Calls to mobile Rostelecom numbers (MVNO) are also free.

Rostelecom's Wink and IPTV users now have free access to a vast collection of Russian movies, series, cartoons and educational content for children. All registered users can watch old Soviet movies, Russian blockbusters and new movies in exclusive translations.

On behalf of the Russian Ministry of Digital Development, Communications and Mass Media, Rostelecom acted fast to set up a 24/7 toll-free hotline, 8 800 200 0112, to inform and support people during the pandemic, a 24/7 toll-free hotline to support SMEs during the pandemic, and a dedicated 24/7 toll-free hotline to inform and support Russian citizens abroad during the pandemic.

The centre launched by Rostelecom to keep citizens updated on vital social and economic issues, including measures to curb the spread of COVID-19 continued its operation in 2021. In the reporting year, the call centre handled over 1.8 million calls, mainly concerning symptoms, prevention, treatment, and the overall COVID-19 infection rates in Russia, as well as vaccination.

Faced with the pandemic, the Company maintained a relentless focus on user needs and expanded its partnerships to provide access to digital books:

- Free trial period was extended to 30 days for all new subscribers to Rostelecom Books (LitRes catalogue) who took up the service between 6 and 31 December 2021
- All subscribers to Rostelecom's Internet service were offered the basic subscription and the All-Inclusive subscription to Rostelecom Books (LitRes catalogue) on special terms

Amid the pandemic, our digital sales channels continued to grow, with their share reaching 16% in 2021. These are primarily e-commerce channels, such as the AppSeller app[1] and the virtual shop (E-shop), as well as remote customer identification tools based on the Goskey app and the eSIM technology[2]. In August 2021, Rostelecom's mobile subsidiary was the first in Russia to offer users remote SIM card registration with a non-qualified electronic signature in the Goskey app. We were also the first to offer an eSIM connection option with identification via the Unified Biometric System.

>1.8 mn

calls received by the call center in 2021

16 %

share of digital sales channels for mobile services by the end of 2021

1   The AppSeller application is intended for dealers of the mobile operator to help them quickly and easily register new SIM cards from a mobile device, making the contract signing procedure fully paperless.
2   An eSIM card, or embedded universal integrated circuit card, is a form of programmable SIM that is embedded directly into a device.

Rostelecom remains the leader in developing cybersecurity products and services, and is also the leader of the cyber attack monitoring and protection centre market by the number of protected organisations. The Company established a centre of excellence in access control systems, boasting Russia's largest and most experienced team of subject matter experts, has significantly expanded the range of information security services and also quickly moved many programmes from offline to online. In addition to new project formats, Rostelecom has also developed platforms to actively involve different target audiences in our programmes.

A total of seven suggestions for refining the draft Report content and improving stakeholder engagement were received through the stakeholder dialogues. All of these were considered to improve the Report.

Stakeholder engagement as part of the report preparation process

To improve transparency and accountability, Rostelecom involves its key stakeholders in the reporting process to jointly discuss the Company's performance and contribute to our disclosures in the forthcoming Sustainability Report. Annual stakeholder dialogues as part of our sustainability reporting have been ongoing since 2018.

Stakeholder engagement is an integral part of the requirements of AA1000 Stakeholder Engagement Standard (AA1000SES) and the GRI Sustainability Reporting Standards.

On 17 February 2021, to summarise the 2019–2020 reporting campaign and prepare for the next reporting cycle, we had a dialogue with our stakeholders. The online event featured speakers in an offline studio environment and was live-streamed on YouTube and Webinar.ru. The meeting gathered partners, experts, representatives of non-profit organisations, RSPP, industry media, the heads of Rostelecom's business units and employees of the Company's regional units.

Incorporation of the most significant stakeholder suggestions submitted as part of the 2021 Sustainability Report preparation process

Stakeholder suggestions resulting from dialogues	Stakeholder category	Incorporation of suggestions
Provide more details on how sustainability factors are embedded into the Company's strategy	Scientific and expert community	Taken into account when preparing the Report
Specify how the Company's new assets are engaged on the sustainability strategy, how they are managed by the Board of Directors, and how they are integrated into the Company's corporate culture	Scientific and expert community	Taken into account when preparing the Report
Report on the Company's work with suppliers	Scientific and expert community	Taken into account when preparing the Report
More actively involve SMEs in governance improvement and reflect this in the report	Scientific and expert community	Will be incorporated in our activities and taken into account when preparing the Report
Provide more details on UN SDG Goal 3: Good Health and Well-Being and report progress on this goal	Business partners	Will be taken into account in the next reporting period
Align the report structure with the Company's ESG agenda	Scientific and expert community	Will be taken into account in the next reporting period
Prepare a short version of the report to provide a summary of Rostelecom's contribution to the ESG agenda	Scientific and expert community	Taken into account when preparing the Report

Stakeholder engagement during the process to identify material topics

In line with the GRI Standards, Rostelecom regularly carries out its materiality assessment to identify topics that are material to its internal and external stakeholders, which helps the Company to prioritise its sustainability risks.

Sustainability risk management

The Company prioritises sustainability focus areas by analysing key sustainability risks for the business and engaging with internal and external stakeholders to identify environmental, social and governance aspects that are critical to stakeholders and the Company's operations.

Incorporation of the most significant stakeholder suggestions submitted as part of the 2021 Sustainability Report preparation process

HSE risks

To minimise these risks, Rostelecom approved an HSE and fire safety policy, which outlines the key objectives, principles and focus areas to create safe working conditions, keep all employees safe and healthy and ensure industrial, fire and environmental safety. In 2020–2021, due to the COVID-19 pandemic, special attention was paid to the health and safety of employees: Rostelecom provided all the necessary personal protective equipment, carried out regular disinfection of production facilities and moved most office staff to work from home. These risks are monitored in line with the Company's business plan.

Anti-corruption risks

The Company identifies corruption risk as a key hypothesis in controlling the risk of legal violations, penalties, and financial and reputational damage. The Risk Management Programme enables monitoring of indicators related to identified affiliate relationships, completion of anti-corruption training, and submission of declarations by employees in positions exposed to a higher corruption risk.

Risk of skilled personnel shortage

The Risk Management Programme covers the risk of shortages in key personnel. The rationale for including this risk is the creation of a single IT landscape and platforms for launching new digital and converged products, as well as improving customer relations. In line with its strategic priorities for employee development in 2021–2025, the Company is focused on building digital capabilities and digital literacy. The 2021 Risk Management Programme tracked the metrics for training and advanced training completion and certification rates across digital skills programmes. The Company also monitors the turnover rate of employees aged under 30.

Steps in the materiality assessment process

Step 1	Step 2	Step 3
Analysing the context	Identifying real and relevant impacts	Assessing the significance of impacts
Making a list of relevant topics based on the Company's business profile and the global agenda. Making a list of stakeholders	Analysing materials from industry experts and assessing the Company's risks to identify its impacts. Updating metrics to measure the impacts	Assessing the significance and scale of impacts using stakeholder surveys and internal expertise

According to GRI Standards 2021, material topics represent an organisation's most significant impacts on the economy, environment and people, including impacts on their human rights.

In 2021, the Global Reporting Initiative (GRI) published the updated version of its Universal Standards, proposing a new approach to assessing materiality. In addition, the Bank of Russia published recommendations for public companies on disclosing non-financial information. Rostelecom Group's Sustainability Report 2021 focused on complying with new requirements for non-financial disclosures and harmonising reporting boundaries. We also updated the materiality matrix.

In early 2022, the Report working group used the stakeholder survey results to prepare a list of material topics aligned with the updated GRI Standards. The topics take into account the sustainability context for the Report and recent trends and developments at the global level. The material topics are relevant to the entire Group.

The following changes were made under the new GRI methodology:

- The Importance to Stakeholders dimension was removed
- Three topics became mandatory for disclosure and were included in the GRI 2 Universal Standards, while the corresponding GRI 307, GRI 412 and GRI 419 standards were withdrawn.

On 15 February 2022, Rostelecom held a Sustainability Report 2021 stakeholder dialogue to discuss the materiality matrix.

Plans for 2022

- Review the latest global trends in preparing sustainability reports and analyse new standards (if any)
- Employee upskilling
- Conduct social and questionnaire surveys of stakeholders, including in the regions of operation
- Further promote sustainability reporting principles and approaches at various events and through the media and social media platforms

Materiality matrix

1. Safety of services	6. Employee development	11. Responsible business practice and anti-corruption	16. Waste
2. Indirect economic impacts	7. Rollout of innovations	12. Responsible procurement	17. Environmental compliance
3. Markets and competition	8. Employment	13. Economic performance	18. Biodiversity
4. Providing quality, affordable services	9. Human rights	14. Energy consumption	19. Air emissions
5. Contribution to the development of the Company's regions of operation	10. Health and safety	15. Materials	20. Water resources

INVESTMENT
IN HUMAN
CAPITAL

Rostelecom Group's efforts to ensure gender equality across the Company have earned it global recognition for a second year running: Rostelecom was once again included in Bloomberg's 2021 Gender-Equality Index, covering 380 companies from 44 countries.

Rostelecom Group is one of the country's largest employers, with the Group's average headcount at 124.3 thousand in 2021. The Company offers its employees ample opportunities for professional and personal development. To boost performance, Rostelecom provides training in a wide range of areas, runs social support programmes, and strives to improve working conditions and introduce more technologically advanced workflows.

Rostelecom's long-term HR management and employee development goals are directly linked to the UN SDGs. Rostelecom's human capital management strategy is aligned with SDGs 4, 8, 9, 10 and 11.

The company has built a training system that builds the required skills in its employees of different ages and empowers them to fulfil their professional and personal potential. The average training time per Rostelecom employee was 31.5 hours in 2021 (SDG 4.4). Rostelecom provides equal opportunities for all employees and has a zero-tolerance policy for discrimination in the workplace, with our ways of working built on mutual trust, respect and accountability (SDGs 5, 10).

To achieve SDG 8, the Group provides its employees with a safe, healthy and comfortable working environment where they can work on creating high-quality and convenient digital services. Loyalty programmes, additional health insurance, retirement plans and housing programmes for employees are aimed at supporting hundreds of thousands of people across Russia.

To achieve SDG 9, Rostelecom engages with school and university students to help them build digital literacy and fosters partnerships with higher education institutions (SDG 17) to develop new digital products and pass expert knowledge on to students.

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

17 PARTNERSHIPS FOR THE GOALS

Our approach

HR management system

HR management at Rostelecom is aligned with international and national regulatory standards, as well as corporate regulations and codes.

HR management organisation

Body	Responsibilities
Nomination and Remuneration Committee of the Board of Directors	Overseeing the adoption and implementation of the Company's remuneration policy and incentive programmes, as well as conducting performance evaluations of the Company's executive bodies and key managers
Compensation Committee of the Management Board	Building an effective employee compensation system that drives the Company's competitiveness and long-term success
Organisational Development and HR Management Unit	Human capital management across the Group
Functional areas of HR management across Rostelecom's business units and subsidiaries	Implementation of HR management policies

Organisational Development and HR Management Unit

Department	Key functions	Key achievements in 2021
HRM Technology and Analytics Department	Automate HR services, conduct research commissioned by HR functions	• A WebTutor-based recommendation engine was launched by the Corporate Online University • The AddVisor performance monitoring service was launched • The functionality of the IQHR recruitment and onboarding system was enhanced • The HR assistant chatbot was commercially launched • IQHR was integrated with Goskey and digital profile services
Internal Communications and Corporate Culture Department	Ensure employee communications, corporate culture development and employer brand positioning within the Company	• A survey of employee engagement, loyalty and satisfaction was conducted • The Rostelecom Ambassadors project was implemented
Organisational Development Department	Manage the Company's organisational structure and overall management model	• Migration to a new two-tier governance model • Performance and productivity improvement
Compensation and Benefits Department	Manage employee monetary incentives and compensation	• A new incentive was rolled out for service centres and support specialists of the Technical Infrastructure Unit • Incentive systems for sales teams in commercial segments were updated to align them with business goals
Operations Management Department	Manage HR functions and ensure labour law compliance in employment contracts	• The voluntary health insurance (VHI) system was improved • The Coding Classes for Employees' Children were further enhanced • Nine professional standards were developed and approved • An application campaign for the housing programme for Rostelecom employees was automated
Talent Management Department	Carry out recruitment and onboarding, talent pool management, and mentorship	• PJSC Rostelecom's recruitment processes were upgraded
Knowledge Management Department	Provide methodology support, design programmes, deliver training, assess training results, develop Rostelecom's Corporate Online University, and evaluate employee performance	• The training function was centralised: as part of migrating to the target management model, training departments were set up at the HR centre of excellence, with federal training teams comprised of trainers and training managers from different regions and segments • 369 new online courses and programmes were developed • The amount of in-house training at the Corporate Online University increased 66% year-on-year
HR Strategy Project Office	Consolidate the Company's HR strategy, manage the employer brand, coordinate key cross-functional HR projects	• A number of initiatives were launched within the youth programme: the Your Career Path career development programme, youth councils, and the youth mentor programme • A loyalty programme for departing employees was launched • The Rostelecom Experts programme was further developed • Higher HR brand media indices and a growing number of publications about Rostelecom as an employer in traditional and digital media • Esport tournaments and promotion of esports at Rostelecom • Development of in-house HR resources and career marketing

Human capital development

Our employees are our key asset, driving Rostelecom's digital transformation. Human capital development is one of the Company's strategic pillars until 2022.

Focus areas of Rostelecom's human capital development:

- Building employee digital skills and capabilities
- Staff retraining and internal migration
- Adopting new approaches to employee development and workforce management
- Improving corporate culture and engagement models

Rostelecom's five-year HR Management Strategy 2018–2022 is designed to:

- increase labour productivity
- improve employee loyalty
- build an ecosystem of knowledge for employees.

Rostelecom's strategic goals

- Help employees to fulfil their full potential
- Improve employee performance
- Transform employees into change agents throughout the organisation while maintaining their engagement levels

Employees are central to the Company's business development

Employee's own potential

Fostering a productive and friendly environment

Talent and leadership

Talent recognition

Core competencies

Management model

Employee

Training and development

Culture and environment

+18 %

4.0 mn RUB

revenue per employee in 2021

118 %

labor productivity index in 2021

Rostelecom's 2021–2025 Long-Term Development Programme lists labour productivity index among the Group's key performance indicators[1]. In 2021, this metric stood at 118%: revenue per employee increased by 18% year-on-year, from RUB 3.5 million to RUB 4.0 million.

In 2021, the Company transformed its organisational structure across all segments and functional units. The project was primarily focused on reducing the number of management levels, accelerating decision making and simplifying business processes.

The following measures were implemented as part of the project:

- A conceptual model for managing the Company's operations was developed, and the target roles and functions were defined for the updated management levels – the Corporate Centre, centres of excellence and regional branches
- Detailed organisational structures of the segments and functional units were developed and approved
- All new centres of excellence were identified and relevant set-up standards were approved
- Phased plans to migrate to the target management model were finalised and launched
- The performance of segments and functional units was improved, redundant and overlapping functions were identified and optimisation measures were initiated

In 2022, the Company intends to further improve labour productivity and organisational efficiency.

Training and development strategy

Rostelecom has made significant progress in employee training and development. Despite the COVID-19 restrictions related to the cancellations of in-person training, over two years we successfully adapted a number of new online training formats and rolled them out to all regions, while sustaining the growth momentum of employee engagement in professional development. The overall growth in the Company's training volumes was 33% year-on-year in 2021.

+33 %

overall growth in the Company's training in 2021

Rostelecom employees demonstrate growing engagement in their professional and personal development each year. In 2021, in a remote-working environment, remote learning volumes were up 66% year-on-year. An average employee takes eight online courses at the Corporate Online University.

1   Calculated in line with the Methodology for Calculating Labour Productivity Indicators of an Enterprise, Industry or a Constituent Entity of the Russian Federation (approved by Order No. 748 of the Russian Ministry of Economic Development of Russia dated 28 February 2018) as a ratio of labour productivity in the reporting year to labour productivity in a baseline year.

Labour practices
amid the COVID-19 pandemic

The COVID-19 crisis has hardly affected Rostelecom's workforce: the headcount decreased from 136.7 thousand in 2020 to 126.8 thousand in 2021. Overall employee turnover in 2021 increased to 20.8% compared to 16.4% in 2020.

>60 thsd

Rostelecom office employees continued working from home due to the pandemic in 2021

41.9 thsd RUB

the average salary across the Group was increased in 2021 (in 2020: RUB 40.2 thousand)

1,026.7 mn RUB

Rostelecom's expenses personal protective equipment (PPE) amid the ongoing COVID-19 pandemic

Remote working

The Company has provided employees with 24/7 access to Rostelecom's resources via its corporate portal, the RT Life mobile app, and the remote.rt.ru remote. rt.ru portal, while also providing 24/7 support to employees.

In March 2020, due to the pre-deployed infrastructure of remote access to the Company's information resources, Rostelecom was able to transition about 50 thousand employees to remote work in just two weeks. A total of over 60 thousand employees switched to working remotely.

The Company's standard for remote work for employees and managers and the standard to measure the performance of remote employees ensure strong performance when working from home.

Remote teams are managed via the Trueconf video conferencing software. Hosted at Rostelecom's data centres, proprietary software products, such as the Tionix Virtual Desktop (VDI)[1], were launched for virtual workplaces.

Improved workplace safety for employees

The following measures were taken to protect employees who, due to the nature of their jobs, need to be present in-person:

- Thermometers, disposable masks and gloves, and hand sanitiser are deployed at every entrance and every floor across the Group's office spaces
- Field crew members are equipped with PPE – disposable coveralls, gloves, safety goggles and face masks, shoe covers, and hand sanitiser and moisturisers
- Employees get daily body-temperature checks, social distancing is being observed, and regular PCR tests are selectively done
- Our facilities and office spaces are regularly disinfected

Assistance to sick employees

Despite the fact that COVID-19 infection is not an insured event under the VHI programme, during 2021, Rostelecom arranged for more than 15 thousand COVID-19 tests for employees, and hundreds of employees received specialist consultations on COVID-19 through our Telemedicine platform. For all COVID-19 patients, the Company arranged specialist consultations and other medical services as necessary.

For very severe cases, Rostelecom arranged for transportation to Moscow, transferring the ill employees to for-profit hospitals authorised to handle COVID-19 cases. A COVID-19 vaccination has been arranged for more than 1,500 employees who have difficulty in obtaining this service under their compulsory health insurance policies.

1   Virtual Desktop Infrastructure.

HR management assessment

The Nomination and Remuneration Committee of the Board of Directors and the Compensation Committee of the Management Board regularly review the performance of Rostelecom's HR management system at their meetings.

We get feedback from employees through pulse surveys on team morale and environment, changes in corporate culture, job satisfaction, loyalty to the Company, and relationships with managers. Responses are analysed and taken into account when planning HR projects addressing employee motivation, development and training.

Every two years, Rostelecom conducts an employee engagement, satisfaction and loyalty survey. Over five years, the engagement level has increased by 26 points, from 55 to 81, indicating a dramatic change in the internal environment across the Company.

The most recent eNPS[1] survey was conducted in January 2022 and covered 84% of employees (more than 72 thousand people). The respondents gave almost 70 thousand comments. The eNPS increased by 10 p.p. year-on-year, reaching +13.6%. The metric is calculated as the difference between the percentage of promoters and detractors, with any positive number considered a good result.

In 2021, we continued pulse surveys run at the request of teams to get faster feedback on team morale and motivation, and to pinpoint relevant needs within a department, segment or specific unit.

Employees are also regularly surveyed on new products, pilot launches, internal services, training and other focus areas.

eNPS, %	
April 2018	3
September 2019	10
October 2020	3.6
January 2022	13.6

Human capital development awards

In 2021, Rostelecom's achievements in HR management were recognised with a number of awards and prizes:

- According to hh.ru, Rostelecom ranked among the top 10 employers in Russia in the Largest Companies category, was named the best employer in the telecommunications industry (eighth place in the overall ranking), ranked first among telecom companies in a job seeker survey and second in the Most Advanced HR Processes subranking, and won the HR Brand Award for the Voluntary Turnover Prediction project.

- The Company was listed in the Gold category of the Forbes ranking of the best employers in Russia.

- Rostelecom won the Investment Leaders 2021 award in the Investment in Human Capital category.

- Rostelecom's achievements in education were recognised in two categories of the Effective Business Education awards: the Sales Campus project was named the Programme of the Year, and Rostelecom Experts was named the Project of the Year, while Graduate Awards 2021 commended Rostelecom for engaging school students in the Best School Student Outreach Programme category.

3.12 Our advantages[2]

SDG icons: 5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES, 11 SUSTAINABLE CITIES AND COMMUNITIES, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS

HR focus areas
Attraction
Training
Working environment
Remuneration and benefits

Recruitment

Rostelecom operates its proprietary recruitment management system, IQHR. The IQHR platform helps accelerate and improve the talent recruitment process by supporting the entire candidate sourcing cycle.

In 2021, Rostelecom's recruitment and recruiter interaction processes were updated, unlocking significant progress on a number of recruitment metrics:

- Company-wide, satisfaction score for recruiting managers improved from 4.85 in 2020 to 4.88 in 2021 (2019: 4.69)
- Average time to fill a position remained unchanged in 2021 at 14 working days (2019: 27 working days)
- The quality of in-house services was 8.9 for the recruitment and onboarding function in 2021.
- The percentage of expired positions was flat year-on-year in 2021 at 2.8% (2019: 17.1%)

Rostelecom contributes to the digital transformation of Russia through partnerships with universities, focusing on jobs of the future, offering internships and employing young cybersecurity professionals. By promoting its brand among school and university students, Rostelecom encourages its in-house experts to share knowledge, participate in hackathons as mentors and help young people in getting a taste of the industry. The Company has in place a mentorship and onboarding programme for new hires. There are also a well-developed career planning programme and the Talent Pool programme to insource talent for the majority of vacant positions. (For more details, see the Employee Training section).

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1   Employee Net Promoter Score. A method to measure employee loyalty.

2   Indicators in this section are restated compared to previous reporting periods due to changes in the calculation methodology. Previously the metrics were calculated based on average headcount, but in this Report they are calculated based on headcount as at year-end.

Breakdown of employees

Rostelecom Group employed 129.7 thousand people at year-end 2021, with women making up 44% of the total workforce (54.4 thousand). In 2021, the Group's average headcount reduced by 7.2% from 2020.

129.7 thsd people

Rostelecom Group employed at year-end 2021

–7.2 %

the Group's average headcount in 2021 compared to 2020

Rostelecom Group's average headcount[1], people

	2019	2020	2021
Group total	135,178	136,679	126,812
PJSC Rostelecom	105,754	105,450	95,150
Subsidiaries and affiliates	29,424	31,229	31,662

Rostelecom Group's headcount as at year-end, people

	2019	2020	2021
Employees excluding those on parental leave, employees under independent contractor agreements and internal part-timers	142,621	140,924	123,899
Employees including those on parental leave	149,782	147,399	129,773
Internal part-timers	1,204	1,940	3,062
External part-timers	9,338	8,655	8,621

Rostelecom Group employees by age[2], people

	2019	2020	2021
30 and younger	32,631	30,753	26,010
31–49	74,270	74,269	68,192
Over 50	40,071	39,475	33,912
Total	146,972	144,497	128,114

Employing people with disabilities

Rostelecom offers equal opportunities and provides jobs for people with disabilities. As at year-end 2021, the Group employed 1,232 people with disabilities, up 7.6% from 1,145 people a year earlier. Employees with disabilities accounted for 1% of the total headcount in 2021.

Proportion of disabled employees among Rostelecom Group's workforce

	2019	2020	2021
Headcount as at year-end, people	1,684	1,145	1,232
Share of headcount, %	1.27	0.85	0.99

Gender balance

Gender equality is an essential prerequisite for Rostelecom's sustainable growth. That is why the Group is committed to providing decent work for women and men, including young people and people with disabilities, and ensures equal pay for work of equal value.

Rostelecom Group's gender balance[3], %

Proportion of women, %	2019	2020	2021
Middle management and other management[4]	35.3	36.2	34.6
Management[5]	31.7	32.4	35.1
New employee hires	43.6	41.5	44.9
Group total	46.2	44.4	44.1

1   The 2019–2021 indicators presented in the table include data on Rostelecom and the Group's subsidiaries and affiliates. Headcount-wise, this perimeter covers 100% of the entire Group.
2   For some subsidiaries and affiliates, these metrics do not include employees on parental leave, so the total number of employees differs from the Group's average headcount.

3   The 2019–2021 indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates. Headcount-wise, this perimeter covers 98% of the entire Group.
4   Proportion of women in the total number of middle managers and other management positions, i.e. all those who supervise at least one subordinate.
5   Proportion of women in the total number of managers (all those who supervise at least one subordinate).
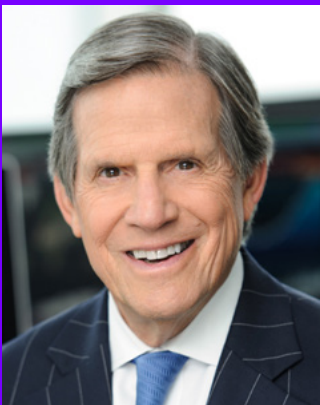
Rostelecom was included in the Bloomberg Gender-Equality Index

In early 2021, PJSC Rostelecom was included in Bloomberg's Gender-Equality Index (GEI) for the second time.

The 2021 GEI shows an increase in social data disclosures by companies committed to creating inclusive workplaces.
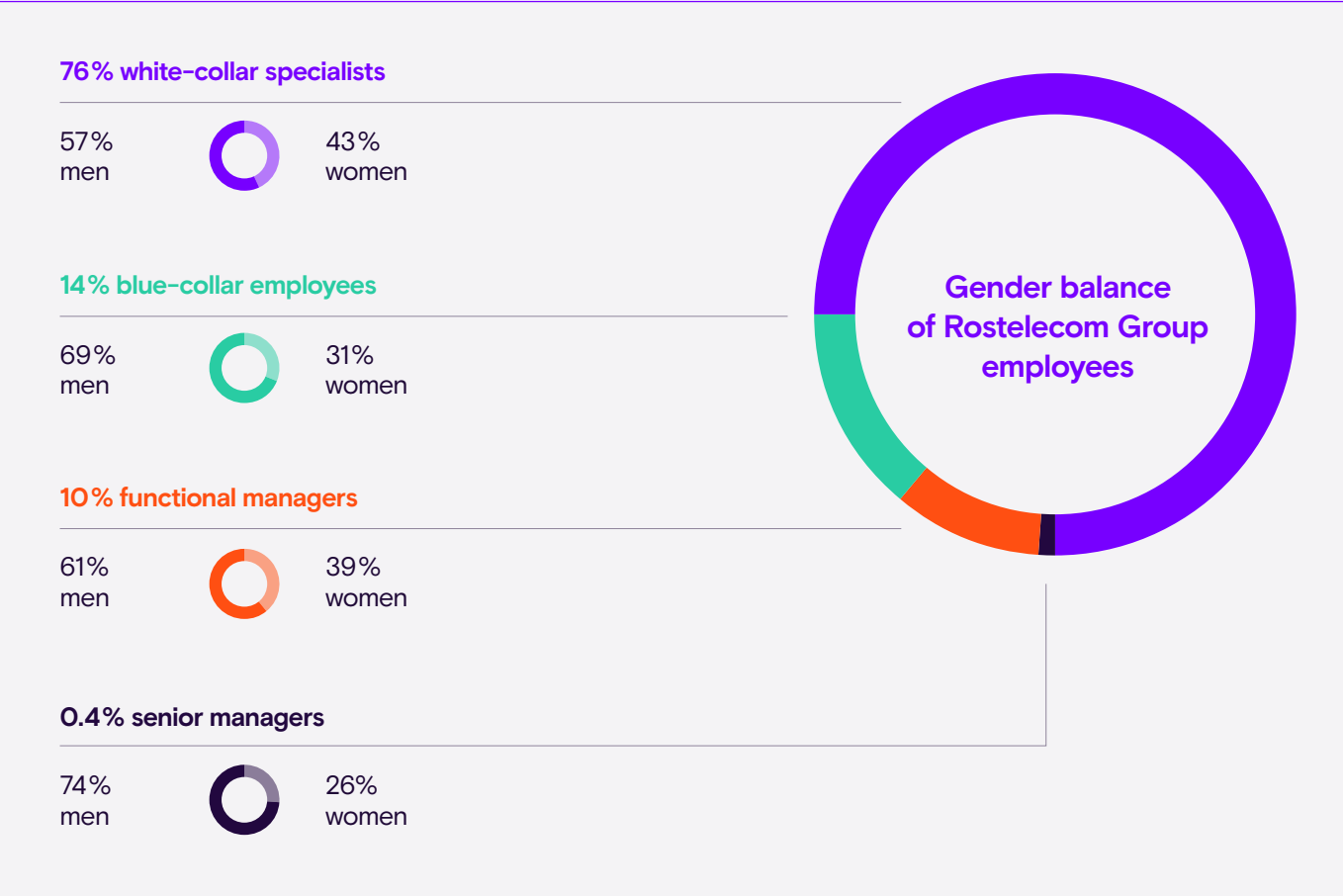
The index confirms the transparency of gender-related practices and policies in companies that annually expand their disclosure of environmental, social and governance (ESG) data available to investors. Companies included in the 2021 index set an example of more transparent reporting and social data disclosure. Following COVID-19-induced changes in the business environment, the 2021 GEI highlighted practices that bolster a company's resilience, such as flexible working hours.

The 2021 GEI covers 380 companies from 44 countries. Rostelecom was included in this year's index as a company that demonstrated a high level of overall performance across the index framework, including the level of disclosure on gender equality in the workplace and in local communities.

« As companies continue to grapple with the COVID-19 pandemic, the 'S' in environmental, social, governance (ESG) data has become more important than ever before. Companies provide an inclusive environment supporting work life balance and flexible work arrangements will eventually succeed in retaining a talented workforce and gain a competitive advantage in a business environment that has been significantly altered.

Peter T. Grauer
Bloomberg Chairman

76% white-collar specialists

57% men   43% women

14% blue-collar employees

69% men   31% women

10% functional managers

61% men   39% women

0.4% senior managers

74% men   26% women

Gender balance of Rostelecom Group employees

Rostelecom Group employees by category[1], people

	2019		2020		2021	
	M	**W**	**M**	**W**	**M**	**W**
White-collar employees	46,726	51,026	51,698	48,134	55,093	41,932
Blue-collar employees	27,080	6,866	22,634	6,496	11,907	5,430
Functional managers	10,081	5,741	10,378	5,841	7,951	5,032
Senior managers	280	95	318	114	362	129
Other employees	15	168	16	159	44	141
Total	**84,182**	**63,896**	**85,044**	**60,744**	**75,357**	**52,664**

60% of employees work in Technology. Commerce, at 23%, accounts for the second largest, while administrative staff makes up 2% of the total headcount.

1   The 2019–2021 indicators presented in the table include data on Rostelecom and the Group's subsidiaries and affiliates. Headcount-wise, this perimeter covers 100% of the entire Group.

Rostelecom Group employees by function[1], people

	2019	2020	2021
Technical team	87,404	87,484	76,847
Commercial team	37,308	34,465	28,841
Administrative team	3,072	2,925	2,847
Other	19,187	19,619	19,579
Total	**146,971**	**144,493**	**128,114**

Parental leave

GRI 401-3

We offer parental leave to all Company employees. Additionally, Rostelecom pays one-off childbirth or child adoption allowances of RUB 5,000 to employees with at least two years of employment at the Company. In 2021, a total of 3,400 employees exercised their right to parental leave (2,258 women and 1,142 men), and 1,996 employees returned to work after parental leave (460 women and 1,536 men).

Number of employees that took parental leave

	2019		2020		2021	
	M	W	M	W	M	W
Total number of employees that took parental leave	1,420	1,749	1,225	1,868	1,142	2,258
Total number of employees that returned to work after the leave	1,887	895	1,651	841	1,536	460
Total number of employees that returned to work after the leave in the previous reporting period and were still working at the end of this reporting period	894	780	910	728	664	341

3.4 thsd employees
exercised their right to parental leave in 2021

Protection of employee rights

The Group's activities are based on our corporate values – adaptability, human touch, simplicity and development. We respect each employee and comply with the Russian labour law and labour standards set out in the International Bill of Human Rights, ILO Declaration on Fundamental Principles and Rights at Work and other international regulations.

PJSC Rostelecom and all subsidiaries and affiliates have approved internal labour regulations setting out the basic rights, duties and responsibilities of the relevant company and its employees. The full list of the rights enjoyed by employees is detailed in Rostelecom's collective bargaining agreement for 2019–2021. Employee rights are also reflected in Rostelecom's Code of Ethics and Corporate Governance Code.

GRI 402-1

According to the collective bargaining agreement, employees are notified of material changes in the Group at least two months before the intended date of the event. Such events include changes in the remuneration system and performance standards, and termination due to liquidation or redundancy.

We uphold the rights of our employees and their families to social security, education, respect for family life, housing, artistic freedom, and participation in the cultural life. To this end, the Group runs development and social support programmes for employees. We provide all employees with equal opportunities to fulfil their potential at work. Employment and promotion decisions are based solely on employees' professional capabilities, knowledge and skills. Each employee's performance is evaluated impartially according to established procedures.

100 %
of the Group employees are covered by the collective bargaining agreement

All Rostelecom employees have the freedom of association and the right to collective bargaining, may join various trade unions and professional associations. Rostelecom suppliers, contractors and other stakeholders share and support this approach.

Business conduct

We strictly adhere to the principle of non-discrimination in labour rights and freedoms or benefits against employees on grounds of gender, race, age, skin colour, ethnicity, language, origin, material, marital, social or official status, place of residence, religious views, beliefs, membership in (or failure to join) particular public associations or social groups, in line with PJSC Rostelecom's Code of Ethics.

The Company's Code of Ethics sets out the main rules of business conduct mandatory for all employees, members of the Board of Directors and the Audit Commission of Rostelecom. The Company encourages non-discriminatory practices, including on the grounds of gender. In case of any potential for discrimination, the Company has developed a response procedure.

1   The 2019–2021 indicators presented in the table include data on Rostelecom and the Group's subsidiaries and affiliates. Headcount-wise, this perimeter covers 100% of the entire Group.

Employee turnover

GRI 401-1   GRI 401-2

GRI 405-1

The Group hired a total of 24,202 people in 2021, comprising 55 % of men and 45 % of women. Rostelecom does not pursue the policy of a predominantly local workforce and selects candidates to fill vacancies based on their education level, qualifications and professional skills.

Hired and dismissed employees, people

	2019		2020		2021	
	M	W	M	W	M	W
Hired	18,151	14,016	16,147	11,943	13,336	10,866
Dismissed	4,315	7,119	4,500	6,937	5,380	7,091

Employee turnover at the Group was 20.8% in 2021, up 4.4 p.p. year-on-year.

There were no COVID-19-related layoffs at Rostelecom Group.

Employee turnover at Rostelecom Group, %

	2019	2020	2021
Overall employee turnover[1]	17.2	16.4	20.8

Employee turnover at PJSC Rostelecom, %

	2019	2020	2021
Overall employee turnover	10.5	9.6	14.0
Voluntary employee turnover	10.5	9.6	14.0
Involuntary employee turnover	6.3	6.3	6.0

1   The 2019–2021 indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates. Headcount-wise, this perimeter covers 98% of the entire Group.

Permanent and temporary staff

GRI 2-8

In 2021, Rostelecom Group employed specialists under independent contractor agreements for certain jobs[2], with their headcount at 42,556 as at end-2021. These specialists were mainly engaged to:

- connect customers to Rostelecom services
- install customer premises equipment
- handle customer calls as part of first-line support
- perform periodic business support tasks during peak periods.

There are seasonal variations in employment at Rostelecom, mainly in the southern regions and the Far East from June to August. In the southern regions, higher employee churn is linked to the local focus on agriculture as employees have farms of their own. In the Far East, employees usually leave during fishing seasons.

42.5 **thsd employees**

number of people working at the end of the reporting year under independent contractor agreements for certain jobs

Rostelecom Group permanent and temporary employees as at the end of the period[3], people

	2019	2020	2021
Number of employees (permanent staff only, excluding those on parental leave, employees under independent contractor agreements and internal part-timers)	142,621	140,924	123,899
Number of part-time employees	15,548	13,612	13,447
Number of temporary employees (on fixed-term contracts)	12,968	12,840	11,082
Average headcount of employees under independent contractor agreements (excluded from the total headcount)	27,801	47,301	42,556
Number of employees with an hourly wage	7,228	7,949	7,471
Number of non-staff employees (interns, volunteers, contractors, self-employed)	621	423	450

2   Persons employed under independent contractor agreements are not employees of the Company and are not considered Rostelecom staff for the purposes of Russian labour laws, but merely perform work or services under civil law.

3   The 2019–2021 indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates. Headcount-wise, this perimeter covers 98% of the entire Group.

Remuneration and incentives

To retain highly qualified employees, Rostelecom has in place comprehensive incentive systems that also encourage employees to increase labour productivity and look for new ways to address the Group's tasks using digital technologies.

99.5 bn RUB

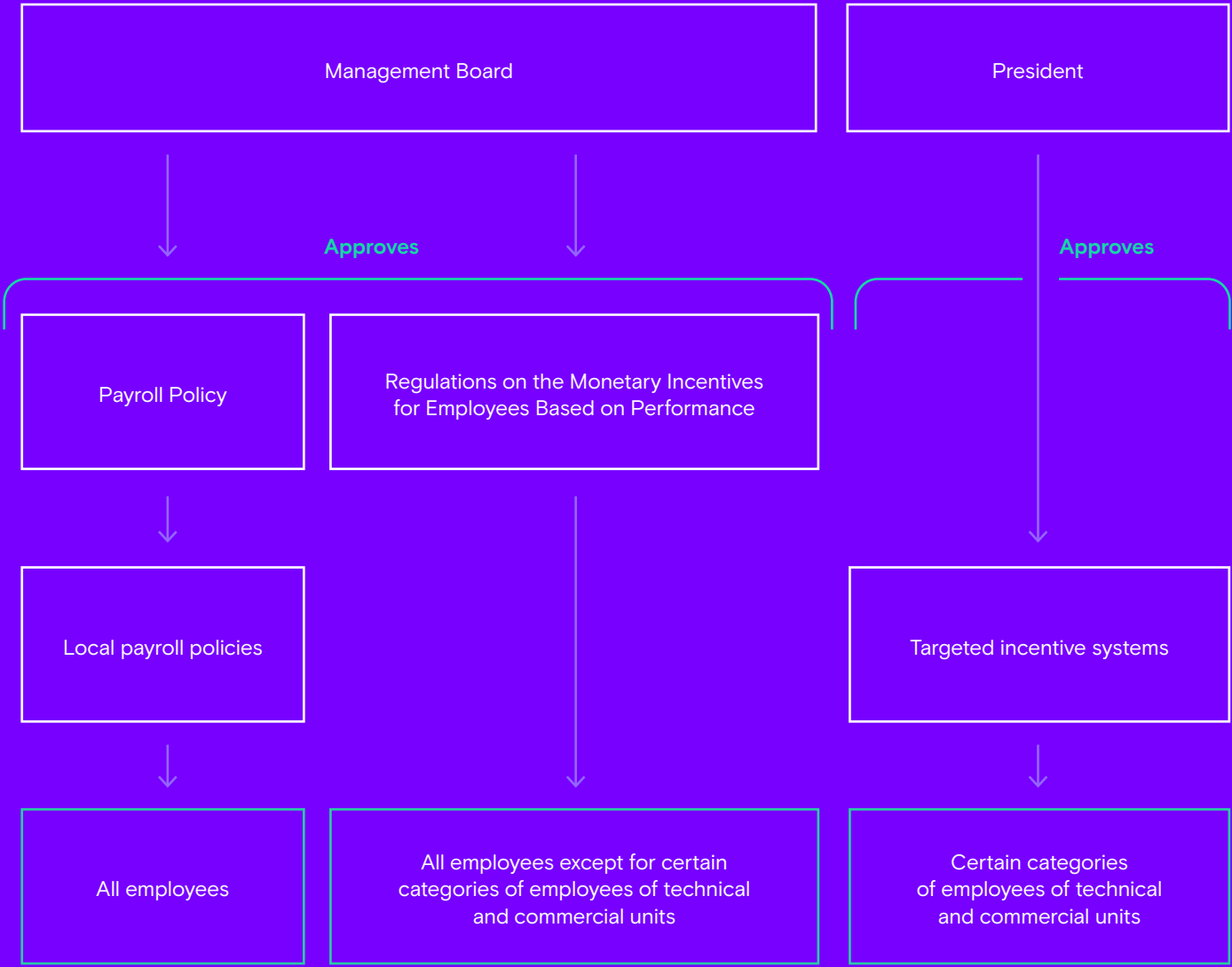Rostelecom Group's labour costs in 2021

41.9 thsd RUB

Rostelecom Group's employees' average monthly pay in 2021

There is no consistent approach to remuneration and incentives for employees of the Group subsidiaries and affiliates. Each subsidiary/affiliate has its own remuneration system depending on its profile. Regulations related to financial incentives for employees of subsidiaries and affiliates are approved by order of the CEO in line with the Charters of respective subsidiaries and affiliates.

We provide fair pay, annually indexing pay rates and gradually increasing payroll. Pay indexation is calculated individually and takes into account the consumer price index (CPI), the employee's income level and the local minimum wage in the relevant region.

In 2021, Rostelecom Group's labour costs totalled RUB 99.5 billion, up 1% year-on-year (RUB 98.6 billion in 2020). The average monthly pay of Rostelecom Group employees increased by 4.3% year-on-year to RUB 41.9 thousand (RUB 40.2 thousand in 2020).

| Management Board | | President |

Approves — Approves

| Payroll Policy | Regulations on the Monetary Incentives for Employees Based on Performance | |

| Local payroll policies | | Targeted incentive systems |

| All employees | All employees except for certain categories of employees of technical and commercial units | Certain categories of employees of technical and commercial units |

Rostelecom Group's labour costs[1]

	2019	2020	2021
Payroll, RUB billion	85.0	98.6	99.5
Average salary, RUB thousand/month	35.0	40.2	41.9
Average income, RUB thousand/month	46.2	53.5	53.7

At end-2021, the pay level at PJSC Rostelecom amounted to 86%, taking into account the average market growth of 9%. Pay level assessment at subsidiaries and affiliates in 2021 was carried out selectively at certain companies. A centralised pay level assessment at subsidiaries and affiliates is slated for 2022.

In 2020, Rostelecom developed the new Regulations on the Long-Term Bonus Programme for PJSC Rostelecom Employees for 2020–2022, which help catch up with telecom majors in terms of pay rates and strengthen employee motivation.

In the reporting period, Rostelecom continued implementing the Fair Pay project launched in 2019 and aimed at achieving the target market average pay rates within five years. Within the project, we benchmark the current pay rates for our employees against the average rates for similar positions in the same region and identify the employee categories paid below the market. The project is ongoing, and the data on the pay levels are updated on a monthly basis taking into account changes in the current pay rates. The results are visualised and posted to the Qlik HR data reporting and analytics platform, where they are available to the HR team.

Rostelecom monitors changes to the federal minimum wage on a quarterly basis to adjust the minimum wage for its employees. Subsidiaries and affiliates monitor changes on their own.

In 2021, following a change in the federal minimum wage, the target remuneration level was reviewed against the new minimum wage and increased respectively.

Overtime is regulated by the Labour Code of the Russian Federation, PJSC Rostelecom's Internal Labour Regulations and internal regulations of subsidiaries and affiliates. If employees work overtime or on holidays, they are compensated accordingly in line with the Russian Labour Code.

Gender pay gap

GRI 405-2

We analysed the gender gap in the remuneration of Rostelecom Group employees. In 2021, women's average income at the Group was 25% lower than men's, and the gender pay gap for middle management and other management was 24% in favour of men.

Gender pay gap[2]**, RUB**

2   The 2019–2021 indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates. Headcount-wise, this perimeter covers 98% of the entire Group.
3   Middle managers and other managers – top grade managers who supervise employees and other managers supervising at least one subordinate.

	2019	2020	2021
Men's average income	51,032	58,551	60,014
Women's average income	40,259	46,743	44,948
Gender gap in average salary, %	**21.1**	**20.2**	**25.1**
Gender gap in the salary of middle managers and other managers[3]**,%**	**45.3**	**44.5**	**24.1**
Average income of middle managers and other managers, men	318,713	350,451	228,508
Average income of middle managers and other managers, women	174,474	194,586	173,338

1   The 2019–2021 indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates. Headcount-wise, this perimeter covers 98% of the entire Group.

Employee incentives

Rostelecom has in place a number of motivation policies and regulations, as well as incentive programmes for its employees. Both short-term and long-term incentive systems are in place at subsidiaries and affiliates, and the programmes are tailored to each particular subsidiary or affiliate, taking into account the organisation's profile.

Long-term incentives

	29

Short-term incentives

The Group has in place annual bonus schemes for top and middle managers. Yet another employee motivation tool used by Rostelecom is quarterly quality assessments of in-house services. These assessments improve cross-functional communication, with their results used to optimise in-house services.

In 2021, we developed and updated incentive programmes for commercial segments and the Technical Infrastructure Unit aimed at improving employee efficiency. Performance evaluation of the new incentive systems introduced in 2020 is carried out on a quarterly basis jointly with respective segments.

System of KPIs

GRI 404-3

Rostelecom continues to operate its existing systems of KPIs, with KPIs set based on the position and scope of responsibility. Employee evaluations are run every year, with bonuses paid to employees linked to the achievement of corporate, business and individual targets.

Number of employees who regularly underwent evaluation and received career guidance

|	2019		2020		2021	
	M	W	M	W	M	W
Top managers	52	15	51	16	90	29
Managers	689	394	798	643	934	597
White-collar employees	3,282	4,211	4,104	5,742	4,822	6,266
Blue-collar employees	48	34	46	35	56	35
Total	**4,071**	**4,654**	**4,999**	**6,436**	**5,902**	**6,927**

We run the Recognition corporate award as a non-financial incentive designed to recognise top-performing employees and project teams. All categories of the Recognition award reflect Rostelecom's strong set of values and capabilities, with the number of nominations increasing every year.

Recognition 2021 awards for 2020 achievements

- About 3,500 employees from all Russian regions won the Recognition award at the regional, macroregional or headquarters level

- All regional branches and macroregions held award ceremonies involving Rostelecom executives

- 119 employees and 12 projects won the Recognition award at the federal level:

  - 13 employees were awarded the Golden Badge
  - 10 employees were recognised as the best top managers
  - 29 employees were recognised as inspiring leaders
  - 32 employees won the Best Employee category
  - 21 employees won the Strongest Link category
  - 5 employees were selected as winners in the Bright Start category
  - 9 employees were recognised in the new Digital Leaders category
  - 12 projects were recognised at the federal level

Rostelecom branches held award ceremonies in May, and the federal-level winners attended the main ceremony in Moscow in early June. The main Recognition award ceremony was live-streamed for all employees.

Social benefits and compensations

8 DECENT WORK AND ECONOMIC GROWTH

10 REDUCED INEQUALITIES

GRI 401-2

GRI 402-1
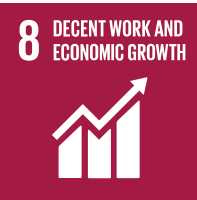
Rostelecom continuously improves the social protection system for its employees and creates a comfortable and safe working environment. We provide social guarantees, benefits and compensations to our employees as approved within the relevant budgets for social programmes.

PJSC Rostelecom's collective bargaining agreement covers all Company employees and provides the listed guarantees, benefits and compensations to those whose work with the Company is their primary job, regardless of their employment type.

PJSC Rostelecom's collective bargaining agreement for 2019–2021 sets out a flexible system of benefits and social guarantees. Employees are provided with benefits broken down into two groups: basic benefits and the Cafeteria Plan.

Basic benefits or compensations are made available to employees for certain life events (childbirth allowance, awards, extra paid compassionate leave, etc.). The basic list of social guarantees and benefits was not amended in 2021. The Cafeteria Plan is a set of social benefits and compensations for an employee to choose from in accordance with his or her needs and within the available money limit which is the same for all employees within a given MRF.

The Cafeteria Plan includes:
- compensations for trips to health resorts and treatment programmes to employees and their children
- coverage of expenses on additional education services and gym memberships
- financial assistance for holidays
- gifts for children.

Voluntary health insurance

Rostelecom continues to operate a VHI programme. The total number of insured employees was 105,999 at end-2021. The insurance programme covers outpatient and inpatient treatment, dental and emergency medical services, and Telemedicine consultations.

In 2021, the insured employees received all necessary medical care under the VHI contract.

106 thsd people

the total number of insured employees at end-2021

40 mn RUB

total insurance coverage under the VHI contract at the end of 2021
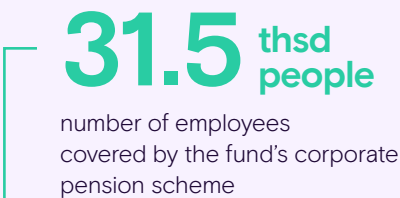
The Housing Programme

The Company continues to operate the Housing Programme, through which 1,017 Rostelecom employees received interest-free loans or reimbursement of interest on mortgage loans taken by employees earlier for a total of RUB 287.4 million in 2021.

A total of 7,599 employees have received assistance to purchase housing for a total of RUB 2,225 million over the period of the Housing Programme. In 2022, we intend to provide assistance to 1,100 employees for a total of RUB 327 million.
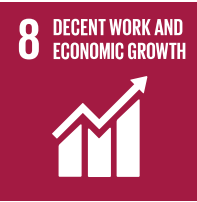
Private pension insurance

GRI 201-3

Rostelecom is focused on improving its Private Pension Insurance Programme. In 2021, Rostelecom paid annual additional incentive contributions to the individual pension accounts of employees hitting 90% or more of individual KPI targets in 2020. As a result, we paid a total of RUB 803 million in incentives to 29,086 employees.

31.5 thsd people

number of employees covered by the fund's corporate pension scheme

388 mn RUB

Intergenerational solidarity contributions

803 mn RUB

additional incentive contributions from the Company

43 %

of employees eligible to participate in the Programme

742 people

Number of employees enrolled in the private pension scheme at NPF Alliance

29 thsd people

number of employees who received additional incentive contributions

Improving working conditions

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

1,430 mn RUB

Rostelecom allocated to improve working conditions for its people in 2021

1,304 mn RUB

for branch facilities

126 mn RUB

for Headquarters facilities

We renovated and adapted offices, including to accommodate line staff of the Technical Infrastructure Unit, as well as common areas (toilets, showers, dining and changing rooms, entrances, lift lobbies, etc.), in particular replacing windows, repairing or insulating facades, making area improvements, and purchasing the necessary furniture.

In 2021, to prevent the spread of COVID-19, Rostelecom continued to provide personal protective equipment to employees who continued working offline.

The preventive hygiene measures included cold fogging as well as daily wet cleaning with disinfectants, with a particular focus on disinfecting door handles, light switches, handrails, railings, high-touch surfaces, common areas at building entrances, lifts, dining and rest rooms, toilets, gyms, and gym equipment.

Even before the pandemic, Rostelecom launched the Remote Workplaces project, developing and implementing a new office space standard providing for a significant expansion of collaboration space, set-up of special co-working areas and flexible workspaces. The VDI technology enables working remotely without being tied to specific office workstations or desktops, increasing the efficiency of office equipment and data storage infrastructure usage, and also significantly reducing the costs of operating and upgrading the equipment fleet.

3.3 Corporate culture and internal communications
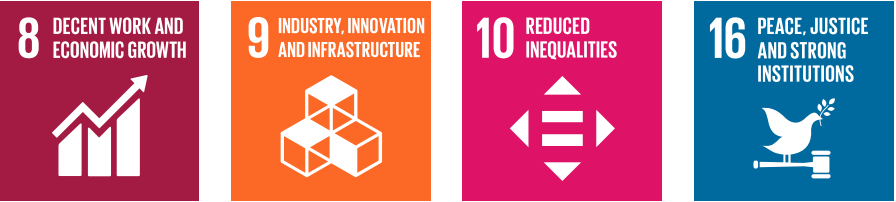
Rostelecom's corporate culture is a synthesis of tradition and innovation. Rostelecom has integrated separate regional companies to evolve into a national telecom operator and a leader in digital services. Our culture unites diverse product teams, units and numerous subsidiaries with shared values and a common language to achieve great results.

Rostelecom Group's corporate values

Adaptability	Development
adapting technology to find a solution	creating the future
Human touch	**Simplicity**
working for people	making complex things simple

The Company's values and the principles underlying its culture are integrated one way or another into all corporate events and communications.

In late 2020 and early 2021, Rostelecom conducted a corporate culture study to identify the strengths and weaknesses of our culture and find solutions for enhancing it and creating a unique approach that would allow the Company and all of its employees share a common cultural context, successfully navigate change and accelerate the deployment of new digital services and products. The study findings were used to develop a programme to create a company-wide supportive environment where every employee can find their vocation and realise their ambitions.

Rostelecom culture is driven by leaders that foster teamwork culture, promote commitment to the Company's values and goals and flexible decision making, while encouraging employee empowerment. Therefore, a lot of effort goes into working with line managers: special development programmes have been put together to support leaders and their teams, with analytical and methodological materials prepared to build team loyalty.

In shaping the Company's culture, we strive to remain flexible by introducing hybrid work formats, standing up distributed teams where employees can work remotely, maintaining the Corporate Online University with opportunities for employee development, launching platforms to source talent in-house, building communities of internal experts and ambassadors, and initiating youth movements. Offices are transformed from typical rooms into co-working spaces with flexible workstations and large meeting and rest areas. We are creating a continuous change environment using experimentation and feedback tools.

In 2021, a number of traditional company-wide celebrations were held:
- Defenders of the Fatherland Day and 8 March
- Communications Day
- Corporate summer quiz
- Company Day
- Rostelecom ambassador event
- New Year

Team-building and motivational activities included:
- Celebration of employees' return to offices (April and September 2021)
- Digital Duo online game
- Weekly prize giveaways for vaccinated employees

Due to the COVID-19 pandemic and various related restrictions imposed in 2021, corporate events were held in a hybrid format, with offline activities for field and office-based employees and online activities for employees working from home.

In 2021, Rostelecom gave gifts to a thousand employees across Russia to acknowledge their active contribution to corporate culture projects: corporate merchandise, souvenirs with the Company logo, gadgets and devices to improve workplace.

The Rules of Life – a series of video interviews with Rostelecom managers on life, work, leadership and personal motivation – was launched in the autumn. Thirteen recorded interviews were watched by a total of 10 thousand employees.

Rostelecom brand ambassadors

50 tasks

in different areas were completed by project participants in 2021

We have been running the Rostelecom Brand Ambassadors programme since 2019 to give employees a deeper understanding of the Company's values.

In 2021, 491 employees participated in the programme, with 75% of them actively involved by regularly completing tasks and contributing to the promotion of Rostelecom's corporate values.

In 2021, the Rostelecom Ambassadors project participants completed 50 different tasks and submitted 4,814 reports, with an average of 11 completed tasks per person.

Task examples:
- Ambassadors recording podcasts, each highlighting one particular value, to celebrate the Communications Day
- Presentation of values at meetings with new hires
- Facilitating corporate events (launching a relay of New Year messages, organising quizzes in own units during celebrations, etc.)
- Preparing and posting materials on personal social media accounts, maintaining corporate accounts and moderating social media communities
- Contributing to the production of corporate videos (highlighting COVID-19 vaccination drive, new management model roll-out, etc.)
- Contributing to social projects (Granny's Headscarf, I Run and Help, Zabeg.RF, etc.)

A 2021 survey of ambassadors showed that 80% of participants gained a deeper understanding of the corporate values from participation in the project.

December 2021 saw a new enrollment for the Rostelecom Ambassadors project. The first and second project wave ambassadors have retained their status and keep contributing to the project.

To support ambassador empowerment, they will attend the Values Workshop, get training in delivering value presentations to new hires and do a course on creating content for social media.

The club members are also involved in supporting other projects: testing new services for employees, participating in focus groups, testing public services, providing informational support to social and charitable projects, meetings with university students, etc.

491 employees

took part in the Rostelecom Brand Ambassadors programme in 2021

4,814

reports were submitted by project participants in 2021

Rating of ambassadors based on the results of the project

The sponsors of projects involving ambassadors rated the ambassadors' contribution at

9.6 / 10

points

The ambassadors rated their own contribution to corporate values promotion at an average of

7.0 / 10

points

The ambassadors' willingness to recommend participation in this project to their colleagues averaged

8.3 / 10

points

The overall satisfaction score for the 2021 project averaged

7.8 / 10

points

Promoting a healthy lifestyle among employees

GRI 403-6

Before the pandemic, the Company rented halls for volleyball, football, basketball, tennis and other sports. Our employees took part in city sports competitions, competitions with teams of other major companies and industry tournaments to mark the Communications Day. Branches annually held sports competitions among their employees.

We want our employees to lead healthy and active lifestyles. Rostelecom promotes sporting activities and hosts cultural events for its employees: professional skills competitions, creative contests, sports tournaments and competitions. Our loyalty programme offers employees discounts from chain fitness clubs or health and wellness centres.

In 2020–2021, due to the COVID-19 pandemic, all in-person competitions and tournaments, as well as corporate training, were cancelled for safety reasons. The Company's HR teams in all regions moved sports activities online by creating groups for employees on social media and engaging professional coaches to do training sessions.

In August 2021, Rostelecom launched RT Balance, a corporate well-being app for employees. It offers online workouts and programmes, challenges, marathons and articles on healthy lifestyle, psychology, finance, parenthood, etc., with new content added on a regular basis. The number of monthly active users of RT Balance varies between 3,000 and 5,000.

Since November, Rostelecom employees can become the app experts and create own articles and marathons. This feature was provided through integration with the PROexperts project, which aims to develop core professional competences in employees.

Rostelecom's intranet portal

During the COVID-19 pandemic, the intranet portal transformed into an online space where each employee could still feel part of a bigger team and participate in company life. This tool helped maintain Rostelecom's culture and promote its core values: simplicity, human touch, adaptability and development.

>40 thsd people

participated in the RTLikes gamification programme, which encouraged activity on the intranet portal

In 2021, the portal had 40 million visits, triple the number from the year before (13 million).

The portal team is focused on creating tools and services to help employees better adapt to new ways of working and maintain social connections with their colleagues. For example, the Say Thank You service was used more than 50 thousand times in 2021. Over 40 thousand people participated in the RTLikes gamification programme, which encouraged activity on the intranet portal.

We have updated and expanded the functionality of the portal homepage, with a more modern and intuitive interface. New sections and services added to the portal in 2021:

- Immortal Regiment
- Rostelecom Experts
- Youth Programmes
- Help for Leaders
- The Manager's Book
- Statistics for Community Owners
- Strategy 2025
- News from Regional Branches
- Secret Santa game
- Vaccination/Booster Record
- Publicly Funded Programme Support Department
- Updated Rostelecom's corporate Recognition award section
- Task Portal in RPS
- Outplacement Programme
- The Friends of Rostelecom programme (exit surveys)
- Contract Mart

RT Life app

The RT Life corporate mobile has continued to benefit employees whose jobs do not require them to be on the intranet at all times.

Early in 2021, a new version of the app was released with a more advanced technology stack and expanded functionality. This version combines the features of an address book, reference book, newsfeed, and ticketing systems handling requests to various corporate functions. Usual services were supplemented with new ones: support for the Mission and Tenders platforms, podcasts and a start-up mart.

A dedicated notification microservice was created for flexible management of push, email and SMS notifications. The app gathers analytics on user activity. Thus, statistics can be collected and used to develop and improve only those features that are needed. The app can also track employee usage patterns by region, department or any other breakdown, while strictly complying with privacy and personal data processing rules.

A detailed description of the app can be found at

rtlife.rt.ru

Communication between management and employees

In 2021, a series of employee meetings with Rostelecom Vice Presidents, leaders of new centres of excellence and branch directors was held online to inform employees about Strategy 2021–2025 and the transition to a new organisational structure. Employees learned about the Strategy priorities and objectives and were able to raise their concerns and have their questions answered.
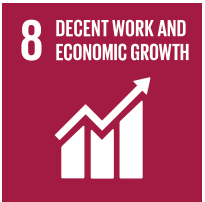
Regular townhalls are held with the teams of new centres of excellence, where team leaders advise employees about changes in organisational structure and the current changes to business processes, as well as make sure they are in synch on current tasks. Staff engagement programmes are built around feedback received.

The key topics covered at these meetings were 2020 performance and plans for 2021, presenting the Company's strategy and development direction, congratulating employees on winning the corporate Recognition awards, the Company Day and other important corporate events, as well as the Open Talk Discussion in the Q&A format.

The meetings raised issues related to working conditions, development and career growth opportunities, the Company's plans for new projects, and discussed main business and corporate news.

Almost all regional branches held online meetings with employees in 2021.

3.4 Employee training and development

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

GRI 404-1

GRI 404-2

Rostelecom needs highly skilled professionals to achieve its ambitious goals. Therefore, the Group established a system for employee professional development: training, self-fulfilment and career growth. We help each employee to maximise performance from day one and offer comprehensive professional and personal development programmes.

Rostelecom's employee training and development system includes:

Knowledge Management Department	Corporate Online University, an online learning platform	Capability Development Department, with a team of in-house soft-skill trainers and training project managers
Training Department under the Technical Infrastructure Unit	Mass Segment Training Department	Training Support Department
Employee Evaluation and Career Development Department	B2B and B2G Training Office	

In 2021, despite restrictions on in-person training, we showed growth across all training KPIs:

82 %
of Rostelecom employees are covered by training programmes

69 %
of Rostelecom employees are involved in optional training at the Corporate Online University

+33 %
the amount of training[1] delivered by the Company over the year

89 NPS
average NPS of soft-skill training programmes from the in-house catalogue

The Knowledge Management Department coordinates employee development efforts within the Group: develops training methodologies and programmes, conducts trainings and evaluates training effectiveness, develops Rostelecom's Corporate Online University, and runs employee performance evaluations.

During a transformation in 2021, the Company centralised its training function: macroregional employee training and development units were replaced with a single HR centre of excellence comprising all of the above-mentioned training departments. The new organisation will enable more effective collaboration to support the Company's employee training and development strategy.

The Knowledge Management Department has continued to enhance the in-house employee training system. In particular, it has improved the Corporate Online University platform, launched a number of federal-level projects for various audiences, from regional top management teams to technicians on the ground. To create an optimal and comfortable environment, we continued to experiment with various training formats and digital tools, from chatbots and dialogue simulators to AI-driven individual skills assessments.

Subsidiaries now have dedicated units to manage employee training matters. Employees of subsidiaries and affiliates can also receive training at Rostelecom. They participate in mass open online training programmes, some federal-level programmes and training projects run by individual business segments.

Rostelecom's training team actively shares best practices with colleagues from subsidiaries and affiliates. In 2021, the Knowledge Management Department completed a project to revamp training processes at subsidiaries and affiliates. The project handed training and development methodology over to subsidiaries and affiliates, updated the soft-skill programme catalogue and delivered a trainer development programme. Best-practise sharing with subsidiaries and affiliates will continue in 2022.

Average hours of training per employee delivered by Rostelecom

Employee category	2019		2020		2021	
	M	W	M	W	M	W
Top managers	56.2	54.9	63.3	61.0	48.4	44.9
Managers	33.9	30.7	37.0	35.7	34.1	36.4
White-collar employees	26.4	22.9	30.4	29.4	27.0	25.4
Blue-collar employees	18.4	11.6	18.5	15.2	24.1	21.5
Average across all categories	33.7	30.0	31.6	30.1	32.3	30.9

1   Amount of training: total number of person-courses taken across in-house or external training, or remote learning programmes by the end of the reporting period. A person-course is one training event/course completed by one employee.

Investment in employee training

31.5 hours

The average number
of training hours per
Rostelecom employee
in 2021

3.3 mn hours

total number
of training hours

5.5 thsd RUB

raining costs per employee

In 2021, Rostelecom invested over RUB 478.5 million in employee
training, up 8% from the year before (RUB 442.5 million).

Rostelecom's employee training costs

	2019	2020	2021
Total employee training costs, RUB million	575.4	442.5	478.5
Annual training costs per employee, RUB thousand	5.5	5.0	5.5
Total training hours	2,089,035	3,286,531	3,303,921
The average number of training hours per employee	31.1	31.3	31.5

Training costs per employee returned to pre-COVID levels. We also managed
to boost training hours at a lower overall cost through new remote learning formats
while adding more content to the self-study library

478.5 mn RUB

total training costs
for Rostelecom
employees in 2021

5.5 thsd RUB

raining costs
per employee

Employee training effectiveness evaluation

The Knowledge Management Department evaluates
employee training effectiveness at different intervals
depending on the training type and duration. The evaluation
covers performance against training KPIs, the amount and
coverage of employee training by function, the practical
applicability of training, quality of training programmes and
trainer performance. In this way, the Company can enhance
the quality of training and the effectiveness of knowledge
management.

Average net promoter score (NPS) in 2021:

70 NPS

for online courses

80 NPS

for asynchronous online
programmes comprising
several modules
(self-learning)

89 NPS

for synchronous learning
(online with a trainer)

Evaluation and career development

A business process for regular tracking of capability maturity was introduced in 2021, comprising quarterly and annual dashboards. Dashboards reflect all evaluation activities during the reporting period: ability diagnostic using traditional psychometrics, skills diagnostic using the assessment centre method, and thinking traits diagnostic using artificial intelligence and 360-degree feedback.

The diagnostics results are factored into an employee performance evaluation and are also used to build career paths.

The transformation of the performance evaluation function into an internal career planning function was completed in 2021. Career paths are being developed within and between segments, with an ongoing refinement of in-house career counselling process.

In 2021, we continued to roll out the **new competency model** for team building and development. We also started using traditional psychometric tools and artificial intelligence algorithms to build team dashboards for their leaders.

An important milestone was building a culture of team and cross-functional feedback via a 360-degree assessment tool, which enables colleagues from different units to anonymously share opinions about each other and thus benefit from wider feedback. 360-degree feedback was implemented on the Corporate Online University platform, incorporating the feedback collected from users during 2020.

The tool has already provided feedback to more than 300 of our colleagues.

Number of employees evaluated in 2021

Employee category	2021	
	M	W
Top managers	220	41
Managers	908	435
White-collar employees	1,053	756
Blue-collar employees	0	0

Rostelecom's Corporate Online University
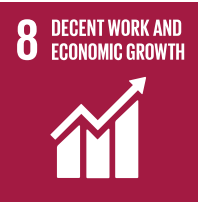
Rostelecom's Corporate Online University is a single platform providing remote learning for employees. The COVID-19 pandemic transformed the Corporate Online University into the primary platform for employees to drive professional and personal growth.

The courses on offer range from soft and hard skills to digital skills to general training. The team of internal trainers (teachers) numbers over 250 and is supplemented with external experts, including professors, doctors and candidates of sciences, as well as the Company's in-house experts: vice presidents and department directors.

In 2021, Rostelecom added 369 new online courses and programmes to the platform's catalogue, up 9% year-on-year, with more than 800 courses now available to its employees. Also in 2021, the completion rate of online courses increased by 21 p.p. to 89%.

In 2021, we completed the technical work required to enable a 24/7 access to the Corporate Online University from employees' personal devices.

Since 2021, a neural network has been helping employees find the right content within the Corporate Online University. A special widget on the homepage of the learning platform displays content with relevant recommendations. Each employee also receives a letter with training recommendations once every quarter. Topics are selected according to the preferences of the employee and their functional team mates. The recommendations include only those courses that employees most often select themselves.

The recommendation engine is available to all Rostelecom employees. The first results are already in: 80% of the recommended courses are taken (i.e. the employee selected the proposed course) and 60% of selected courses are completed.

>600 thsd
the amount of optional in-house training person-courses per year

>800 courses
are available to Rostelecom employees on the Corporate Online University platform

×2
increase from 2020.

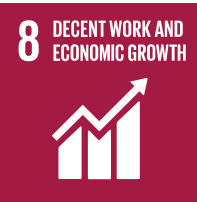## Online Lectorium and Development Environment digest newsletter

Besides courses and programmes, the Corporate Online University platform also offers the Online Lectorium lecture platform and the Development Environment digest newsletter to help employees broaden horizons, get up to speed on the latest trends and find inspiration.

In 2021, the Online Lectorium delivered 21 lectures on different topics, such as how to regain the excitement for learning, manage personal energy, avoid reasoning pitfalls and create IT products without coding skills.

Almost 15 thousand unique listeners visited the Lectorium over the year. The average NPS of the lectures was 84 points. The most popular lectures were Debunking Vaccine Myths and Reasoning Traps.

The Development Environment weekly newsletter produced by the training team features useful business practices and approaches, as well as business-related trends, concepts and methodologies. A total of 50 issues were released in 2021, collecting almost 5,000 likes from employees.

Management skill building programmes

Rostelecom develops the management skills of current and future managers, as it will determine individual and corporate performance.

In 2021, Rostelecom's top managers were trained under the programmes of the International Institute for Management Development (IMD) and Moscow School of Management SKOLKOVO: LIFT and Developing Leadership Potential.

A Change Management programme with international Prosci certification was delivered for the first time in 2021. A total of 69 managers mastered systemic change management, tools and key roles, KPIs, and best practices to deal with resistance, successfully obtaining international certificates.

The Leadership Blueprint programme for new managers was launched in 2021. The training helps managers who just joined the Company or were promoted to a management position become digital leaders, build a high-performance team, collaborate profitably with partners and bring value to the client. The programme features four modules: Leadership and Communication; Customer-Centricity; Data-Driven Decision Making and Developing Yourself and Others. The programme spans four months of synchronous remote learning, with 72 hours of practical training and 35 hours of coaching.

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

50

managers were
trained in 2021

The Director and the Team programme for regional branch team development

Rostelecom sees the heads of its regional branches as the main driver of the Company's technological advances. The Director and the Team strategic development programme for regional branch managers was launched in 2020. Spanning 11 months, the programme is designed to meet business needs with a focus on transforming branch operations.

Project work is an important part of the programme. For more than six months, the participants work on their change projects from developing new products to improving business process efficiency.

Over 160 directors and managers from 31 regional branches were trained under the programme in 2020. In 2021, another 170 managers from 32 branches joined the programme. All branches successfully presented their projects to the President and Vice Presidents of the Company. The scaling of projects developed by the trainee teams is expected to generate revenues of about RUB 40 billion over a three-year horizon.

>160

directors and managers from
31 regional branches were
trained under the programme
in 2020

170

managers from 32 branches
joined the programme in 2020

iMBA. Skills of a Digital Company Leader programme

The iMBA. Skills of a Digital Company Leader online programme continues to be highly popular among employees. It is focused on building basic leadership skills and knowledge in line managers.

The programme is updated annually based on the latest market trends and feedback from participants. A new module, Trends in the Modern Digital Environment, featuring the Company's Vice Presidents as experts, was developed for the fourth stream. New opportunities for the participants besides compulsory modules also included taking a 360-degree diagnostic, building a development map and taking individual sessions with a professional coach.

However, the main innovation was moving the programme to a new level: employees who successfully completed the programme received a retraining diploma from the HSE University (previously a professional development certificate). The fourth stream graduates totalled 676 employees.

Development of employees' business skills

In 2021, we started using in-depth research into the needs of the target audience – the persona approach – to develop the business skills of employees. Before each project launch, we studied the target audience: personal traits and values, attitudes towards technology, study habits, perception of the Company, etc.
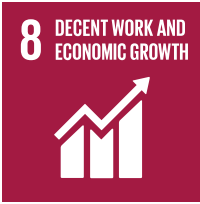
The product-based persona approach has deepened our understanding of user needs, enabling us to offer the most appropriate training format. For example, the Sales Campus commercial segment training project developed characters to narrate content: an expert, a customer and an assistant (a chatbot to help with practice and check homework).

To deliver training in B2B sales of integrated solutions and to improve industry expertise, we used the CustDev method of target audience research, which allowed us to develop a multi-stage training project to boost revenue from integration sales.

Key outcomes of the initiatives to develop the in-house employee business training system in 2021

1
A virtual classroom of the Corporate Online University was set up on the Granatum Solutions platform (over 1,000 users are trained on the platform every month) t**o provide synchronised practical training** remotely

2
Seven training tracks **for core competencies** were provided, with each track featuring developmental activities in a variety of formats: courses, synchronised practical training and workshops

3
To change the target management model and launch new units, we identified activities **to launch new teams** through kick-off sessions (with 8 teams comprising 223 employees already launched)

Professional skill building programmes

Rostelecom has been consistently developing the professional skills of employees and ensuring a systematic approach to training tailored to the business requirements of each unit.

Training in Law 44-FZ programme

A new professional development programme, Contracting under Law No. 44-FZ. Procedures. Features. Risks, was put together in 2021. The programme explains all the subtleties and nuances that Rostelecom has to deal with when entering into and executing contracts under Federal Law No. 44-FZ, On the Contract System of the Federal and Municipal Procurement of Goods, Works and Services, dated 5 April 2013. The programme is geared towards Rostelecom's work on state-funded projects.

Experts built the programme around their accumulated experience of serving various government customers, Rostelecom's own internal processes and specific business profile, and current demands of its employees as well as comments received, while attempting to present complex legal and financial topics in the simplest way possible. The programme consists of 10 modules in total (over 27 class periods).

Despite large amounts of in-depth information on each topic, engaging presentation content makes these materials fun and easy to learn. Rostelecom will issue standard professional development certificates to employees successfully completing all courses and passing the final tests.

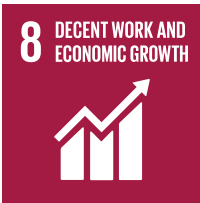**The programme uses multiple formats, enabling the most efficient employee engagement in learning. It includes:**

Remote interactive sessions	Video lectures
Interactive practical exercises	Case studies
Infographics	

Digital skill building programmes

4 QUALITY EDUCATION

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To develop employees' digital skills, Rostelecom offers a number of programmes on digital economy technologies and trends as well as key programming languages used by the Company.

Coding school

Rostelecom's coding school delivers training in coding skills to its employees (junior and mid-level developer levels). In 2021, a total of 1,488 employees applied to the School. Overall, 699 applicants qualified, and 65% of them successfully completed training and mastered Python and SQL as well as Python with machine learning. Moreover, 104 employees have been reskilled at the school as data engineers and data analysts.

Coding Classes for Employees' Children

In 2021, the Coding Classes for Employees' Children corporate programme trained the kids of over 700 employees in coding and other computer skills on a matching funds basis, with 50% of the cost paid by Rostelecom and 50% by the employee.

Digital Economy. Jobs of the Future

Digital Economy. Jobs of the Future is an educational project for employees who are willing to master a new profession by learning the latest national and global digital economy practices.

The project includes several levels:
- An online series comprising 11 general educational episodes on various technologies
- Nine online courses to learn more about digital economy sectors
- Several full-length synchronous online programmes integrated into Rostelecom's other training projects

In 2021, a total of 2,661 employees completed online courses on digital technology. In just three years, the Digital Economy. Jobs of the Future project covered over 28 thousand employees. More than 160 professional development certificates have been issued to those completing the Data Science programme.

In 2021, over 1,960 employees of IT units completed new courses on:
- Blogging: Taking Care of Users
- Power BI
- IT and Business Collaboration
- Business Analysis. The IIBA Version, and
- Software Requirements Management.

Developing employees' professional expertise

4 QUALITY EDUCATION

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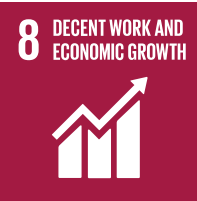
Top external specialists and Rostelecom's in-house trainers and experts are engaged to develop employees' professional expertise. The development of each business segment and the technical team is driven by newly established training departments within the centre of excellence, training offices and the Knowledge Management Department team.

Technical Infrastructure Unit

In 2021, the Technical Infrastructure Unit training focused on the following areas:
- Mapping training tracks for the functional roles of the Technical Infrastructure Unit
- Adding content to the training tracks: development of remote learning modules, synchronous master class methodologies and laboratory workshops
- Centralising the Technical Infrastructure Unit staff training on the single platform of the Corporate Online University
- Transforming the organisational model and business processes of training

2021 results:
- 44 new remote learning modules and 25 laboratory workshops developed, with 32 remote learning modules updated
- Nine training tracks created for field service staff, tailored to their segment and regional context
- Organisational structure transformed: a training department for the Technical Infrastructure Unit was established within the centre of excellence for organisational development and HR management, merging the team responsible for training in regional branches and the trainer resources of the Technical Infrastructure Unit. The training methodology has been standardised, with the monitoring of synchronous training amount and quality in place

In the first half of 2021, the Technical Infrastructure Unit training team completed the delivery of the Control Desk programme to improve management skills in leaders of line units of the Technical Infrastructure Unit in regional branches. 215 graduates of the programme were issued certificates of continuing professional education.

In 2021, a total of 82% of the Technical Infrastructure Unit staff were covered by training. 19% of the employees were covered by synchronous learning and more than 74% by remote learning. The amount of training doubled year-on-year. External training covered more than 26% of employees.

Another significant focus of the Technical Infrastructure Unit training team was honing the sales skills of the field support and installation technicians of the unit. For this purpose, a comprehensive training programme with one asynchronous module and two synchronous master classes was developed and launched.

2021 results:
- 32 product courses and 24 business-process and hard-skill courses developed or updated
- Training courses reached more than 8,000 employees
- 63 webinars delivered to more than 10,000 employees
- Three webinars on Laws Nos. FZ-44 and FZ-223 delivered for the B2G business segment to boost expertise in public procurement

>2.1 thsd

webinars and training sessions were delivered in 2021

B2B Training Office

The B2B and B2G Training Office is responsible for spearheading B2B, B2G and B2G2 segment training. Its main objectives in 2021:
- Increase training reach among employees
- Boost the number of specialised remote learning courses and the volumes of segment-specific video content
- Develop a training system for the SME segment

Training automation has **doubled** the take-up of remote learning product courses to 54,333 person-courses.

In 2021, segment trainers continued to improve their remote training skills to ensure consistently high training quality and employee engagement. Over 2,100 webinars and training sessions were delivered in 2021.

A separate area of focus was field support for employees. In 2021, segment trainers delivered over 770 field support sessions.

An important focus for 2021 was the SME training system development:
- Automatic assignment of courses and training programmes to employees
- Automation of welcome letter mailing to new hires
- Option to assign product tests independently, including to new hires at the end of their probationary period (automatically)
- An SME training matrix developed
- Field support now available to managers to hone their skills in using routine-management tools
- New learning formats, with a focus on increased self-reliance and chatbots
- A negotiation simulator launched for the segments

Training office 2021 results:
- A development track has been developed and can easily be found within the Corporate Online University under the title of KAM Role Training Programme
- Automatic assignment of basic product courses and more
- New courses have been developed: Adaptation Course; Motivation; and Basics of Dealing with Federal Holding Companies

B2G2 employee knowledge development in 2021 focused on product training and in-depth study of legal matters related to serving the public sector. 11 courses were developed or updated for employees in the B2G2 segment. An annual review demonstrated a solid knowledge of product solutions by employees of both Rostelecom and its subsidiaries and affiliates.

Additional information support and new communication channels – email boxes and the B2BeBest and B2G2Talents digests – were also rolled out to the B2B and B2G segments. A total of 12 B2BeBest issues and 5 special editions were produced for the B2B/G segment during the year. 11 B2G2talents digests and 4 special editions were issued for the B2G2 segment.

The training office was assisted in project implementation by training experts and segment employees from the Headquarters, as well as segment employees and trainers in regional offices.

The main objective of the Mass Segment Training Department is to improve salesforce performance through systematic skill development.

Employee training in the B2C segment

In 2021, the B2C training office was reorganised into the Mass Segment Training Department, becoming part of the centre of excellence under the Organisational Development and HR Management Unit.

The B2C segment's training platform is our proprietary remote learning platform, the B2C incentive and training portal. 2021 results:
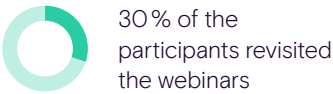- 8 training programmes launched
- 41 remote learning courses published
- 18 thousand practical workshops held online

In 2021, more than 25 thousand Rostelecom employees took remote learning courses at the B2C incentive and training portal and attended practical workshops with B2C trainers. With the support of the training system, the business segment exceeded its sales target for the core services by 102%.

Over the year, each salesforce employee completed an average of:
- 11 remote learning courses
- 6 practical workshops with a trainer.

Project results:

96% of the target audience completed the programme

30 % of the participants revisited the webinars

70 % of the participants showed a positive revenue trend after the project

29
teams submitted their projects

13
accepted for implementation

89
the programme's NPS

Employee training in the B2O segment

B2O is a segment serving telecom operators. Its products are integrated technology solutions, whose sale involves long negotiations, collaboration with the client and a large number of factors influencing the overall result.

In 2020, It's a Knockout project was launched to develop sales skills in the B2O segment. The project features a new approach to sales and customer communications.

Project objectives:
- Boost individual and team performance in sales
- Foster a new, human-centred (H2H) approach to sales
- Develop project-management skills

Almost 200 B2O salespeople took part in an exciting game, following which each of them learned a human-to-human approach to selling services and was given the opportunity to run their own business project.

The overall concept of It's a Knockout programme reflected the Company's values, the new approach to serving customers, and an overall drive for new wins for the entire segment. Besides education, its participants, closely mentored by the segment's top managers, worked on their own projects to create new opportunities for our clients.

Also in 2021, training programmes were put together for the B2O segment to increase accountability and customer focus.

Sales Campus

In 2021, a project to enhance sales skills and customer-centricity was launched for over 3,000 new employees in the B2B, 3K, BG2, B2G2, and B2O segments. Training was tailored to three key business roles: sales, customer service and management.

For the first time ever, Rostelecom used a uniform approach to training in a marathon format for several commercial segments, persona and character development, a new style of communication, and immersive training. Following a pilot, the training was highly rated by all segments, with an NPS of 90

The programme includes

30 lessons
at the Corporate Online University

6 weeks
of daily chatbot activities to practice the learnings.

The pilot's success got the programme included in the mandatory segment training matrices.

In 2021, the Sales Campus project won the Effective Education award in the Programme of the Year category.

Cooperation with the public education system

Rostelecom Group is focused on attracting, retaining and developing top young talent. We are building a pool of activities and programmes with educational organisations at various levels and approach this task in a systematic and strategic way. Our formats for academia engagement include career and professional events, strategic partnerships, mentoring programmes, feedback culture development, and providing access to the Company for talented high-school and university students through internships and work placements at Rostelecom.

Expanding partnerships in education and science
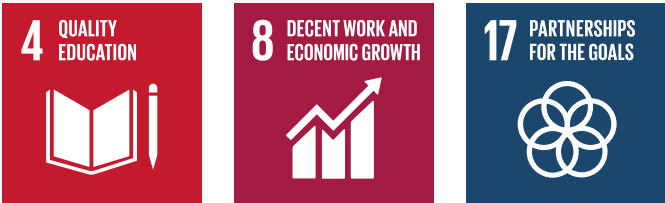
In 2021, 10 leading Russian higher education institutions (HEIs) became strategic partners of Rostelecom in its educational and research projects and initiatives.

Rostelecom continued to engage with academia in 2021, expanding its brand footprint and boosting its expert contributions to platforms run by various organisations.

Key implemented projects included online and offline career events, HR-hopping events, career debates, company days, hackathons, case championships, virtual tours and master classes. Rostelecom regularly provides not only methodological but also expert support to training programmes.

In a number of HEIs, Rostelecom supports some educational programmes and holds regular cybersecurity events for students, including lectures by Rostelecom employees.

Engaging school students

Rostelecom's engagement with secondary school students enables considered career guidance, building employer brand loyalty among young people, involving school students in vocational training and improving their future employability.

In 2021, Rostelecom experts continued engaging school students, developing and using new formats for career guidance, and holding interactive and career events.

Together with our partners, we launched a special project – What I Am Going to Do When I Grow Up podcast – with schoolchildren as one of its key target audiences. Our key employees are regularly engaged to record the podcast episodes.

Key goals of Rostelecom's engagement with academia for 2022:

- Become part of the national education agenda through integration into federal and local events
- Structure and scale the academia engagement process
- Increase focus on interactive career-guidance, career and professional events involving the Company's key executives and experts, including participants of the Rostelecom Experts programme

IT College

Rostelecom and its partners continued their joint project, Rostelecom IT College, to involve the Moscow Region college students in the technology-driven IT agenda. The project's key results in 2021:
- The Career Lab project was launched – a series of lectures, master classes and interactive activities for college students
- Rostelecom experts evaluated the Information Security programme
- 29 students (3 work placement streams) were placed in project-based online internships
- Summer (winter) school curriculum involving Rostelecom employees was developed for college students
- The Technology Entrepreneurship training module was developed

Rostelecom teamed up with its partners to hold an information security competition for school students under the Kruzhok movement of the National Technology Initiative. The competition is included in the list of the Russian Schoolchildren Olympiads Council, with winners and runners-up credited 100 points on their Unified State Examination in computer science or receiving unconditional offers from Russia's leading universities. The project helps provide early career guidance to the participants and builds a scientific and technical student pool with strong potential.

In 2021, the Company continued to sponsor the Information Security competitions, with CTF qualifiers held for more than 7,000 participants. A special feature of the 2021 tasks was problems in web application security, reverse engineering and virus analysis, digital forensics, binary vulnerability detection, secure development and information security system design.

Engaging with students

Rostelecom holds regular events involving HEIs, students and their associations to select promising young talent for employment by the Company, helps students to learn about Rostelecom activities, supports student events, conferences and forums and organises contests and hackathons.
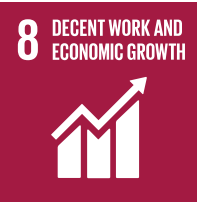
In 2021, Rostelecom continued systematic work with higher education institutions and the student community.

The more important projects and initiatives include the following:
- Higher School of Career project in cooperation with the Federal Agency for Youth Affairs (Rosmolodezh)
- Partnership between Rostelecom and the I Am a Professional olympiad, which resulted in a series of educational and career events for the olympiad's wide student audience. Given the restrictions imposed due to the novel coronavirus, the career guidance events to be held jointly by the I Am a Professional olympiad and Rostelecom in Russian regional universities were postponed until 2022
- Rostelecom's partnership with the Digital Breakthrough contest. The Company contributed 4 cases to the competition, which had 63 student teams numbering 313 participants develop solutions for the cases
- Rostelecom's official partnership with the federal student competition Your Move

Work placement and internships at Rostelecom
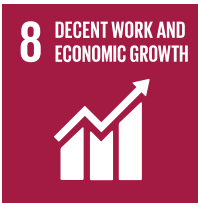
Every year, Rostelecom arranges work experience placements for students with a view to attracting high-potential graduates of industry-related universities. Work placements are mostly provided to students of technical specialities.

In 2021, a total of 2,505 students completed work placements, with 21 employed by the Company and 97 engaged as independent contractors.

Professional Internship 2.0

Since 2019, Rostelecom has been a key partner of a project to develop a new framework for relations between a student, educational institution and future employer: Professional Internship 2.0.

In 2021, Rostelecom continued its partnership with the project. The Company provided seven practical cases for solution on the following topics:

Closed-circuit television (CCTV). Development and application of prediction methods based on statistical data	Mobile app development. A system to assess Internet connection quality on a mobile data network
A system to assess voice quality in mobile communications	Intercom and IP Intercom services market research
Development of a website/application/platform with customer-friendly information on the sale/lease of the Company's real estate	A single application to set/resolve/discuss tasks
Managing receivables	

Together with partners of the Rostelecom IT College project, we launched Case Lab, a pilot project to help college students develop solutions to Professional Internship 2.0 cases.

The key outcome of the project in 2021 was a finalised approach to an integrated federal internship programme: definition of its key principles, approaches and implementation formats.

In 2022, Rostelecom will relaunch its Not Just a Line in a CV internship programme.

Ensuring workplace safety

Rostelecom prioritises employee workplace safety. The Company invests in building a strong safety culture by creating the safest and most comfortable working conditions, encourages ownership of health and safety issues at work, delivers training and adopts international best practices in health and safety. Each Group subsidiary has its own internal standards on health and safety based on Rostelecom's similar regulations.

Approach to providing safe working conditions

8 DECENT WORK AND ECONOMIC GROWTH
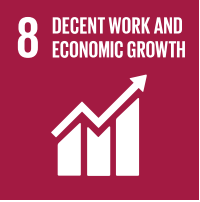
GRI 403-1

GRI 403-3

GRI 403-4

The Company's key goals and principles in health and safety are set forth in its HSE and Fire Safety Policy. No amendments were made to the Policy in 2021.

Rostelecom has set itself the following strategic objectives:
- Safeguard employee life and health at work, minimise work-related hazards and prevent fatalities and disabling injuries
- Reduce the risk of work-related injuries, accidents and incidents at hazardous facilities, and fires
- Maintain a healthy environment for employees and local communities over the long term
- Build a good reputation as a social actor committed to providing safe working conditions and protecting the environment

The Health and Safety Department at Rostelecom Headquarters is charged with overall coordination of Occupational Health and Safety Management System (OHSMS) activities. Branches, subsidiaries and affiliates have health and safety functions charged with the enforcement of the Occupational Health and Industrial Safety Policy, legal compliance, injury prevention and building a strong safety culture.

Percentage compliance with the above standards was evaluated quarterly against checklists at each branch.

In 2021, the Health and Safety Department implemented four OHSMS regulations in regional branches:
- Regulations on Identifying Systemic Causes of Incidents and Incident Prevention at PJSC Rostelecom
- Regulations on Professional Risk Identification, Assessment and Management at PJSC Rostelecom
- Regulations on Organisational Measures Ensuring Work Safety and Safe Work at Height at PJSC Rostelecom
- Regulations on the Provision of Protective Clothing, Protective Footwear and Other Personal Protective Equipment to PJSC Rostelecom Employees

Vision Zero

Since 2019, Rostelecom has been implementing the principles of Vision Zero – a global zero injury rate initiative based on the Seven Golden Rules across three focus areas: safety, occupational hygiene and employee well-being at all levels of operations. In 2021, the Group maintained its strong focus on Vision Zero Golden Rule 2: "Identify Hazards – Control Risks!" Rostelecom identifies actions to reduce acceptable and unacceptable occupational risks and monitors risk trends.

In the first half of 2021, we held training sessions on occupational risk management at two branches. Following the training, the branches developed 2021 implementation roadmaps for the occupational risk assessment procedure.

In 2021, we held a training session themed "Analysis of Systemic Causes of Incidents", where health and safety managers and specialists built Ishikawa diagrams and identified the systemic (root) cause of a case study incident using the Root Cause Tree and Five Whys analyses. A total of 45 employees took part in the training event.

These methods of accident investigation help Rostelecom identify the systemic causes of accidents as well as define and implement preventive measures.

« The training session provided all participants with practical skills in applying globally accepted techniques to identify the root causes of accidents, so that they are able to apply them going forward to investigate accidents and prevent injuries.

Pavel Ivanov
Director of the Health and Safety Department, Rostelecom

OHSMS performance evaluation

At the level of the Group's business units, subsidiaries and affiliates, OHSMS performance is evaluated by the health and safety teams of respective entities. Branches use a tiered control system to review the OHSMS performance, whereby the dedicated commissions include Rostelecom managers and trade union representatives with due authority in health and safety matters. Furthermore, the Health and Safety Department of Rostelecom's Headquarters runs annual inspections of macroregional and regional branches to look into OHS practices.

11

OHSMS performance audits the Health and Safety Department completed in 2021

In 2021, the Health and Safety Department completed 11 OHSMS performance audits (3 on-site audits and 8 desk audits). A total of 38 violations have been identified, down 25% from 50 in 2020. The audit results were reviewed by the top management and meetings with the Senior Vice President for Technical Infrastructure. For each of the identified gaps, corrective actions were developed to remedy them and avoid these issues in the future.

Over 10 branches were audited using tiered control in 2021. Audits identified safety violations, such as the use of faulty tools and inadequate control by supervisors over work preparation and execution.

↓25%

reduction in the number of violations compared to 2020

For details on Rostelecom's approaches to the OHSMS performance evaluation, see Rostelecom's Sustainability Report 2019.

Occupational health and safety management by contractors

Rostelecom's health and safety rules and requirements also apply to contractor employees. The following documents apply to contractors and seconded staff:

- Instruction on the Procedure for the Admission of Third-Party Specialists and Seconded Staff of Rostelecom to Work at Rostelecom Facilities

- Methodology to Verify Compliance with Occupational Safety Requirements for the Admission of Third-Party Employees and Seconded Staff of Rostelecom to Work at Rostelecom Facilities

Workplace injury prevention

GRI 403-7

Rostelecom creates secure, safe and comfortable work conditions. The Company conducts relevant training, medical examinations, workplace assessments and other scheduled activities every year to ensure the safety of employees doing hazardous work, including the installation, operation and maintenance of towers and base stations.

Amid the ongoing COVID-19 pandemic, Rostelecom provided its employees with PPE. In 2021, the Company spent over RUB 500 million on PPE against COVID-19. In total, the Company spent RUB 1,026.7 million on PPE (PPE against COVID-19, safety workwear, footwear and other personal protective equipment).

Rostelecom Group's spending on occupational health and safety, RUB million	2019	2020	2021
Spending on occupational health and safety[1]	834.8	1,864.5	1,589.6

Safety amid the COVID-19 pandemic

Amid the COVID-19 pandemic, the Group focused on protecting employee health and providing safe work conditions. Since March 2020, 40% of employees were working remotely. Thermometers, disposable masks and gloves, and hand sanitiser products were deployed at every entrance and every floor across the Group's office spaces. We also periodically tested employees for coronavirus using PCR tests.

The Company provided its field crew members with PPE – disposable coveralls, disposable gloves, goggles and masks, shoe covers, antiseptics and hand moisturisers. We showed them videos on disinfection protocols and the proper use and safe disposal of protective equipment.

>500 mn RUB

were spent on PPE against COVID-19 in 2021

All measures taken to curb the spread of COVID-19 were aligned with the recommendations of the Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor), including due consideration for the regional requirements by the administrations of relevant regions of the Russian Federation.

1   The 2019–2021 indicators presented in the table include data on Rostelecom and the Group's subsidiaries and affiliates. Headcount-wise, this perimeter covers 100% of the entire Group.

Occupational health and safety training

GRI 403–5

Rostelecom is focused on improving employee knowledge and skills in occupational health and safety. All categories of staff attend health and safety training.

In 2021, technical leaders and specialists from two Rostelecom branches completed training in occupational risk assessment. For more details, see subsection on occupational health and safety risk management.

Employees involved in tower installation and maintenance also did mandatory training in electrical safety and safe work at height and learned rules and methods for giving first-aid and safe work within confined spaces.

A total of more than 90 thousand of Rostelecom employees were trained in occupational health and safety during 2021.

Rate of work-related injuries

GRI 403-2   GRI 403-9   GRI 403-10

In 2021, no occupational diseases were diagnosed in Rostelecom employees.

During the year, there were 35 work-related injuries, down 12.5% from 2020 (40 injuries). In 2021, three fatalities were recorded, resulting from working at height. The most common causes of injuries were transport accidents (23%) and falls from ladders, including stepladders (23%).

In 2021, Rostelecom automated injury reporting with daily updates. The results of accident prevention measures are reviewed every quarter, every six months and at year end. In 2021, the Company investigated all employee injuries, identified their causes and defined corrective actions. We prepared semi-annual and annual reports on the injuries and circulated letters specifying measures to avoid similar incidents in the future. We produced two videos on safe work at height, based on actual work process at a Rostelecom site.

Work–related injuries at Rostelecom Group[1]

	2019	2020	2021
Number of work-related injuries	64	46	40
Rate of work-related injuries per 1,000 employees	0.64	0.27	0.3
Fatalities	1	O	4
Lost time accident days	6,962	3,000	–

In 2021, total number of accidents at Rostelecom Group dropped 28%, with injury rate more than halved.

Work–related injuries at Rostelecom

	2019	2020	2021
Number of work-related injuries	47	40	35
Including:			
• high-consequence injuries	10	8	7
• fatalities	3	O	3
Breakdown by gender:			
injured women	5	5	7
injured men	42	35	28
Rate of work-related injuries per 1,000 employees	0.44	0.38	0.33
Rate of work-related fatalities per 1,000 employees	0.01	O	0.03
Lost time accident days	2,199	2,094	3,251

The rate of work-related injuries at Rostelecom stood at 0.33 in 2021. The total number of accidents decreased by 12.5% year-on-year, driven by stronger culture of awareness and safe behaviour in the workplace and best practice adoption.

1   The 2019–2021 indicators presented in the table include data on Rostelecom and the Group's subsidiaries and affiliates. Headcount-wise, this perimeter covers 100% of the entire Group.

GRI 306-3

SDG 13

SDG 13

ROSTELECOM
FOR THE
ENVIRONMENT

Rostelecom takes a responsible approach to environmental conservation. The Company manages its environmental impacts across three areas:

- Its own environmental impact

- Digital environmental management solutions for third parties

- Promoting a culture of responsible consumption across society

Our approach

United Nations Sustainable Development Goals

In developing our environmental safety priorities, we have taken into account the UN Sustainable Development Goals (SDGs) relating to environmental protection: 8, 11, 12, 13, and 15.

As part of SDG Target 8.4, the Group has integrated a control system into its operations to ensure that our facilities are operated in line with sustainability standards and the requirements of fire, industrial and environmental safety laws.

Under SDGs 11.3 and 11.6, Rostelecom deploys energy-efficient lighting systems for municipal areas and public spaces, works to foster environmental responsibility among the population, and designs integrated digital solutions for municipal waste management.

To achieve SDG Target 12.5, the Group has built a system of separate waste collection, through which we are increasing the amount and number of types of materials sent for recycling every year. The Pereplavka (Melting) project, rolled out in 64 Russian regions facilitates the collection and transfer of electronic waste for recycling. To prevent climate change (SDG 13), Rostelecom strives to improve its energy efficiency and upgrade local urban infrastructure.

As part of SDG 15, the Company contributes to protecting terrestrial ecosystems: our video surveillance systems help detect and promptly respond to forest fire outbreaks in the Urals, Perm Territory and the Republic of Sakha (Yakutia).

Environmental protection and safety management

Rostelecom Group's environmental protection and safety efforts are an integral part of the Group's overall occupational health and safety policies. The regulatory framework for Rostelecom's environmental protection efforts includes its Environmental Policy and the HSE and Fire Safety Policy. These policies have been implemented across the Group subsidiaries and affiliates.

Rostelecom's environmental management system fully complies with governmental regulations as well as international best practices and standards in the telecommunications market.

In 2021, Rostelecom redesigned its Environmental Management System as follows:

1. The number of management levels was reduced from three to two
2. Two new units responsible for environmental matters were set up
3. Internal documents were harmonised

The Company also successfully passed an external audit, with the certificate of conformity to GOST R ISO 14001-2016 renewed for one year.

Principles of Rostelecom's Environmental Policy:

1 Compliance of the Company's operations with the requirements, norms and commitments established by Russian laws and ratified by international treaties as regards environmental protection, sustainable use of natural resources and environmental safety

2 Commitment to sustainability principles in Rostelecom's planning and operations: the Company's economic activities should not worsen the existing environmental situation, be detrimental to the quality of life and health of people and harm the environment

3 No obstacles hindering the exercise by Rostelecom employees or Russian citizens affected by the Company's operations of their constitutional right to a favourable environment

4 Responsibility of the Company for the environmental (including remote) consequences of its operations

5 Minimising negative environmental impacts and promoting sustainable use of natural resources in the Company's operations

6 Considering potential environmental risks when making management decisions that determine Rostelecom's development strategy. Integrating environmental risk management and environmental operational control into the Company's overall business management system

7 Transparency and availability of environmental impact information to all stakeholders

8 Building and promoting an environmental culture and environmental values across the Company, and raising Rostelecom's profile as an environmentally responsible business

Rostelecom's key environmental protection and safety objectives:

- Sustainable use of natural resources
- Minimising negative environmental impacts from Rostelecom's operations
- Sustaining the environment for future generations

In 2021, Rostelecom approved and started to implement its priority ESG objectives defined in its five-year ESG strategy. The goals focus on reducing electricity consumption, increasing the use of renewable energy, implementing waste management programmes, and promoting the Green Office concept across the Group.

Organisation of environmental protection management at Rostelecom Group

President of PJSC Rostelecom
- Provides general supervision of Rostelecom's environmental protection and environmental management system (EMS)
- Approves environmental protection and safety policies
- Evaluates the Company's environmental performance

Administrative Director of PJSC Rostelecom's Headquarters
- Manages the Group's environmental activities
- Analyses the Group's environmental performance
- Communicates environmental performance to the top management

Operational Control Department of PJSC Rostelecom's Headquarters
- Coordinates environmental aspects of the Group's activities
- Implements environmental operational control
- Develops internal regulations
- Collects and consolidates information on the Group's environmental activities for review by the top management Prepares quarterly reports for Rostelecom management
- Provides methodological support to PJSC Rostelecom branches, subsidiaries and associates

Operational Control Directorate of the West Administrative Department, Operational Control Directorate of the East Administrative Department
- Ensure environmental safety across the Company
- Implement environmental operational control (within their respective areas of responsibility)
- Manage environmental protection training
- Prepare statistical and corporate reports

Structural units of regional branches, subsidiaries and affiliates
- Implement environmental initiatives
- Monitor negative environmental impact sources on a day-to-day basis
- Manage waste
- Respond to incidents with environmental risks

Rostelecom's environmental management system fully complies with governmental regulations as well as international best practices and standards in the telecommunications market.

Group's key documents regulating environmental protection

In 2021, the Company reaffirmed the high level of its environmental management system by successfully passing an external audit and renewing its GOST R ISO 14001–2016 compliance certificate for another year.

- International standards (ISO 14001, etc.)
- Russian environmental laws
- Regulations (orders of ministries and agencies, procedures, guidelines, Russian GOST standards and SanPiN (Sanitary Rules and Norms), etc.)
- PJSC Rostelecom's Environmental Policy
- PJSC Rostelecom's Energy Policy
- PJSC Rostelecom's HSE and Fire Safety Policy
- Regulations on Environmental Operational Control at PJSC Rostelecom
- PJSC Rostelecom's Procedure for the Operation of Water Wells
- Waste Management Procedure
- Orders appointing employees to coordinate environmental safety and safe waste management
- Environmental operational control programmes for emitting facilities
- Approved environmental impact rates and limits (for Environmental Hazard Class 2 facilities)
- Documents establishing buffer zones and sanitary protection zones
- Action plans for adverse weather conditions (for sources of air emissions)

Precautionary Principle

Rostelecom is applying the Precautionary Principle to environmental protection. Environmental risks are assessed and managed as part of a unified risk management system at defined intervals. Qualified experts assess the impacts and potential consequences of projects that may affect the environment, in line with Russian environmental laws.

Environmental operational control

394

internal audits performed in 2021

Environmental operational control (EOC) is an integral part of environmental safety measures. EOC reduces the risk of negative environmental impact to an acceptable minimum, allowing the Company's facilities to operate sustainably. The Regulations on Environmental Operational Control in place define the composition, structure, organisation, and operational procedure for the EOC system. In 2021, Rostelecom updated the Regulations to reflect the new structure of the Environmental Management System.

In the reporting year, the Company completed 394 internal audits (328 on-site and 66 desk audits), with 562 facilities audited and 321 gaps identified and closed.

Personnel training in environmental protection

292 employees

completed training in managing environmental safety in 2021

Managers and specialists responsible for making decisions related to potential environmental impacts, as well as the employees designated to manage Hazard Class 1–4 waste take training in managing environmental safety. In 2021, this training covered 292 employees. Employees are trained at certified centres under programmes designed specifically to suit different skill levels. We have been widely using remote learning opportunities, such as online courses and webinars, since 2021 due to the COVID-19 pandemic.

Specialised training (upskilling) programme	Duration of training, hours		Number of people trained		Training costs, RUB thousand, excluding VAT	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**
Environmental safety for managers and general business management specialists	72	72	121	70	473.8	178
Environmental safety for managers and specialists with environmental protection and environmental control functions	112–200	112	10	35	283.08	105.6
Specialised training required for Hazard Class 1–4 waste management	72–200	112	302	143	1,038.12	321.2
Other programmes	4–40	3–72	7	44	93.8	300.6
Total			**338**	**292**	**1,572.04**	**905.4**

Management performance evaluation

The performance of the Group's approach to environmental protection and safety management is reviewed by the President of PJSC Rostelecom during his quarterly meetings with the Senior Vice President – Chief of Staff of Rostelecom's President. Rostelecom management evaluates the progress made on planned environmental initiatives, EOC results and the progress of corrective actions every three months.

Rostelecom's HQ Operational Control Division reviews and updates environmental protection policies at least once every two years. No changes were made to our environmental policies during 2021.

Environmental protection and energy efficiency awards

CDP
DRIVING SUSTAINABLE ECONOMIES

The Carbon Disclosure Project (CDP) affirmed Rostelecom's C score in 2021 following the review of our report.

4.2 Environmental initiatives

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

15 LIFE ON LAND

65%
share of environmental protection funds allocated to waste management

The Group strives to minimise its negative environmental impact by cutting down on fossil fuels, rolling out separate waste collection, minimising water use from wells, and initiating environmental drives and events.

In 2021, Rostelecom Group's environmental expenditures and investments totalled RUB 164 million, with the bulk of this money allocated to waste management (65%). A total of RUB 8.44 million (5%) was allocated to air pollution control and climate change mitigation.

During 2021, state supervisory authorities conducted 14 environmental audits of Rostelecom, with 11 improvement notices issued, RUB 55 thousand of fines imposed on Company officers, RUB 170 thousand of fines imposed on the Company as a legal entity. All contraventions specified in the improvement notices were remedied in a timely manner. The relevant reports were submitted to the supervisory authorities.

Total environmental expenditures and investments of Rostelecom[1], RUB million

Type	2017	2018	2019	2020	2021
Waste management	83.50	99.83	100.63	108.68	106.01
Soil, surface water and groundwater pollution control	5.61	5.91	6.48	6.99	3.79
Air pollution control and climate change mitigation	2.43	5.75	5.74	9.75	8.44
Area improvements and urban greening	1.64	2.13	2.50	5.16	2.93
Employee training	2.35	1.57	1.58	1.89	0.90
Payments to the state budget for environmental pollution	19.59	11.18	8.38	7.05	2.63
Other focus areas	30.39	33.12	37.05	34.49	39.20
Total environmental expenditures	**145.51**	**159.49**	**162.36**	**174.01**	**163.90**

1   The indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

164 mn RUB
Rostelecom Group's environmental expenditures and investments in 2021

14 audits
of Rostelecom's environmental activities conducted in 2021

Waste management

 11 SUSTAINABLE CITIES AND COMMUNITIES

 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

 15 LIFE ON LAND

GRI 306-1

GRI 306-2

GRI 306-3

Sustainable waste management is essential for Rostelecom. The Company aims to reduce waste generation and increase the proportion of waste sent for recycling. We foster a culture of waste management among our employees, contractors, customers, and partners.

Rostelecom provides a service to monitor waste container sites. This solution enables monitoring of waste sites and detection of unauthorised waste sites.

The bulk of waste generated by the Group is low-hazard category 4 (79.1%) and 5 (20.5%). These are mainly household, wood and vegetal waste, ash and slag from coal and wood combustion, and construction waste.

Since 2018, we have significantly (38%) reduced the amount of Hazard Category 1 waste by reducing the number of fluorescent mercury-containing lamps in use.

A 4.6% year-on-year increase in household waste generation[2] in 2021 was due to employees returning to office work after remote working during the pandemic.

The increase in the amount of Hazard Category 2 waste was due to a significant number of retired backup batteries.

The Company transfers all waste containing useful components and suitable for processing and reuse to specialised organisations.

Waste generation by hazard category[1], tonnes

Hazard category	2018	2019	2020	2021
1	40.27	40.05	35.43	25.06
2	28.52	15.77	21.22	64.67
3	39.27	33.40	26.38	23.53
4	20,616	21,502	21,281	26,353
5	13,386	12,524	10,474	6,843
Total	**34,109**	**34,115**	**31,838**	**33,310**

Waste management at Rostelecom Group[3], tonnes

Waste management	2018	2019	2020	2021
Total waste generated	34,109	34,115	31,838	33,310
Handed over to third parties for landfilling	30,617	30,591	28,888	31,024
Handed over to third parties for neutralisation and utilisation	3,221	3,319	2,878	2,225
Reuse for own operational needs	272	205	72.0	60.5

1   Indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

2   Total amount of Hazard Category 4 and 5 waste.
3   The indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

Separate waste collection

The Group is phasing in separate waste collection across Rostelecom's business units, subsidiaries and affiliates.

The amount of paper waste across the Company was reduced as a result of extensive workflow digitisation and reduced paper consumption. The amount of paper waste in 2021 was down 11%.

Handling of paper waste by Rostelecom Group, tonnes

	2018	2019	2020	2021
Paper waste	745.8	321.1	211.3	187.7
Paper sent for recycling	269.5	321.1	211.3	187.7

Pereplavka (Melting) project

Since 2019, the Group has been running a project to recycle old mobile phones. An infrastructure has been set up as part of the project for collecting the devices, with users informed about the importance of special phone recycling. Since then, our customers in 64 Russian regions have handed in around 14 thousand devices for recycling.

We will continue this project in 2022.

Green Office concept

In 2021, the Group proactively developed remote working services, rolling out a TrueConf's videoconferencing platform and Tionix Virtual Desktop (VDI), Rostelecom's proprietary remote working solution leveraging a virtual desktop interface. This reduces the consumption of fossil fuels by avoiding employee travel.

The Group views the Green Office concept as one of its priorities in Rostelecom's new sustainable development strategy. We are expanding the number of offices where this concept has been introduced. Through extensive use of electronic document management and electronic signature systems for interactions with counterparties and between its units, Rostelecom saves paper and consumables. Information exchange has become easier, more effective and environmentally friendly.

In 2021, as part of the Green Officeprinciples, Rostelecom:

- used automated power and water meters
- did separate waste collection
- used environmentally safe consumables
- used electronic document management and videoconferencing solutions.

In 2021, the Company handed over for recycling:

187.7
tonnes of paper

17.3
tonnes of cardboard

3.6
tonnes of batteries

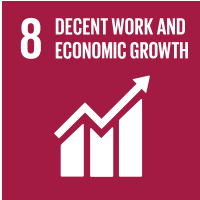**13.4**
tonnes of plastic

72.5
tonnes of scrap metal

9.17
tonnes of copper and copper alloy scrap

1.5
tonnes of aluminium scrap

79.2
tonnes of car tyres and inner tubes

4 Emission management

| 8 | DECENT WORK AND ECONOMIC GROWTH | | 12 | RESPONSIBLE CONSUMPTION AND PRODUCTION | | 13 | CLIMATE ACTION | | GRI 305-7 |

Emissions of air pollutants

2.16 mn RUB

allocated for repair and upgrade of nine boiler facilities

The major sources of air emissions of Rostelecom are fossil fuel boiler facilities used for heating during cold periods of the year. When burned, coal and wood emit sulphur and nitrogen oxides, soot particles and carbon monoxide. To minimise our negative environmental impact, we are investing in upgrades of boiler facilities and converting them to more eco-friendly fuels, such as natural gas and renewable fuels.

In 2021, we made repairs and upgrades worth RUB 2.16 million across nine boiler facilities, replacing old boilers and equipment with modern efficient units and retrofitting gas distribution points and gas networks. In addition, one obsolete coal-fired boiler house was decommissioned and three new natural gas-fired boilers put into operation (for a total of RUB 5.1 million).

All boiler facilities and other sources of vented emissions have gas cleaning systems to keep pollutant concentrations below their permissible limits. Spent gas filters were replaced as scheduled during 2021. Action plans for adverse weather conditions were drafted for Hazard Category 2 and 3 emission sources to keep emission concentrations below their limits in such circumstances.

To prevent air emissions from motor vehicles, the Group is purchasing only Euro 5 vehicles and phasing out vehicles that do not comply with this standard.

In the reporting period, the weight of major air pollutant emissions decreased due to lower coal consumption by boiler facilities. All emissions remained within acceptable regulatory limits in 2021.

Significant air emissions of Rostelecom Group[1], tonnes

Emissions of air pollutants	2017	2018	2019	2020	2021
Carbon oxide (CO)	904	857	769	843	814
Nitrogen dioxide (NO2)	117	131	141	217	214
Sulphur dioxide (SO2)	106	116	103	101	96
Nitrogen oxide (NO)	22	23	24	38	37
Soot	147	179	160	164	181
Total	**1,296**	**1,306**	**1,197**	**1,363**	**1,342**

1 The indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

Greenhouse gas emissions

GRI 305-1

Rostelecom strives to reduce its greenhouse gas (GHG) emissions by cutting down its fossil fuel use, driving energy-efficient and energy-saving initiatives and decreasing waste sent for landfill.

In 2021, we reduced direct GHG emissions by 4.3% from 181 thousand tonnes to 173 thousand tonnes of CO_2 equivalent. At the same time, indirect GHG emissions increased: by 16% for Scope 2 and by 1.5% for Scope 3. The increase in indirect emissions is caused by an increase in electricity consumption and the amount of waste handed over for landfilling.

GHG emissions in the Group[1], tonnes of CO2 equivalent.

	2017	2018	2019	2020	2021
Direct emissions (Scope 1)	187,173	181,429	184,436	180,943	173,249
Indirect emissions (Scope 2)	994,849	973,255	1,402,598	1,261,440	1,462,888
Total emissions (Scope 1 and 2)	**1,182,022**	**1,154,684**	**1,587,034**	**1,442,383**	**1,636,137**
Indirect emissions (Scope 3)	86,234	85,812	80,115	69,303	70,326

CDP reporting

PJSC Rostelecom has been issuing climate change reports in accordance with CDP requirements since 2016. The reports include data on our greenhouse gas emissions broken down by GHG type, region, activity and type of energy consumed. The reports also disclose information on Rostelecom's climatic aspects management structure, climate change risks and opportunities and their impact on the business strategy, the Company's goals in GHG emission reduction and the use of low-carbon products and energy consumption.

In 2021, CDP reviewed Rostelecom's 2020 climate change report and confirmed its environmental score at Awareness (C) for the third year running.

45

Water consension

45 **Water** consumption

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

| GRI 303-1 | GRI 303-2 | GRI 303-3 | GRI 303-5 |

Most Rostelecom units, subsidiaries and affiliates (over 90%) use water from municipal centralised water supply systems.

All water wells, which are only used in some remote areas, have subsoil licences. Sanitary protection zones are organised around the wells in accordance with legal requirements. Groundwater quality and compliance with the requirements for source water protection zones are regularly monitored as part of our environmental operational control.

Water consumption[1], thousand cu m

	2017	2018	2019	2020	2021
Total water withdrawal, including:	**2,801**	**2,496**	**2,368**	**1,824**	**1,938**
groundwater	376	230	206	175	168
municipal and other water utilities, including:	2,425	2,267	2,162	1,649	1,770
cold water	2,209	2,067	1,943	1,483	1,581
hot water	216	200	220	166	188
Supply to third parties (individuals, organisations)	**216**	**122**	**86**	**89**	**89**
Total water consumption	**2,585**	**2,374**	**2,282**	**1,735**	**1,849**

We recognise the importance of managing groundwater sustainably and seek to reduce the number of wells in use and our water intake every year. During 2021, Rostelecom operated 73 wells (down 8.8% year-on-year). The Group's groundwater withdrawal decreased from 175 thousand cu m in 2020 to 168 thousand cu m in 2021.

The Group does not withdraw water in areas with water stress.

Rostelecom transfers some of its withdrawn water to third parties (89 thousand cu m transferred in 2021).

70

of Rostelecom buildings, were equipped with water saving systems at the end of 2021

To reduce water use, the Company is installing sensors on sink taps and dual flush toilets, as well as encouraging employees to take positive steps to save water. At the end of 2021, 70 buildings with a total area of 315.1 sq m, or 3.4% of total floor area of Rostelecom buildings, were equipped with water saving systems.

In 2021, the Group's water consumption grew 6.6% year-on-year due to some employees returning to office work after remote working during the pandemic.

Wastewater discharge

| GRI 303-4 |

Since 2018, we have almost halved our wastewater discharge into water bodies from 40.3 thousand cu m in 2018 to 14.7 thousand cu m in 2021.

Most of the wastewater used by Rostelecom is discharged into public sewage systems under existing contracts. Only approximately 0.86% of water is discharged into water bodies directly. This water is handled by the Company's treatment facilities before discharge.

Water bodies into which we discharge wastewater are listed below:

- Lake Otradnoye (Priozersky District, Leningrad Region)
- River Gzhat (Gagarinsky District, Smolensk Region)
- Vassa Brook (Klyazma River, Noginsky District, Moscow Region)
- Lyubuchanka Brook (Rozhaika River, Chekhovsky District, Moscow Region)
- Bezymianny Brook (Darenka River, Istrinsky District, Moscow Region)
- River Gzhelka (Ramensky Urban District, Moscow Region)
- River Dyorzha (Zubtsovsky District, Tver Region)
- Bezymianny Brook (Kashinsky District, Tver Region)

Rostelecom Group's total water discharge, thousand cu m

Total water discharge		2018	2019	2020	2021
Into water bodies (water ejectors)	planned	40.3	30.0	23.6	14.7
	unplanned	0	0	0	0
Into public sewage systems (under contracts)		2,065	2,204	1,833	1,681
Total		**2,106**	**2,234**	**1,856**	**1,696**

During 2021, the total volume of wastewater was down 8.6%, while discharge to water bodies decreased by 37.7%. We have made no unplanned wastewater discharges over the last three years.

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1   The indicators presented in the table include data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

4.6 Area improvements

 11 SUSTAINABLE CITIES AND COMMUNITIES

 15 LIFE ON LAND

Rostelecom continues to improve its facilities by greening and enhancing the areas around them. In 2021, 1,063 sq m of land were improved, with 9 trees and 55 shrubs planted and 440 sq m of flowerbeds and lawns made.

During the year, Rostelecom Group employees ran neighbourhood cleanup campaigns and proactively supported voluntary cleanups at various locations across Russia by collecting and removing garbage, painting curbs, as well as planting flowers, trees and shrubs.

Building smart cities is a critical objective for Rostelecom, which includes creating innovations and digital technology that make people's lives in the new digital environment more comfortable, safe and harmonised to enable development. Environmental safety plays a significant role in smart cities.

Rostelecom develops multiple municipal solid waste (MSW) management systems, rolls out energy-efficient urban lighting projects and helps prevent large-scale forest fires.

Digital solutions for effective municipal waste management

Environmental challenge

Management of MSW

According to statistics, a person generates up to 400 kg of waste per year, or about 1.1 kg per day. Russia has over 650 thousand MSW containers installed at apartment blocks and managed by several different entities. A common problem here is lack of coordination, delays in waste removal and inadequate maintenance of waste collection sites.

Our solution

Continuous monitoring of MSW sites

Rostelecom uses intelligent neural network (INN) modules for monitoring. These modules capture data to generate accurate insights into the entire MSW management cycle, monitor compliance with the rules for setting up waste collection sites, the sanitary and overall condition of container sites and garbage parks, as well as identify unauthorised waste sites.

Rostelecom's 2021 highlights

We piloted MSW container site monitoring projects across 11 Russian regions, including the Kamchatka Territory, Saratov Region, Voronezh, Tver, Lipetsk, and the Rostov Region. More than 1.4 thousand container sites in the Kamchatka Territory alone are connected to the MSW project.

Upgrading urban lighting

Environmental challenge

Reducing energy use and carbon dioxide emissions

The world's cities occupy just 3% of the Earth's land, but account for 60% to 80% of total energy consumption and 75% of carbon emissions.

Outdated municipal lighting systems in Russian regions are energy consuming and expensive to maintain.

Our solution

Upgrading municipal lighting systems

Rostelecom upgrades municipal lighting, including street lights and municipal building lighting (educational institutions, hospitals) in Russian regions, delivering its solutions through energy service contracts. Our lighting-as-a-service projects fit out the streets of Russian cities and towns with modern, safe and energy efficient lamps – all while saving natural resources and reducing electricity bills for municipal authorities.

Forest fire prevention

Environmental challenge

Forest fire prevention

According to WWF Russia's data over the past 20 years, over 10 million hectares of forests are affected on average by fires each year in Russia, with at least 3 million hectares of forests completely destroyed every year. In addition to direct economic losses, fires harm public health, cause huge damage to biodiversity and contribute to climate change, releasing carbon stored in biomass and soil as CO_2 emissions.

Our solution

Automated fire and smoke detection systems

Rostelecom's fire and smoke detection systems include 360° tower-mounted video surveillance cameras to automatically detect a smoke cloud against a forest background, determine the outbreak coordinates and immediately send data to a regional dispatch centre.

Rostelecom's 2021 highlights

Ten CCTV cameras were installed in the Republic of Buryatia, bringing the total number of cameras to 30, with 6 million hectares of forest are monitored round-the-clock.

Energy efficiency

Energy efficiency is an important prerequisite for developing the digital economy. Rostelecom adopts energy efficient solutions drawing on the latest advances in science and technology.

In addition to investing in own energy-efficiency projects, Rostelecom is developing solutions that promote energy efficiency for its customers. In particular, we are implementing large-scale projects to upgrade street lighting in Russian regions.

The Group's ambitions and focus areas in energy efficiency are set in PJSC Rostelecom's Energy Policy, which covers all regional branches and is also adopted by all subsidiaries and affiliates.

The key objective of the Group for energy saving and energy efficiency is to create organisational, legal, economic, scientific, technical and technological conditions enabling higher efficiency of energy consumption and utilisation of new unused energy sources with due consideration of the features of the regions where Rostelecom provides telecommunications services.

Rostelecom Group's energy efficiency management structure

PJSC Rostelecom Headquarters Energy Management Group
- Defines the principles and strategic objectives for the Group's energy efficiency measures
- Reviews performance metrics at set time intervals

Regional branches, subsidiaries and affiliates
- Ensure the operation of the energy management system
- Develop and implement energy efficiency projects to upgrade or repair energy consuming systems, equipment and buildings
- Collect and analyse data to evaluate the outcomes of energy efficiency projects

External consultants
- Audits of the Group's energy management system

Rostelecom's performance targets for energy saving and energy efficiency improvement:

1 Equip the Group's buildings, structures and facilities with meters for water, natural gas, heat, and electricity

2 Reduce the specific consumption of electricity and heat, as well as natural gas, cold and hot water across the Group's buildings, structures and facilities (per sq m of floor space)

3 Reduce the specific consumption of fuel and lubricants across the Group (vehicle consumption per km)

Energy consumption

GRI 302-1

Rostelecom consumes the following types of energy resources: electricity, heat, fuel (gasoline, diesel fuel, natural gas, coal, and renewable fuels).

In 2021, we significantly reduced our consumption of coal (21%), which is one of the main sources of emissions of sulphur oxides, nitrogen and particulate matter, as well as coal ash.

We have replaced some gasoline-fuelled vehicles with natural gas vehicles, resulting in a 23% increase in the consumption of liquefied gas.

Renewable fuel consumption in 2021 totalled 15,745 kWh, flat year-on-year.

The 14.5% increase in electricity consumption was due to our business expansion (an increase in the number of facilities).

15.7 mn kWh

renewable fuel consumption in 2021

The Group's total fuel and other energy consumption, 2018–2021[1]

	Unit of measurement	2018	2019	2020	2021
Total energy consumption	**thousand kWh**	**2,854,350**	**4,478,408**	**3,988,342**	**4,448,304**
Electricity	thousand kWh	1,344,116	3,042,452	2,817,344	3,224,728
Heat	Gcal	1,298,568	1,234,700	1,006,877	1,052,086
Natural gas	thousand cu m	27,208	23,499	21,694	22,969
Liquefied gas	l	1,087,580	866,569	1,155,501	1,418,601
Coal	t	10,695	10,846	7,375	5,815
Firewood	cu m	9,238	7,367	6,100	6,077
Fuel briquettes (pellets)	t	503	231	260	291
Diesel fuel	l	7,956,848	8,279,680	7,895,918	7,768,314
Gasoline	l	28,644,554	37,758,724	37,584,170	37,175,201
Renewable energy (combustion of biomass)	thousand kWh	24,197	18,558	15,662	15,745
Electricity consumption per sq m of total floor space	thousand kWh/sq m	0.166	0.3432	0.3259	0.366
Heat consumption per sq m of total floor space	Gcal/sq m	0.160	0.1393	0.1165	0.119
Total energy consumption by data centres	thousand kWh	238,869	282,544	310,017	391,935
Average power usage effectiveness at data centres	ratio PUE	1.86	1.67	1.76	1.544

Rostelecom Group's spending on energy resources, 2018–2021[2], RUB thousand

	2018	2019	2020	2021
Total expenses on fuel consumption for self-generation of energy	**386,529**	**403,875**	**371,097**	**366,611**
Natural gas	145,719	133,847	128,442	142,008
Gasoline	30,908	53,329	43,982	40,825
Coal	32,749	33,897	25,015	20,148
Diesel fuel / oil	160,659	168,732	161,052	150,183
Firewood	14,047	12,221	10,683	11,257
Fuel briquettes	2,449	1,849	1,923	2,190
Total expenses on fuel for vehicles and mechanical equipment	**1,075,973**	**1,475,614**	**1,489,471**	**1,566,475**
Gasoline	923,856	1,273,534	1,295,112	1,356,283
Diesel fuel	133,210	186,123	172,514	176,917
Liquified petroleum gas (propane)	18,907	15,957	21,845	33,274
Total expenses on energy purchased from external suppliers	**9,126,032**	**15,126,234**	**16,342,023**	**18,466,321**
Electricity	6,929,256	12,903,849	14,207,152	16,103,002
Heat	2,196,776	2,222,384	2,134,871	2,363,318
Spending on energy efficiency projects	**198,131**	**244,520**	**304,006**	**175,182**

1　Data for 2018 exclude Rostelecom's mobile operator, while data for 2019–2020 include Rostelecom's mobile operator.

2　Data for 2018 are excluding Rostelecom's mobile operator, while data for 2019–2020 are inclusive of Rostelecom's mobile operator.

Energy efficiency programmes and initiatives

Rostelecom Group continuously works on implementing its energy strategy and improving energy efficiency while considering it a driver of digital economy development. The Group upgrades networks and infrastructure, deploys more energy efficient equipment and is committed to using natural resources sustainably. Investment in energy efficiency projects totalled RUB 108 million in 2021.

The Company has assets that develop and offer key integrated solutions in the utilities sector. These acquisitions will strengthen Rostelecom's utilities digitalisation product range and enable customers to consume resources in a more efficient way. Gas, water and heat supply systems are also being upgraded, with energy-efficient lighting installed to reduce energy consumption in operational processes.

Rostelecom is focused on implementing its Energy Saving and Energy Efficiency Programme for 2019–2023, aimed to reduce energy consumption and curb the growth in energy expenses through a range of technical and organisational energy-saving measures that take into account electricity rate increases and our network expansion.

108 mn RUB

the Group's investments in energy efficiency in 2021

Specific energy consumption reduction targets of Rostelecom until 2023

	Unit of measurement	2018	2023	Change
Specific electricity consumption per sq m of floor space in buildings	kWh/sq m	157.2	134.0	14.76%
Specific heat consumption per sq m of floor space in buildings	Gcal/sq m	0.149	0.139	6.7%

Rostelecom Group's investments in energy efficiency initiatives in 2021, RUB thousand

Type of initiative	Facilities	Expenditures, RUB thousand
Installation of energy-saving light bulbs	21	2,469
Installation of sensor-based lighting controllers (in common areas)	1	15
Water supply system upgrades, installation of meters and water-saving systems	2	10,932
Gas supply system upgrades, meter installation	7	512
District heating substation upgrades, including retrofitting weather compensated heating systems	3	694
Installation and upgrades of heat meters	22	6,595
Heat supply system repairs and upgrades (outdoor and indoor lines, heating systems)	18	16,435
Boiler facility upgrades (including shutdown of existing and construction of new facilities)	13	7,255
Building upgrades and renovation to reduce heat losses, including:		
installation of PVC windows	40	13,982
thermal insulation of roofs	7	15,534
thermal insulation of facades	6	34,059
other works	0	0
Total	**140**	**108,482**

Actual reduction in PJSC Rostelecom's specific energy consumption

	Unit of measurement	2020		2021	
		Plan	Actual	Plan	Actual
Specific electricity consumption per sq m of floor space in buildings	kWh/sq m	152.5	162.5	147.5	156.7
Specific heat consumption per sq m of floor space in buildings	Gcal/sq m	0.142	0.125	0.141	0.125

Electricity efficiency measures

66.7 mn RUB

Rostelecom's investments in the initiatives to optimise electricity consumption in 2021

Electricity saving measures include:

- upgrade of power supply systems with higher efficiencies and performance
- introduction of balanced ventilation systems that use outside air temperature to cool process rooms and data centres
- replacing the lighting with LED lighting
- installation of motion, light level and presence sensors (LED-based)
- introduction of automated meter reading (AMR).

Key organisational activities include:

- transition from a guaranteed electricity supplier to an independent electricity supplier
- on-site audits to reduce costs
- tariff optimisation.

The effectiveness of the electricity saving programme in 2021 was assessed across three areas:

- The long-term estimated effect of the investment initiatives implemented between 2019 and 2020 (power supply units, balanced ventilation systems, LED, and AMR), totalling around RUB 133.4 million in 2021
- Investment measures totalling RUB 66.7 million allocated to the upgrade of power supply units (28 units) and installation of balanced ventilation systems (155 systems), with the total effect coming in at RUB 0.2 million in 2021, and a subsequent annual effect of RUB 48 million from 2022 onwards
- An audit of energy supply contracts, which identified 24 branches that were selected to reduce the electricity tariff

Energy-saving initiatives

To save energy, we install LED lights, weather-compensated heating controllers and water-saving solutions across Rostelecom's office buildings and spaces. To provide cooling for data centres, server rooms, and process equipment, the Company installs free cooling systems using outside air. In addition, we have started to roll out smart office technologies across our premises, including integrated electronic heat and energy control systems.

Energy efficiency of Rostelecom's buildings and offices that use saving systems

Types of energy/ resource-saving systems	2020				2021			
	Number of buildings		Total building area		Number of buildings		Total building area	
	units	%	sq m	%	units	%	sq m	%
Energy-saving light bulbs	3,901	12.6	1,125,824	13.3	3,922	12.7	1,189,842	15.0
Sensor-based lighting controllers (in common areas)	425	1.4	519,949	6.2	426	1.4	522,281	6.6
Weather-compensated (climatic) heating controllers	465	1.5	1,665,279	19.7	468	1.5	1,680,772	21.2
Control valves on heating appliances (manual or automated)	698	2.2	1,344,865	15.9	698	2.2	1,344,865	15.9
Water-saving systems (sensor taps, dual flush toilets)	70	0.2	315,095	3.4	70	0.2	315,095	3.4
Integrated electronic heat and energy control systems (Smart Office)	13	0.04	157,261	1.9	13	0.04	157,261	1.9
Free cooling (data centres, server rooms, process equipment)	540	1.7	375,435	4.4	540	1.7	375,435	4.4

Alternative sources of electricity

134 facilities

of the Company use alternative
sources of electricity

We use alternative energy sources (wind and solar) to power
telecommunications equipment installed in sparsely populated areas
far from power grids.

In total, 134 facilities of the Company use alternative sources of electricity, including:
- 33 solar panels
- 19 microturbine units
- 82 hybrid wind and solar installations.

Energy service technologies

In addition to investing in own energy-efficiency projects, Rostelecom is actively
developing solutions that promote energy efficiency for its customers. Rostelecom
provides services to upgrade lighting systems in Russia's regions through energy
service contracts. An energy service contract is a special type of agreement
aimed at realising operating expense savings by implementing energy-efficiency
initiatives and introducing energy-saving technologies. By offering energy service
contracts, Rostelecom performs the role of an investor who gets paid for a project
by capturing cost savings achieved through the rollout of energy-saving
technologies.

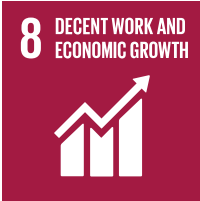Rostelecom is running such projects in the Sverdlovsk and Smolensk Regions.

32.3 thsd kWh

Rostelecom's renewable
self-generation in 2021.

Occupational safety

8 DECENT WORK AND ECONOMIC GROWTH

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

15 LIFE ON LAND

Rostelecom is responsible to its employees, customers and partners for ensuring occupational health and safety and creating an enabling working environment. The Group strives to minimise any potential negative impacts on people, natural resources and the environment. The Company complies with all applicable legal requirements for organising safe work practices.

The Company's operational control system ensures sustainable operation of its facilities and compliance with fire and industrial safety regulations.

Fire safety

8 DECENT WORK AND ECONOMIC GROWTH

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

15 LIFE ON LAND

As part of its fire safety efforts, Rostelecom and its subsidiaries and affiliates upgrade and repair fire protection systems. To prevent fire outbreaks, the Company monitors fire safety at its facilities, with fire authorities conducting audits on a regular basis.

Fire authorities audited 178 facilities during 2021. As a result of the audits, 570 corrective actions were recommended to eliminate the identified gaps. 22 warnings and 21 fines (totalling RUB 124 thousand) were imposed on relevant officers for fire safety breaches; no fines were imposed on the Company as a legal entity.

143 facilities

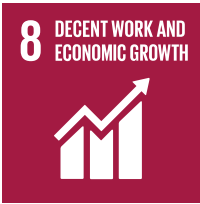in the amount of 382 m RUB equipped with fire protection systems

2,401

Rostelecom employees were trained under the basic fire safety programme in 2021

Fire incidents at PJSC Rostelecom facilities

	2017	2018	2019	2020	2021
Number of fires	**50**	**32**	**22**	**22**	**23**
including caused by third-party organisations or individuals	25	18	4	7	6

Industrial safety

In 2021, Rostelecom Group had a total of 198 hazardous facilities, including 87 facilities classified as Hazard Category 3 (gas grids). All of these facilities are registered with the Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor) and insured.

There were no accidents or incidents at PJSC Rostelecom's hazardous facilities, and no fines or warnings were received from regulatory bodies in the reporting period. A total of 705 internal inspections were conducted in 2021. 255 violations were detected or prevented.

705 inspections

were conducted in 2021

255 violations

were detected or prevented

21 mn RUB

spending on industrial safety, including RUB 1.2 million on insurance of hazardous facilities in 2021

1.2 mn RUB

the annual operating expenses on hazardous facility insurance in 2021

FOR CUSTOMERS, FOR SOCIETY, FOR THE NATION

Rostelecom shapes the Russian telecom market and provides digital opportunities for most areas of life. The Company's projects and strategic initiatives include an ecosystem of digital products and solutions for households, business and government customers.

The Company is committed to improving the quality of life by actively deploying advanced technologies and investing in infrastructure projects, including those supporting the ESG agenda. The Company establishes centres of excellence for data centres and cloud services, creates solutions for cybersecurity, digital regions, e-government, video surveillance and analytics, and develops digital healthcare services.

Rostelecom's key operational metrics showed a positive trend in 2021.

As part of its updated 2025 strategy, Rostelecom consolidated leadership position in its key markets in 2021 while maintaining a strong focus on transforming itself into an integrated provider of digital services and a reliable partner for society, business and the state. The Company is committed to developing products that meet both high technology standards and sustainability principles.

In 2021, Rostelecom increased the number of service users in key customer segments and boosted revenues from innovative digital clusters, primarily from platform solutions for digital public services, cloud services, data centre-based services as well as other digital products.

The Company's mobile business continued to outpace the market while showing a solid growth in sales of its converged offers.

In the reporting year, the Company's B2O revenue also showed growth thanks to wider fibre coverage and a larger number of other mobile operators' base stations serviced by Rostelecom.

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

Our approach

Key achievements
in key segments
and clusters in 2021

**Retail
customers (B2C)**

+8 %

growth in fibre
broadband revenue

>3 mn

Wink users
(+62% year-on-year)

**Business/government
customers (B2B/B2G)**

+37 %

Virtual PBX
subscriber growth

+39 %

Wi-Fi revenue growth

**Services
for operators (B2O)**

>4 thsd

channels for social
infrastructure facilities
provided under the Digital
Economy programme

+14 %

growth in revenue
from the O2O project[1]

Mobile business

+18 %

growth in active
mobile data users

+10 %

growth in the mobile
operator's ARPU to RUB 375

**Data Centres
and Cloud Services
cluster**

13.7 thsd

total racks at year-end 2021
(+4% year-on-year)

+88 %

IaaS revenue growth
**(compared to 27%
market growth)[2]**

**Digital Region
cluster**

89 thsd

electricity meters installed
(total: >470 thousand)

70 thsd

CCTV cameras
connected during the year
(total: 370 thousand)

**Information
Security cluster**

+22 %

revenue growth from
the Solar Dozor product

+12 %

growth in recurring revenue
from proprietary products

**By delivering a package
of initiatives to improve service
quality, Rostelecom reduced
its broadband churn to 14.3% and
TV churn to 15.6%. The decrease
from 2020, when customers were
less active than usual in switching
providers amid lockdowns, was
1 and 1.5 p.p. for broadband and
TV, respectively**

Rostelecom continues developing its Relocation project, which helps relocating
subscribers to keep telecom services from their previous homes. The number
of subscribers who relocated their services grew 8% year-on-year to 246 thousand.
The Online Moving-In digital channel used to apply for relocation was also
actively developed. In order to use the service, a customer only needs to fill in an
application on Rostelecom's website.

The Company then contacts the subscriber and helps them with moving
the internet connection, IPTV and home phone to a new location. The number
of customers using the Online Moving-In service totalled 99 thousand in 2021,
up 15% year-on-year.

Rostelecom makes a continuous effort to improve communication service quality
for its subscribers. Around 120 thousand households were switched from copper
to optical technology in 2021. A federal-level project to replace legacy customer
premises equipment free of charge was completed in order to improve service
quality and reliability, with the Company providing modern routers to 186 thousand
subscribers.

1   Operator to operator.
2   Source: iKS-Consulting.

Driving subscriber loyalty

Attracting and engaging new subscribers as well as business and government customers, including through social projects, has become an integral part of the Company's efforts to build loyalty.

Tycoon, a new online economic simulation game, was launched on 10 October 2021 for subscribers who are members of the Bonus programme. The exciting game allowed players to redeem the points they earned for New Year gifts.

More than 350 thousand customers from all over Russia joined the project to compete for 250 thousand valuable prizes.

In 2021, Rostelecom continued the deployment of automated customer service: In as at December 2021, 31.31% of Rostelecom's broadband base used the online customer account and My Rostelecom app. The year-on-year increase was 4 p.p., with an AI chatbot launched to help customers contacting the Company's live chat to solve various issues. In its first year, the virtual assistant was able to handle up to 14.4% of total chat messages. Users highly appreciated the chatbot's communication skills, speed and helpfulness: 77% of users rate the service at 4 or 5 out of 5.

In 2021, the leading thrust of Rostelecom customer service development in the B2B/ B2G segment was an omnichannel approach and process centralisation.

A platform was launched at the B2B call centre to handle customer text queries. The project optimises the site's work load and resources without compromising service quality and turnaround times. The call centre's high performance standards were confirmed by an external audit and certification to ISO.

Rostelecom used data science to create a system of predictive models to generate personalised offers for customers from small- and medium-sized enterprises. These offers are more accurately tailored to the user's needs, boosting sales efficiency by up to 1.5 times. An individual profile is created for each customer, based on data analysis from more than 50 public sources as well as the classification of data on existing users.

2021 highlights included the launch of the Business Drive Academy, a project to educate and help budding entrepreneurs in small and medium-sized communities. Comprehensive efforts to engage entrepreneurs foster a favourable business environment and generate demand for Rostelecom's digital services.

B2C customer base, million subscribers

Service	4Q 2021	4Q 2020	Change, %
Fibre-optic services			
Fibre broadband	9.8	9.5	4
IPTV	6.3	6.0	5
Traditional services			
Local telephony services	9.9	11.3	−12
xDSL broadband	2.5	3.0	−15
Cable TV	4.4	4.7	−6

B2C ARPU, RUB

Service	4Q 2021	4Q 2020	Change, %
Fibre-optic services			
Fibre broadband	380	377	1
IPTV	306	307	−0.3
Traditional services			
Local telephony services	223	227	−2
xDSL broadband	462	450	3
Cable TV	191	186	3

Customer base in the corporate and government segments, million subscribers

Service	4Q 2021	4Q 2020	Change, %
Fibre-optic services			
Internet access			
• B2B/B2G: Fibre broadband	0.7	0.6	10
• B2B/B2G: Fibre broadband + VPN	1.0	0.9	10
Virtual PBX	0.218	0.160	37
Traditional services			
Local telephony services	2.6	2.7	−6
xDSL broadband	0.2	0.2	−17

ARPU in the corporate and government segments, RUB

Service	4Q 2021	4Q 2020	Change, %
Fibre-optic services			
Internet access			
• B2B/B2G: Fibre broadband	2,868	2,764	4
• B2B/B2G: Fibre broadband + VPN	4,066	4,298	−5
Virtual PBX	907	1,108	−18
Traditional services			
Local telephony services	575	585	−2
xDSL broadband	1,527	1,324	15

Digital service ecosystems

Our mission is to provide convenient and high-quality digital services for a comfortable life and effective business.

Rostelecom unlocks new digital opportunities for Russian citizens. The Company's innovative projects and strategic initiatives are changing the lives of millions of people across the country for the better. We develop and deploy various digital products and solutions for retail customers, business and the state, creating a comfortable and accessible digital environment for all customers.

As part of its strategic plan for 2021–2025, the Company will continue evolving as Russia's largest integrated provider of digital services and solutions and a reliable partner for society, business and the state.

Innovative products launched by Rostelecom in 2021[1]

Gaming platform

Our new gaming platform is designed to integrate leading gaming partners and expand the range products for gamers. Rostelecom subscribers now benefit from unique gaming content on a single platform as well as attractive cross-product bundled deals (high-speed internet + access to gaming content)

GFN cloud gaming

A new server went online at Rostelecom's data centre in Siberia, making the service available to users in Russia's eastern regions

Fleet Tracking service

The solution targeting SME customers enables the remote tracking of a vehicle's parameters and movements

Solar MSS Sandbox

To enhance technological development, the Solar MSS ecosystem was complemented by the service for advanced cyber threat protection

Mini version of the Kapsula smart speaker

In 2021, Rostelecom launched a mini version of this popular product through a strategic partnership with VK and expanded the functionality of Marusya, an integrated voice assistant, by implementing new commands for Rostelecom's Wink service

Wi-Fi 2.0 platform

A new platform for corporate customers offering advanced statistics and analytics capabilities to analyse user behaviour in public Wi-Fi networks

Solar addVisor

Russia's first employee productivity monitoring system, which analyses the digital footprint of employees' workplace activities and enables better managerial decisions to increase labour productivity

1   For more details, see the Operating Review section of Rostelecom's Annual Report 2021.

Rostelecom's sustainability projects

4 QUALITY EDUCATION   **8** DECENT WORK AND ECONOMIC GROWTH   **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE   **10** REDUCED INEQUALITIES   **11** SUSTAINABLE CITIES AND COMMUNITIES

In 2021, the Company continued to pursue projects that improve the quality of life for its customers in focus areas defined by the International Telecommunication Union, among others.

Priorities	Projects
Capacity building	• Business Drive Academy as a driver of demand for digital services • Rostelecom Lyceum • Rostelecom Books
Network infrastructure and digital infrastructure	Infrastructure development as a strategic priority for the Company, including mobile and satellite communications networks and submarine cables.
Environment	• A fundamentally new information model for the Safe City hardware/software solution was implemented as part of a unified regional platform for environmental monitoring. • An innovative solution for municipal solid waste management using CCTV cameras and AI to analyse the condition of dump sites, check compliance with waste removal schedules, etc.
Digital inclusion	The Company is focused on deploying digital solutions through its project to bridge the digital divide, educational projects for businesses and automation in government.
Public policy and regulation	Under Rostelecom's updated strategy, the Digital Region and the Public Sector Digital Services and Products clusters promote government digitisation.
Digital services and applications	Rostelecom continued to focus on enabling personalised services and more easy-to-use customer accounts and mobile apps, including for individual (My Rostelecom) and corporate users (Smart Office)

Priorities	Projects
Telecommunications for emergency services	**112 services and satellite communications networks.** Rostelecom signed an agreement with Russia's EMERCOM on information and expert and analytical partnership to team up on projects to develop communications standards and innovative technologies for protecting population and areas from emergencies, and improve emergency alerting and communication.
Statistical data	In 2021, the first off-the-shelf big data solution launched: a platform to analyse regional tourist flow and guest profile.
Digital service ecosystems	By developing data centres and cloud services as a separate cluster, the Company contributes to building digital service ecosystems for businesses and government.

Residential segment (B2C)

Basic connectivity services

The anchor services of broadband internet access and pay TV continue to make a significant contribution to the Company's revenue growth. Despite the progressive saturation of markets, Rostelecom managed to build up its customer base and revenues in these segments.

In 2021, B2C internet subscribers totalled 12.3 million. The number of customers on the most popular fibre data plans grew to 9.8 million, up 4% year-on-year, or three times faster than the market.

Fibre broadband revenue increased by RUB 3.6 billion to RUB 47.8 billion during the year. The 8% growth rate is well ahead of the market average of +2.2%. Fibre broadband ARPU for the year rose to RUB 380, over 10% above the market.

Converged service revenue hit RUB 5.1 billion in 2021, up 42% year-on-year. The Company launched its converged proposition at its mobile operator with no additional investment.

The number of pay TV subscribers reached 10.8 million, boosted by a 5% growth of IPTV subscribers to 6.3 million.

10.8 mn

the number of pay TV subscribers in 2021

The success of pay TV products was driven by migration to the Wink platform, which combines IPTV and online video streaming functionalities. The transition to the new platform drove growth for both new connections and the expansion of the existing customer base: by the end of 2021, all interactive TV customers switched to Wink, while cable TV customers were provided with access to Wink as a complement to their existing plan. In 2021, a number of innovative services were launched on the Wink platform, notably Movie Replacement and the Gift Movies loyalty programme. Thanks to closer technical and commercial cooperation with the Rostelecom mobile operator, Wink customers can exchange their operator's tariff minutes for movies on the Wink platform.

+5%
6.3 mn

the number of IPTV subscribers in 2021

In 2021, the number of devices used by customers to consume content from the Wink digital video service grew 25% to 10 million.

The new bundling approach maintained its leading position in the Wink connections mix (the Transformer tariff), with over 1.5 million customers taking advantage of this tariff option in 2021. The Transformer subscription service enables personalised selection of TV channels, movies and series for a fixed fee to match their taste.

+25%
10 million devices

are used to consume content from the Wink digital video service

Local, intra-zone, long-distance domestic and international fixed-line services remain Rostelecom's traditional segment. There was, however, a decline in local telephony revenue in 2021 due to subscriber churn driven by the growth of VoIP products and solutions.

Developing the range of connectivity services

Gaming

To develop projects targeting gamer customers, Rostelecom created a gaming platform to integrate leading gaming partners and expand its product range for gamers.

In 2021, Rostelecom expanded its range of options for players east of the Urals: a new server went online at Rostelecom's data centre in Siberia, making the GFN cloud gaming service available to users in Russia's eastern regions. Rostelecom's subsidiary in Far East launched a Gaming tariff providing subscribers with high-speed internet access and exclusive benefits in partner games.

Gaming development also included improvement of the customer experience for subscribers: the Gaming Services project has simplified the customer journey for taking up gaming products, and LPs[1] of flagship gaming products were updated and refreshed.

Rostelecom Books

Faced with the pandemic, the Company maintained a relentless focus on user needs and expanded its partnerships to provide access to digital books:

- The free trial period was extended to 30 days for all new subscribers to Rostelecom Books (LitRes catalogue) who took up the service between 6 and 31 December 2021

- All subscribers to Rostelecom's Internet service were offered the basic subscription and the All-Inclusive subscription to Rostelecom Books (LitRes catalogue) on special terms

«Kapsula»

In 2021, through a strategic partnership with VK (formerly Mail.ru Group), Rostelecom launched a mini version of the Kapsula smart speaker and expanded the functionality of its integrated voice assistant called Marusya, implementing new commands and a voice control feature for Rostelecom's Wink service. Since launch, revenue from the sale of these devices has topped RUB 350 million. Over 50% of subscribers who bought the smart speaker activated the Wink voice control feature.

Rostelecom Lyceum

Lyceum is Rostelecom's online educational platform covering the entire school curriculum from the 1st to 11th grade as well as providing development courses.

In 2021, the number of regular users of the Rostelecom Lyceum service reached 25 thousand. The educational platform launched a new course for high school students titled "Quantum Technologies" developed by IT market experts, updated its payment interface, added subscription information and new subscription management options to the customer account, and simplified authorisation.

1   Landing Page – a destination web page.

Innovative services for retail customers

Rostelecom Key

A quarter of a million households in Russia use the Rostelecom Key service featuring a convenient and versatile package of services for managing access to an apartment block (Smart Intercom), energy efficiency management tools (online telemetry of resource meters), and residential premises security for residents and property management companies. All Rostelecom Key services have uniform user interfaces.

In 2021, the number of apartments in buildings with digital intercom, neighbourhood surveillance cameras or any other Rostelecom Key services exceeded 242 thousand. Service revenue grew by more than 43% year-on-year, while unique mobile app installations increased by 152% from 2020.

- The number of unique users opening the app at least once a month (MAU)[1] exceeded 100 thousand.

- According to a survey, over 75% of those who installed the app are still using it six months later.

- Rostelecom Key's score remains high – a strong evidence of the Company's relentless focus on high quality and service continuity, smooth user experience, and intuitive interfaces.

- The mobile app's net promoter score (NPS) is consistent at 40%.

Cloud Video Surveillance

The Cloud Video Surveillance service is part of the Smart Home ecosystem of services designed to provide security and automate home control (motion, door/window and leak sensors, smart sockets, etc.). A customer can install and activate any number of Rostelecom-connected smart cameras from anywhere in the world, receive alerts when a built-in motion sensor is triggered or a camera is obscured, watch and record specific periods of video archive via a mobile app or from their online customer account. A cloud-based video storage and processing platform allows archiving videos for a period of 7 to 30 days.

Rostelecom focuses on boosting its service revenue and growing its active user base, as well as on delivering cost optimisation:

- over 654 thousand CCTV cameras were sold as at the end of 2021;

- video surveillance service revenue more than tripled in 2021;

- Strong customer loyalty to cloud surveillance services is evidenced by a steady increase in the proportion of users opting to pay for the service after the free trial period (currently at 48%).

1   Monthly Active Users – the number of active users per month.

250 thsd
households use the Rostelecom Key service

75 %
of those who installed the app are still using it six months later

>654 thsd
CCTV cameras were sold as at the end of 2021

48 %
users pay for the Cloud Video Surveillance service after the free trial period
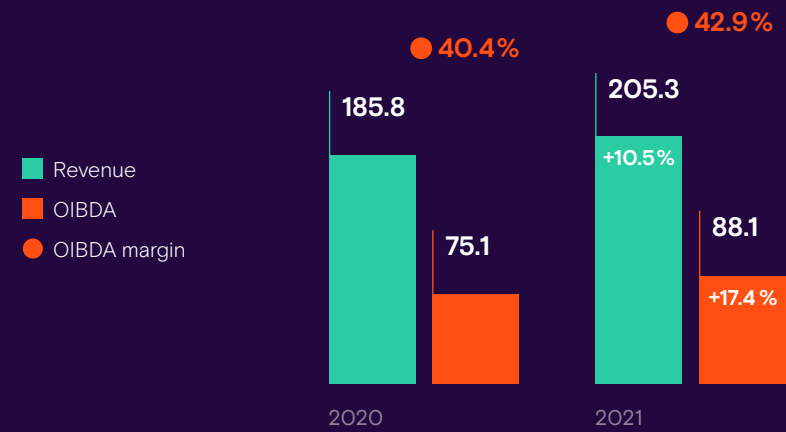
Mobile business highlights

Mobile business: mobile data remains a key driver of revenue growth

Note: Year-on-year growth for 2021 is shown unless stated otherwise.

1   Under the new segment- and cluster based model.

The segment's key financial highlights, bn RUB[1]

- Revenue
- OIBDA
- OIBDA margin

● 40.4%   ● 42.9%

185.8   205.3
+10.5%

75.1   88.1
+17.4%

2020   2021

Revenue from our mobile business grew by 11% year-on-year to RUB 205.3 billion. Mobile operator's customer base grew to 47.5 million by year-end 2021.

At the same time, mobile operator was effectively managing churn, pushing this metric down by 2 p.p. year-on-year to 31.4%.

+1.8 YoY
+47.5 mn
mobile subscriber base

−2 p.p. YoY
31.4 %
annual subscriber churn

+18 %
growth in active mobile data users

+10 %
mobile operator's ARPU growth to RUB 375

Key business results of Rostelecom's mobile business

Mobile business's faster-than-market topline growth is driven by its differentiation strategy, growing customer loyalty, and a high quality of services

A product under different rules

The operator's subscribers can:
- roll over unused minutes and data indefinitely
- swap minutes for movies, a Xiaomi smartphone, coffee, etc.
- receive discounts of up to 20% on communications services through group buying
- make any tariff child-friendly.

Technical development

In 2021, the operator:
- acted as a centre of excellence for the BDD 2.0 project
- was the first in Russia to launch 5G in the metro
- increased the total number of base stations using any technology by 18%.

International experts recognised operator as the best in 4G availability

New connections and churn reduction

- The operator started selling SIM cards on Yandex.Market, OZON and AliExpress with delivery by Yandex.Lavka
- The operator was the first to link eSIM to the Unified Biometric System
- The operator was the first in Russia to connect customers remotely using the Goskey
- The operator and global leader Plintron will launch virtual operators in Russia
- The operator acquired an MVNE platform provider

In 2021, the mobile operator continued to pursue its Other Rules business strategy aiming to establish a unique proposition for customers and support their digital lifestyle.

The pandemic prompted the company to adjust its approaches and focus on the quality of connections in 2021. The operator set a key goal: to attract the so-called "Core Live Subs" (CLSs), i.e. key customers who are the most active data users and the company's biggest profit generator. The operator's existing subscriber base is a source of business growth; therefore, improving its quality became a key objective not only for 2021 but also beyond. The mobile operator met its target for CLSs, who totalled 26.7 million at year-end 2021. As a result, the company achieved a significant increase in ARPU.

A step change in the customer base growth came on the back of focused efforts targeting high-margin and corporate segments. B2P[2] revenue accounted for more than 6% of the company's total revenue in 2021. As Rostelecom and its mobile operator developed the segments, their sales teams successfully joined forces to drive customer acquisition. Fixed-line products such as 8 800, Virtual PBX and others were added to operator's B2P portfolio and had a strong take-up.

2   Business to Professional Consumers – provision of corporate communications services to small and medium-sized enterprises, as opposed to the B2B segment focused on large businesses.

The operator remains the undisputed leader of the industry by the NPS metric, staying 11 p.p. ahead of its nearest competitor. That said, customer loyalty metrics slipped for all market players amid the pandemic, as they had to adjust prices to finance major investment programmes. The operator remained the market leader by key marketing metrics: relevance, consideration and VfM[1]. VfM leadership indicates that customers still perceive operator as an attractive service provider.

Unique products for the global telecom industry

60 mn minutes

exchanged for discounts by the operator's customers

Under its Other Rules strategy, the operator continued to offer its subscribers innovative digital services unparalleled not only in Russia but also on the global telecom market. The company's customers were allowed to roll over unused minutes and data indefinitely. The operator provided subscribers with an option to use their minutes as a new currency: they can now be swapped for movies on the Wink online video streaming service platform, coffee at the Shokoladnitsa coffee house chain, or discounts on Xiaomi smartphones.

The operator continued to enhance joint products through synergies with Rostelecom. For example, subscribers in the Moscow and Tula Regions can add home internet to their existing price bundles and select its speed.

ESG

The company gave subscribers an opportunity to make their tariff plan child-friendly with a special Kids Online service. The service will let a child watch educational videos and children's movies on the Wink platform with protection against accidental subscriptions.

In the reporting period, the operator offered its customers products to improve quality of life and simplify routine tasks. A case in point is the Smart Parking payment assistant relieving Moscow motorists of the need to do anything manually. The company remains the only operator to offer such service to users of paid parking in Russia's capital. Smart Parking is popular with both individuals and companies, which are installing Smart Parking devices in their vehicle fleets.

ESG

Smart Parking is an ESG-related service that helps reduce load on urban transport infrastructure and optimise government revenues through correct and timely parking charges.

1   Value for Money – value to money ratio used as an important criterion for evaluating different formats of project implementation. The concept helps to identify the cooperation format delivering the greatest benefit at the lowest cost.

Bridging the digital divide and high-tech projects

24 regions

had the network core's voice segment upgraded

830 thsd people

benefitted from improved mobile coverage as part of the BDD project

The Krasnoyarsk Territory, the Republic of Buryatia, and the Chelyabinsk, Orenburg, and Kemerovo Regions were chosen as priority areas to drive technical development. The operator commenced construction to provide coverage in the Khabarovsk Territory, not previously covered by its commercial operations.

Although the telecommunications industry was still affected by COVID-19, the operator made steady progress on coverage and perceived network quality. Data usage per customer grew 27% over the year. Mobile data usage growth was driven by the transition of businesses and educational institutions to remote work, as well as by an increased proportion of CLSs and the rising popularity of digital services and data allowances offered in tariff plans.

A large-scale investment programme for technical development of the network allowed the operator to maintain perceived service and mobile data quality at high levels. The company upgraded the voice segment of its core network in 24 regions and reduced the proportion of problematic spots. This led to an improved NPS for mobile data from the year before. In 2021, an Opensignal report looking at real consumer mobile experience ranked the company as the best Big Four operator by 4G availability.

In 2021, the operator participated in the second phase of Rostelecom's Bridging the Digital Divide project. This initiative makes digital services available to people in small communities with populations of between 100 and 500 people. The operator acted as a centre of excellence and installed more than 330 base stations in such communities during the year. The company has also built 500 base stations in 55 regions of Russia at the facilities of the Russian Television and Radio Broadcasting Network. The project rolled out the connectivity from scratch and improved coverage in areas with a total population of 830 thousand.

In May 2021, the operator signed an agreement to install 50 thousand base stations in 27 Russian regions. Thus, a total of 100 thousand facilities will be built by 2023. In order to improve service quality along highways, the operator provided 100% coverage for the M11 Neva Russian federal highway running between Moscow and Saint Petersburg by installing around 100 5G-ready base stations.

In 2021, the operator continued its 5G deployment, launching a 5G trial network across all stations of the Kazan Metro, a highly complex transport system. Customers could experience the ultra-fast speeds of 5G by connecting to the network directly from their devices or via a Wi-Fi network.

By adding new base stations, the operator maintains a strong focus on service quality in the Moscow metropolitan region. In particular, their number increased by 22% year-on-year in 2021, with LTE radio electronic equipment fleet growth of 39% year-on-year. The rapid pace of technical development came on the back of the continued growth in data usage in Moscow and the Moscow Region. The growing demand for internet services from megacity residents is also evidenced by an upward trend in data usage per metropolitan subscriber: up 20% in 2021.

Digital connections and retail traffic support

Amid the pandemic, our digital sales channels continued to grow, with their share reaching 16% by year-end 2021. These are primarily e-commerce channels, such as the AppSeller app[1] and the virtual shop (E-shop), as well as remote customer identification tools based on the Goskey app and the eSIM technology[2]. In August 2021, the company was the first in Russia to offer users remote SIM card registration with a non-qualified electronic signature in the Goskey app. We were also the first to offer an eSIM connection option with identification via the Unified Biometric System.

An explosive growth of digital connections is supported by the mobile app used by 16 million customers every month. Daily conversion can be as high as 2.8 million subscribers. Over the year, the number of app users grew by 25%, demonstrating the effectiveness of the company's drive to digitise its customer communication channels and expand its subscriber base.

As passenger traffic recovered, the operator installed SIM card vending machines in Moscow's four airports, and with the launch of a convenient self-registration option customers can now activate SIM cards quickly and reliably. To make connection easier, the operator also expanded its SIM card distribution network in the Moscow Metro by increasing the number of terminals to 54.

Offline retailing

The pandemic reduced customer traffic in the company's stores. Nevertheless, offline retail remains a premium sales channel, the brand's showcase space, and a gateway to the world of new technologies and collaborations. To drive traffic to its stores, the operator has launched projects to provide its customers with the best deals, match the interests of GenZers and introduce an element of gamification. As a result, the following projects were successfully delivered by the operator across its retail chain in 2021:

- **Pereplavka (Melting) environmental project** to collect used phones for recycling in 600 stores across 64 regions;
- swapping minutes for discounts on Xiaomi smartphones;
- piloting of dedicated spaces for bloggers and TikTokers in Moscow and Saint Petersburg;
- hourly rentals of portable chargers (power banks), with a 15%–20% monthly growth in service usage;
- automated parcel lockers launched in partnership with SberLogistics in more than 300 mobile operator's outlets in 200 locations across Russia.

1   The AppSeller application is intended for employees of the operator's dealers to help them quickly and easily register new SIM cards from a mobile device, making the contract signing procedure fully paperless.

2   An eSIM card, or embedded universal integrated circuit card, is a form of programmable SIM that is embedded directly into a device.

Subscriber equipment and sales of subscriber devices

For more details, see the Operating Review section of Rostelecom's Annual Report 2021

Amid a global logistics crisis, manufacturers of subscriber equipment are still facing shortages of components, resulting in higher device costs and supply disruptions. However, despite lower unit sales, sales revenue for 2021 was up 10.5% year-on-year.

In 2021, penetration rates of the subscriber base for smartphones – a key driver of equipment sales revenue – showed that the company met its targets.

Of all device users, 4G smartphone users are the biggest contributors to the growth in the operator's subscriber base, primarily due to the incentives rolled out by all players to target LTE smartphone users. By teaming up directly with Samsung and Xiaomi, the market leaders in subscriber equipment, the company delivered a 4% increase in sales of these devices in 2021. Samsung and Xiaomi smartphones accounted for 22% and 39% of the operator's total retail sales, respectively, in 2021.

Big data: revenue growth, new business launches

2021 was a year of successes in growing our big data analytics segment. External monetisation revenue increased by 45%. This revenue growth was driven by products for financial institutions and offerings for the advertising market.

Key achievements:
- Establishment of the Antifraud business line with products for the external market and internal customers
- First packaged software solutions for geo-analytics
- Strong year-on-year growth in a highly competitive environment

2021 revenue growth was led by the advertising business, with the operator's revenue from external projects doubling year-on-year.

In 2021, the operator launched its first packaged big data solution: a platform to analyse regional tourist flow and guest profile. The company's analytics portal will be of use to agencies and businesses looking to attract tourists, develop infrastructure or optimise transport flows: city and regional administrations, tourism and transport design offices, hotel and restaurant owners, and travel agencies. The platform features dozens of analytical reports, with more to be added on an ongoing basis. A customer can access the information they need themselves: estimate the total number of tourists in a region and tourist traffic trends, determine travel seasonality, rank the tourists' home regions, and establish their length of stay and other relevant metrics.

The operator focused on developing big data products to combat phone scams (fraud). Models for identifying bank fraudsters and the phone numbers used for fraud and spam are popular and will remain relevant in 2022.

In 2021, the operator focused on projects to boost Rostelecom Group's performance. Technology transfer to Rostelecom included the company's developments from 2019 and 2020. In particular, the Smart Capex (Smart Investment) project approaches were used to rank areas.

2.2×

increase in advertising revenue from big data services

In 2021, the operator expanded its partnerships with government customers. The company signed an agreement with Russia's EMERCOM on information and expert and analytical partnership to team up on projects to develop communications standards and innovative technologies for protecting populations and areas from emergencies, and improve emergency alerting and communication. A pilot project to identify populations that can be affected by emergencies covered the Primorye and Krasnodar Territories, and the Rostov Region. These regions share a high risk of emergencies due to difficult terrain and challenging weather patterns.

Supporting customers' lifestyles

Developing its business through partnerships, the operator has integrated new offerings into its Bolshe (More) loyalty programme, a platform for launching LSE[1] activities.

The number of promo codes for discounts and special offers activated in 2021 increased by 21% year-on-year. As in the previous year, subscribers from the Moscow region were the most active users of the loyalty programme during the year, with more than 3 million activations.

Gamified offers (World of Warships, Yandex.Plus, and Storytel) were the most popular, followed by gifts from jewellery stores, with cashback on purchases coming third. In 2021, the more significant projects included the launch of the Selection privilege programme for high-value customers, collaboration with Yandex.Fuel and the Wishing you a Happy Monday campaign gifts.

In 2021, the operator's subscribers were also engaged on social initiatives – they were encouraged to drop off their old phones for recycling in the company's stores under the Pereplavka (Melting) project. In two years since launch, the project expanded from 11 to 64 Russian regions, targeting to cover as many as 600 of the operator's stores. In total, our customers handed in around 14 thousand devices for recycling. The company also announced the project's extension into 2022.

In 2021, the operator took part in the annual Night of Museums event for the fifth time. The operator's customers in Moscow, Saint Petersburg and Nizhny Novgorod were able to take advantage of the special benefits offered by the event's organisers. Extreme sports enthusiasts were invited to compete at the Rosafest x Gorilla Energy and Red Bull Jump&Freeze festivals sponsored by the company. The Urban Battle, a contest in street sports, was held in seven Russian cities in the summer. The operator also set up "drive-in cinema spaces" in car parks in eight Russian cities where anyone could park and watch a movie at 4G speed.

The operator continued helping the older generation master digital technologies through its Grannies Are No Strangers to Us campaign helping older people living alone embrace mobile data with the aid of volunteers. The company published the Mobile Internet Guide as a training manual, prepared a special package consisting of a large-screen smartphone with pre-installed apps, and launched a chatbot for volunteers on the VKontakte social media platform.

+21%

the number of promo codes for discounts and special offers activated in 2021

Although these projects have no direct impact on the company's top line, they boost the company's image attributes, including higher scores on the consideration metric, on which the operator leads the industry. Strong brand attributes drive customer acquisition and improve the company's financial and operational performance.

1   Life Style Enabler

Business/government customer segment

B2B/G

Focus on new connectivity-driven services

to around RUB 60 bn

+17%

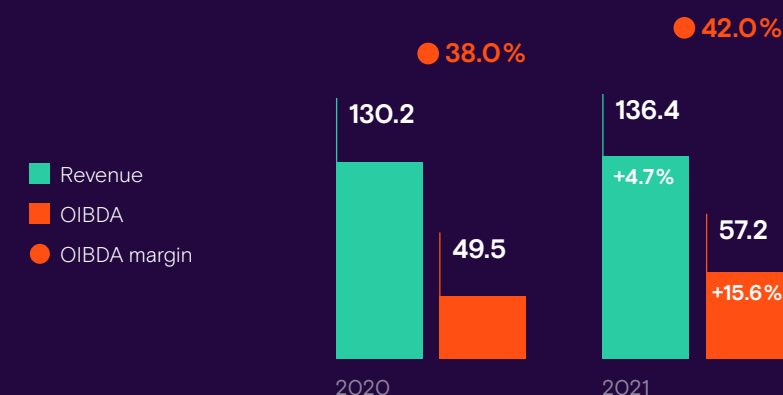growth in revenue from broadband and VPN

+39%

Wi-Fi revenue growth

+22%

growth in revenue from the Call Centre service

+45%

MVNO revenue growth

The segment's key financial highlights, bn RUB[1]

● 38.0%   ● 42.0%

130.2   136.4

+4.7%

49.5   57.2

+15.6%

2020   2021

■ Revenue
■ OIBDA
● OIBDA margin

Larger role of new services in the corporate segment

+37%
virtual PBX subscriber growth

+24%
virtual PBX revenue growth

+13%
video surveillance revenue growth

+6%
Growth in revenue from TV for Business

+5%
SME customer growth

+11%
total number of sales to SME customers

Note: Year-on-year growth for 2021 is shown unless stated otherwise.
1   Under the new segment- and cluster based model.

No.1[2]

in the cloud video surveillance market
by revenue

in the B2B TV service market
by number of subscribers

in the 8–800 market
by revenue and subscriber base

in the Wi-Fi market
by number of hotspots

in the broadband market
by revenue and subscriber base

in the Virtual PBX service market
by number of customers

2   Source: TMT Consulting.

Connectivity business

Anchor services such as broadband internet access and pay TV continue to make a significant contribution to the Company's revenue growth. In 2021, the total number of business and government customers with fibre-optic connectivity grew by 10% year-on-year to 0.7 million, with ARPU up 4% year-on-year to RUB 2,868.

Developing the range of connectivity services

Wi-Fi

In 2021, Rostelecom continued to actively expand the functionality of its Wi-Fi service for business and government customers. Significant enhancements include authorisation via social networks, integration with Yandex.Audience, polling upon connection to a Wi-Fi network, and the Authorisation as a Service model. Reliability and expanded functionality contributed to the increased take-up of the service, which was widely used to provide Wi-Fi connectivity at a number of high-profile national events, such as the Eastern Economic Forum, the Single Voting Day, and the World Skills Russia finals. Notable use cases implemented in partnership with business customers include platform deployment at the headquarters of a leading bank using the customer's own infrastructure with more than 2,000 hotspots as well as the SPAR retail chain case. In 2021, the Company serviced more than 56 thousand hotspots, up 8% year-on-year, while Wi-Fi service revenue from business customers exceeded RUB 1 billion for the first time ever, up almost 40% year-on-year.

Virtual PBX

In 2021, the number of virtual telephony service customers grew by almost 40% to over 200 thousand. In 2020, new Virtual PBX services were added, including speech analytics and automated analysis of all recorded operator conversations by keywords, emotions and phrases. Other new features added include voice assistant, mobile number connectivity, ability to use another operator's number with Rostelecom's virtual PBX, and a call analysis tool.

The main purpose of the new service is to help companies respond faster to various issues in call handling and monitor customer service quality.

Major projects

In 2021, to consolidate its leadership in the B2B/B2G segment, Rostelecom implemented a number of significant projects in partnership with major companies and government agencies. Joint projects in digital operations and workplaces, integrated digital services and data transfer create a favourable environment for further improvement of technology and performance of the public and private sectors.

Polyus Aldan

Rostelecom and Polyus, Russia's largest gold mining company, launched a Private LTE network[1] at the Kuranakh ore field in Yakutia. This is the first LTE project in Russia with simultaneous installation of 11 base stations. Rostelecom ensured the fault tolerance of the network and system core, provided subscriber sets for mining equipment and a UPS system designed for required duration of operation in local climatic conditions.

Federal Treasury

In 2021, Rostelecom provided the Virtual PBX service to the Federal Treasury replacing its legacy telecommunications infrastructure in more than 1,800 offices across the country and connecting over 38,000 employees to the service.

The project uses Russian hardware and software. Rostelecom's Virtual Private Network service is used as the transmission medium.

RSKhB-Intekh

Rostelecom and RSKhB-Intekh (part of Rosselkhozbank Group) are implementing a project to deploy IaaS-based cloud IT infrastructure. By year-end 2021, the project set up 1,540 workstations for RSKhB-Intekh employees across its offices in Moscow, Ufa, Krasnodar, Volgograd, Penza, Novosibirsk, Bryansk, and Innopolis in Kazan as well as for coders working from home. Turnkey infrastructure has been built for RSKhB-Intekh: workstations, printers with consumables, with provision of local technical support, information security services, access to a cloud data centre (VDI/VDC) and communications channels with cryptographic protection.

Rosenergoatom

In 2021, Rostelecom provided primary and backup digital channel services to Rosenergoatom and AtomTechEnergo. The project includes scaling the existing L2VPN network for Rosenergoatom, establishing primary and backup communications channels between the customer's data centre and nuclear power plants and connecting new channels to Rosenergoatom's corporate data networks for seven AtomTechEnergo branches.

Russian Television and Radio Broadcasting Network

In 2021, Rostelecom arranged service traffic transmission for the Russian Television and Radio Broadcasting Network. Under the contract, satellite communications channels were replaced with terrestrial channels to carry the service traffic of the Russian Television and Radio Broadcasting Network at 2,076 broadcasting facilities with an increase of the bandwidth from 2 to 30 Mbps.

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1   A dedicated corporate wireless network designed exclusively for industrial processes.

Innovative services in the B2B/B2G segment

The Company is successfully expanding and improving its product line for business and government users while increasing the share of innovative digital services. In particular, a Hypothesis Testing Lab was established within Rostelecom's B2B segment in 2021. The lab is tasked with developing new and improving existing products as well as testing new services before commercial launch. The lab aims to commercially launch only those services that are in high demand in the market.

In 2021, 16 new products were launched across the entire B2B segment, including security services, OTT[1] services, commercial real estate products, Smart Office, Fleet Tracking, and expanded virtual PBX functionality.

Industrial digital outsourcing of occupational health services

In 2021, Rostelecom successfully enhanced and rolled out industrial digital outsourcing services for its customers. The Company pays particular attention to the health, safety and well-being of blue-collar workers.

Rostelecom has built a product portfolio of health and safety solutions. The Company is disrupting the established model for delivering health and safety services by acting as an outsourcer that helps customers to apply and track the performance of new solutions.

Industrial outsourcing implies providing a full range of business processes and services essential for an enterprise's successful corporate health and safety function.

For example, the Digital Worker, a human-centric ecosystem, includes both digital gadgets and hardware/software suites that an employee uses directly in the workplace. These solutions considerably reduce the risk of emergencies while improving productivity.

1   Over the Top – video signal delivery from a content provider directly to a user device over data networks without direct contact with a telecom operator.
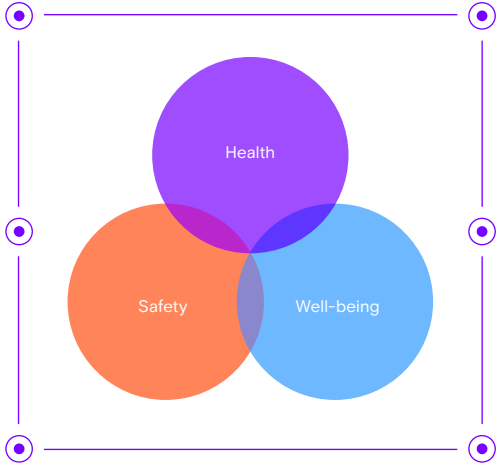
Ecosystem of solutions

PPE maintenance

- Laundry
- Dry cleaning
- Repairs

Logistics

- PPE storage
- PPE dispensing through automated parcel lockers and vending machines

OHS advisory services

- Development of regulations
- Risk assessment
- Event management
- PPE selection

Employee training

Provision of PPE

- Procurement and components of PPE
- Inventory tracking and maintenance
- Options for PPE selection by workers

Digital services

- Records of PPE issuance and maintenance
- Digital Worker platform
- WMS
- Online platforms for employee interfaces
- PPE enforcement

Smart Office

Smart Office is an indoor system of controlled devices and wireless sensors controlled by a service platform whereby a business customer can receive data on business operations from anywhere in the world via their customer account.

ESG

The system can be used for remote monitoring of unauthorised access, control of energy consumption and microclimate parameters, including goods storage and personnel comfort parameters, fire safety monitoring and automation of electrical appliances and lighting control using data feeds from internal sensors.

Video Surveillance

In 2021, Rostelecom launched Fleet Tracking, a new product targeting SME customers. This solution enables the remote tracking of a vehicle's parameters and movements. To prevent the spread of the coronavirus infection, Rostelecom launched its Mask Detection Video Analytics product enabling face mask detection with options to receive alerts and view event logging data for incidents in question.

ESG

Another new service launched in 2021 was a solution to monitor household waste container sites using video analytics.

B2B TV Services

2021 saw the implementation of the Ad Builder service, a tool for uploading and broadcasting customer's own content and remote TV management. The service was launched to help businesses attract new customers and increase average ticket size.

Services for operators

B2O

The B2O segment develops a digital ecosystem for other telecom operators. Our wholesale business enables major transformations of infrastructure across our entire footprint to provide customers with affordable and convenient means of communication.
By involving a major bank as an active minority investor, Rostelecom's data centre and cloud services subsidiary has been able to adjust its strategic plans to deliver projects that are more tailored to current project market needs.
In 2021, the Company acquired a large property in Moscow to support its medium-term growth plans in its key focus area of data centre capacity expansion and new capacity additions.
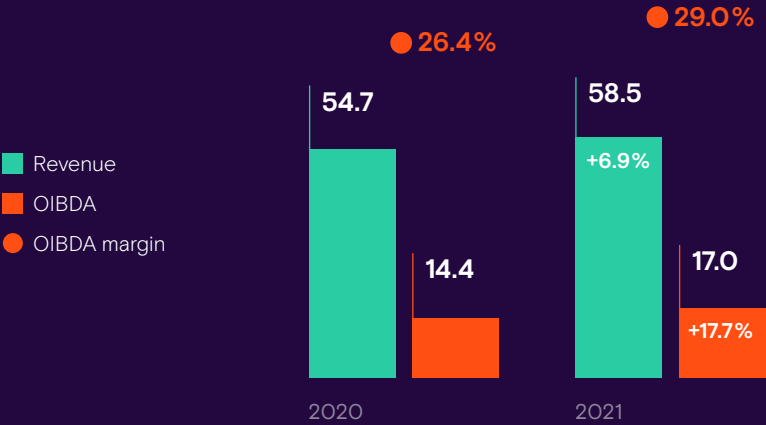
Boosting operator business performance

+18 %

OIBDA segment growth

>4 thsd

channels for social infrastructure facilities provided under the Digital Economy programme

Note: Year-on-year growth for 2021 is shown unless stated otherwise.

1   Under the new segment- and cluster based model.

The segment's key financial highlights, bn RUB[1]

- Revenue
- OIBDA
- OIBDA margin

	2020	2021
Revenue	54.7	58.5 (+6.9%)
OIBDA	14.4	17.0 (+17.7%)
OIBDA margin	26.4%	29.0%

O2O project

+14 %

year-on-year growth in project revenue

+6,1 % YoY

to **192.4 thsd km**

increase in the total length of fibre lines

+45 % YoY

to **103.5 thsd**

increase in the number of base stations maintained

Infrastructure Operator to Operator project

In 2021, Infrastructure Operator to Operator (O2O), one of Rostelecom's priority projects, generated over RUB 2.8 billion in revenue, up 14% year-on-year. This above-expectations performance was driven by expanded fibre coverage (+6.1% year-on-year, or +11 thousand km) as well as the rapid growth in the number of base stations maintained by Rostelecom for mobile operators (+45% year-on-year, or +32.1 thousand stations). The Company also managed to significantly increase the project margins to above 30% by expanding its portfolio of highly profitable contracts.

Expanding transit backbone infrastructure

Rostelecom connects telecom operators' networks to its own backbone infrastructure in all regions at the local, zonal, and domestic and international long-distance levels, thus creating a unified national telecommunications network and providing access to communications services to its own customers and the connected operators' customers ranging from households to large corporations in any community across Russia.

In 2021, the Company continued to expand relationships with national and international telecom operators and deploy effective cooperation formats to provide services to end users of Rostelecom and connected operators. Several major international infrastructure projects were implemented with this purpose:

- A new Russia–Kazakhstan cross-border link (Ozinki, Saratov Region) was installed, and a gateway to the TNS Plus network (2x100 Gb) was provided
- A land link between Russia and Finland was built, where Rostelecom's network is connected to the network of the Finnish infrastructure operator Cinia Oy
- Rostelecom's backhaul network as well as the Azerbaijan–Russia and Russia–Ukraine cross-border links were upgraded to provide transit channels and IP transit services to customers in the Caucasus and the Middle East
- Construction of a new DWDM[1] system was completed to improve the Rostelecom network's connectivity between data centres in Moscow for the benefit of international customers
- Rostelecom's network was upgraded across the Knyaze-Volkonskoye–Vladivostok (10x10 Gb) and Nakhodka–Vladivostok (10x10 Gb) sections to provide services between Vladivostok and the China–Russia and Japan–Russia cross-border links
- Akamai content delivery network was connected to Rostelecom's network on a nationwide scale to provide IP transit services

2   Dense Wavelength Division Multiplexing – modern technology for carrying a large number of optical channels on the same fibre.

Increased cooperation with national and foreign partners

Rostelecom is consistently expanding cooperation with national and foreign partners. In particular, Rostelecom is implementing a project to build a mobile network in the 2,300 MHz band for shared use with its mobile operator to deliver services to subscribers, including at social infrastructure facilities. The 2,300-MHz network was already launched across 5,029 base stations under the project in 2021. At the same time, to prepare the network launch, Rostelecom has set up 466 communications channels linking mobile operator's base stations at the facilities of the Russian Television and Radio Broadcasting Network.

Other major projects implemented or started in 2021:

- With **MegaFon**
  - A five-year strategic agreement on infrastructure partnership was signed, which will boost the usage of Rostelecom's infrastructure services, including for the construction and maintenance of communications facilities construction. This partnership is expected to generate a total of RUB 2.4 billion in revenue for Rostelecom over five years
  - The Spectrum Lease project was implemented between Krasnoyarsk and Khabarovsk. Two portions of spectrum were provided to MegaFon under the project in 2021. Another four portions of spectrum will be provided between Krasnoyarsk and Khabarovsk in the future under the same contract. The contract term is 16 years, and the total revenue over the term is estimated at RUB 600 million

- A contract was signed with **ER-Telecom Holding** for spectrum lease on 17 sections of a backbone network for a total of over RUB 1.4 billion

- A project to sell additional bandwidth on the Okha–Petropavlovsk-Kamchatsky route was completed for a total of over RUB 300 million (with **MTS** and **MegaFon**)

- Rostelecom and **VimpelCom** agreed to team up on leasing out a Moscow–Tokyo communications channel and signed a contract for a 10 Gbps Vladivostok–Tokyo channel. The operator was provided with backbone lines in Siberia and the Far East on the routes Krasnoyarsk–Khabarovsk (300 Gbps), Irkutsk–Khabarovsk (60 Gbps), and Yakutsk–Khabarovsk (10 Gbps). Rostelecom's total revenue from the project is expected to be in the range of RUB 100 million per year

- Effective cooperation with international operators was established: two channels were provided to **China Telecom** under a RUB 490 million long-term lease contract; IP transit was provided to Kyrgyzstan's mobile market leader **Alfa Telecom** (the MegaCom brand), with an expected annual revenue of RUB 160 million

- 4,147 channels were provided for five telecom operators to connect social infrastructure facilities under the third phase of the **Digital Economy of the Russian Federation programme**

Development of new service businesses

+12 points

31 points

the overall NPS
or the segment in 2021

In 2021, Rostelecom launched a new international call termination service in cooperation with all international and domestic long-distance operators and the Big Three operators.
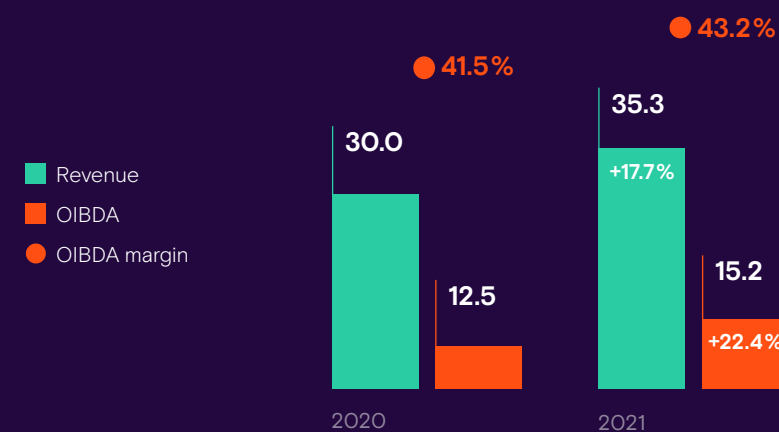
The Company has developed and launched traffic routing monitoring and management systems into pilot commercial operation. The systems will be a common tool for monitoring and controlling route changes on the domestic long-distance network for all regional branches, with a 40% reduction in response times for routing plan change requests. In 2021, the Company also completed a detailed analysis and obtained results of an NPS assessment for the B2O segment, which were used to inform the B2O strategy to 2025.

Data Centres and Cloud Services

The segment's key financial highlights, bn RUB[1]

■ Revenue
■ OIBDA
● OIBDA margin

- 41.5% (2020)
- 43.2% (2021)
- 30.0 / 12.5 (2020)
- 35.3 (+17.7%) / 15.2 (+22.4%) (2021)

+21%

Growth in revenue from data centres (vs a 20% market growth)[2]

+88%

IaaS revenue growth (vs a 27% market growth)[2]

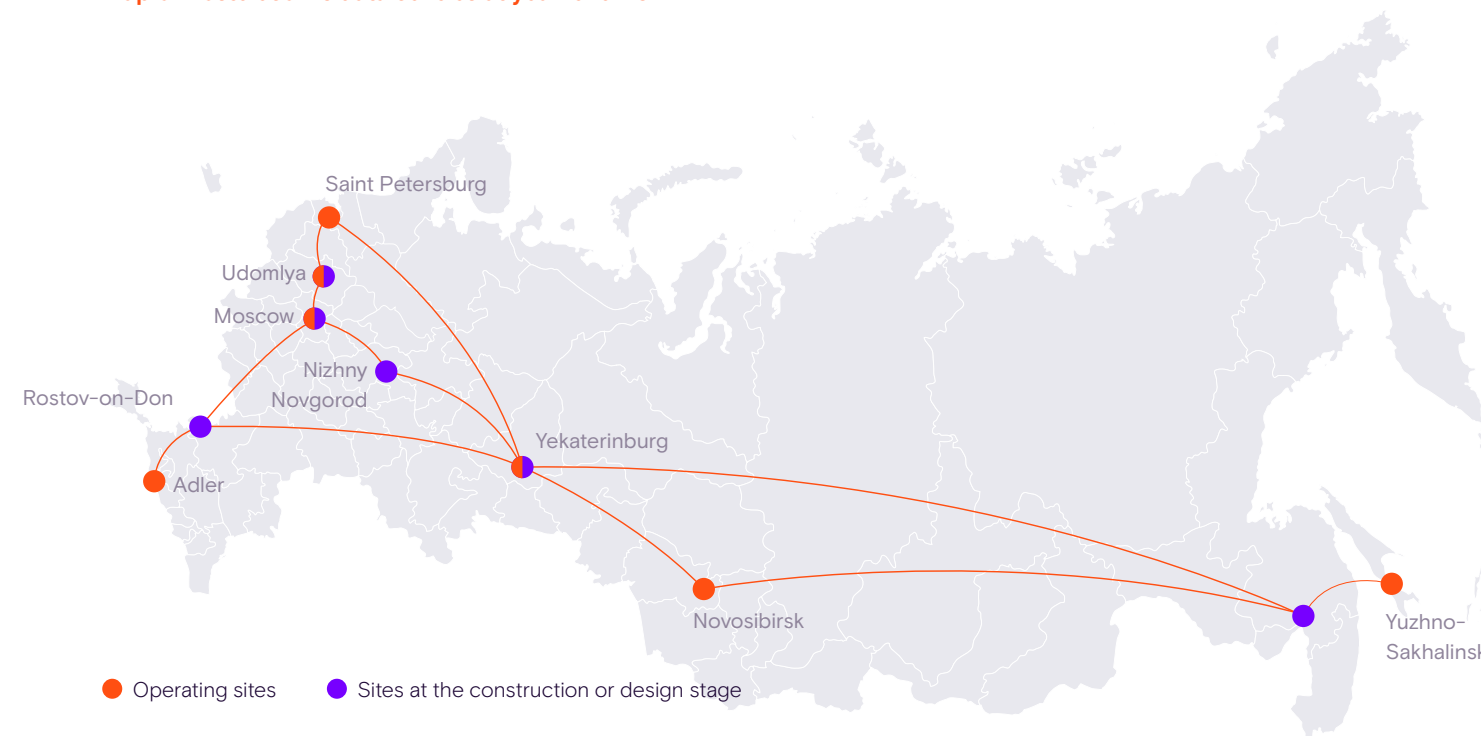## 2.2×

Growth in private cloud revenue

No.1

in the data centre and IaaS markets (28% and 19% shares)[2]

Note: Year-on-year growth for 2021 is shown unless stated otherwise.
1   Under the new segment- and cluster based model.
2   Source: iKS-Consulting

Map of Rostelecom's data centres at year-end 2021

● Operating sites   ● Sites at the construction or design stage

Data centre infrastructure development

13.7 thsd

total racks at year-end 2021 (+4% year-on-year)

Development potential

2 thsd racks

construction of a TIER IV data centre in Moscow is nearing completion

7 thsd racks

site in Moscow acquired to build four new data centres

Data centre construction and launch

Novosibirsk

304 rack

Moscow

207 rack (Tier III)

Udomlya

Phase 2 ready for commissioning

Data centre network

By involving a major bank as an active minority investor, Rostelecom's data centre and cloud services subsidiary has been able to adjust its strategic plans to deliver projects that are more tailored to current project market needs.

In 2021, Rostelecom added more than 500 rack units to its data centre network. NORD 6, a new 207-rack data centre in Moscow, and a 304-rack data centre in Novosibirsk were commissioned during the year.

The cluster revenue grew 18% year-on-year, with Rostelecom maintaining its leadership of the data centre market, boasting a total rack capacity of 13.7 thousand at year-end 2021[1]. By leveraging its well-developed sales system, Rostelecom was able to maintain a high utilisation rate of its data centres and a strong capacity growth momentum: current Company's rack utilisation rate stands at 99.8% in Moscow and 73% in other regions.

Moreover, much of the groundwork needed to maintain current growth rates in the coming years was laid in 2021. Rostelecom completed the construction of Moscow V, a new 2,000 rack flagship data centre (Tier IV) scheduled to be commissioned in 2022, and acquired a large industrial site in the south of Moscow with a potential to accommodate more than 6,000 racks.

Besides capacity additions, the Company is strongly focused on service quality. In 2021 CSI[2] for Rostelecom's co-location service (co-location of equipment in data centres) grew by 2% to 92%, while the market average score for similar services stood at 89%[3].

In 2021, the company acquired a large property in Moscow to support its medium-term growth plans in its key focus area of data centre capacity expansion and new capacity additions.

Cloud-based IaaS services

The leadership strategy provides for continued accelerated technological development and a focus on new, highly competitive, and high-margin niches.

The next step is to enhance capabilities and product portfolio in PaaS, DevOps, development of tailored complex information systems, and the development and production of specialist import-substituting hardware and hardware/software solutions, including those using Russian microprocessor platforms.

Rostelecom has become Russia's No. 1 IaaS provider by leveraging its business model of consistently expanding the range of services. We have been progressing just as rapidly in the segment of private and hybrid clouds for business and government customers, where we can highlight projects such as the Government Cloud, EGRN 2.0, as well as scaling of remote e-voting service (DEG) infrastructure, which involved more than 1.2 million residents of all Russian regions, and the preparation and technical support for the direct line with Russian President Vladimir Putin.

1 Including sites at regional branches and other Rostelecom subsidiaries and affiliates.
2 Customer Satisfaction Index.
3 Source: iKS-Consulting

Key focus areas of the Virtual Data Centre service and other IaaS solutions enhancement in 2021:

- Active expansion of our cloud service infrastructure; commissioning of our new sites: Saint Petersburg, Novosibirsk 2, and a new module at Kurchatov 2
- Implementation of measures to enhance service functionality and reliability:
  - Migration to NSX-T[4] for the new VMware sites[5]
  - Launch of a remote desktop service
  - More convenient migration to the KVM/TIONIX cloud infrastructure through the Hystax Acura solution
  - Display of trends in monitoring charts
  - Customised backup scheduling on cloud.rt.ru
  - More convenient and efficient customer communication on cloud.rt.ru using an online chatbot assistant. Update of the help centre on help.cloud.rt.ru, including new video instructions for most frequent requests and update of the existing instructions
  - Implementation of a Terraform-based Infrastructure-as-Code (IaC) management solution to increase automation and reduce virtual infrastructure configuration errors
  - Optimisation of external IP address assignment to reduce the impact of their possible shortage; implementation of IPv6[6] address assignment on the OpenStack platform
  - Automation of request and service order receipt to integrate into the new CRM system[7] Implementation of fraud protection
  - Confirmation of compliance of DataLine's Cloud Disc and the S3 object storage with relevant personal data protection requirements. The company also confirmed its compliance with the Cloud Security Alliance (CSA) recommendations and received the status of UserGate Management Security Service Provider. Now it will be able to offer its customers domestic virtual universal security gateways under the cloud subscription model
  - Certification of DataLine Cloud-152 for the operation of government information systems and its deployment in two Moscow data centres

Connectivity

Rostelecom offers its customers optimised routes for IP traffic, shorter network routes between servers, and faster service performance.

4 A unique solution providing the benefits of a public cloud in a private cloud.
5 VMware vSphere – a platform for enterprise IT infrastructure virtualisation.
6 Internet Protocol version 6 – a new version of the internet protocol (IP) designed to fix the problems in the previous version (IPv4).
7 Customer relationship management.

CLUSTER

Information Security

Information security is one of the key pillars of Rostelecom's digital service ecosystem. Rostelecom's information security cluster is focused on three business areas: provision of commercial cybersecurity services, proprietary technology development, and system integration in cyber defence.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

+12%

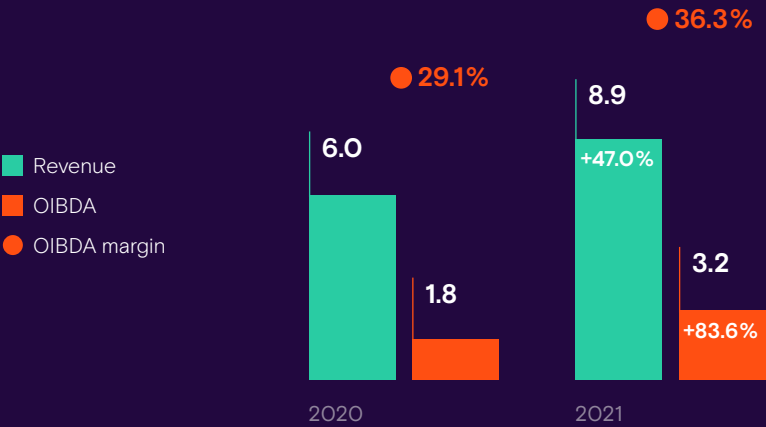growth in recurring revenue from proprietary products

+22%

growth in revenue from the Solar Dozor product

Note: Year-on-year growth for 2021 is shown unless stated otherwise.

1   Under the new segment- and cluster based model.

The segment's key financial highlights, bn RUB [1]

- Revenue
- OIBDA
- OIBDA margin

29.1%
36.3%

6.0
1.8
8.9
+47.0%
3.2
+83.6%

2020   2021

Key proprietary products

Solar JSOC
Cyber attack response services

Solar MSS
Cloud-based information security infrastructure

Solar Dozor
Data leak prevention

Solar webProxy
Web resource access control and web traffic protection

Solar addVisor
Labour productivity improvement and organisational development

Solar inRights
Centralised IT system user rights management

Solar appScreener
Application security analysis

For more details, see the Operating Review section of Rostelecom's Annual Report 2021

Rostelecom has retained its leadership in the information security services market, implementing highly relevant projects such as Russia's largest cyber attack monitoring and response centre, the National Cyber Polygon, and the cyber attack early warning system.

The cluster manages an investment portfolio of RUB 20 billion, allocated to develop proprietary technologies and expand the cluster's share in the information security market by acquiring high-potential companies and solutions.

New cybersecurity projects launched in 2021

Solar addVisor – boosts labour productivity and organisational development at businesses

Solar MSS Sandbox – provides protection from sophisticated cyber threats

Cryptographic protection of communications channels for the Virtual Data Centre customers

12%

Total growth in revenue from proprietary technology projects in 2021

The **Solar Dozor** product showed the biggest (22%) revenue growth in 2021. The largest public projects in 2021 were the agreements signed with Zenit Football Club and the energy company Unipro, which chose Solar Dozor over their existing solutions. Solar Dozor now controls over 2,300 employee workstations at Unipro. A similar project was implemented at ROSATOM's Central Archive of Nuclear Industry.

In 2021, Rostelecom introduced **Solar addVisor**, Russia's first employee productivity monitoring system, which helped the company expand into a new market segment. The system analyses the digital footprint of employees' workplace activities and enables better managerial decisions to increase labour productivity. This software product is geared towards managers of all levels and HR and organisational development specialists at large commercial and government organisations.

The **Solar appScreener** source code analyser was selected as the software analysis tool to analyse the information protection system of the Russian Federal Service for Technical and Export Control at the Testing and Certification Centre of the Institute of Engineering Physics Interregional Social Foundation. The use of Solar appScreener for regulatory compliance testing reflects its highest technological level and its leadership position in the Russian market for application source code analysers.

This product is rapidly expanding into the international market, with seven major contracts signed in 2021 in the Asia-Pacific region, including agreements with government organisations, and international sales at over 30% in total product revenue.

7

major contracts in the
Asia-Pacific region

30%

increase in the number
of Solar JSOC customers

In 2021, Rostelecom announced a large-scale transformation of its **Solar JSOC** service into an integrated cyber-attack response centre which now provides protection against most dangerous hacker groups. Solar JSOC remains Russia's largest commercial centre for monitoring and responding to cyber threats and the market leader in its segment. Based on its successful track record in cyber attack response, Rostelecom has put together a new set of services for organisations where cyber security is of strategic importance to the country, including federal executive authorities and Russia's critical information infrastructure assets. The expansion of expert services and solutions of Solar JSOC has propelled it to the next level, strengthening its edge over competition and enabling entry into new market segments.

Rostelecom also became a full member of the Forum of Incident Response and Security Teams (FIRST), the largest global cybersecurity incident response community. Due to its new status, the Company now has access to a global database of recent incidents, which provides Solar JSOC with a solid competitive edge in the cyber attack monitoring and response market. Starting from 2021, Rostelecom has been able to initiate blocking of phishing sites in the .ru, .рф, .moscow, .москва, and .su domain zones.

In 2021, the total number of Solar JSOC customers increased by 30%. Its major projects include the incident monitoring and response contracts with JSC IDGC of the Urals and JSC GLONASS. To handle requests from an increased customer base, a new Solar JSOC regional centre was opened in Rostov-on-Don.

In 2021, Rostelecom announced plans to transform its Solar MSS cybersecurity service ecosystem and launched a centre for expertise in Samara, which will provide regional government organisations and large and medium-sized businesses with cyber protection services. By moving expertise to regional offices, the company has unlocked an optimal approach to service pricing without compromising quality: Solar MSS services are now more affordable to a wide range of companies. Moreover, apart from removing the need for big upfront capital investments, the service-based model also delivers savings for customers in the range of 40% over five years.

Thus, **Solar MSS** has a solid potential for rapidly expanding its market share in Russian regions. The product is of particular use to government authorities, educational and healthcare facilities, financial institutions, industrial and energy enterprises, transport and logistics operators, as well as retail trade organisations.

To enhance technological development, the Solar MSS ecosystem was complemented by the Sandbox service for advanced cyber threat protection. Rostelecom also provided the Virtual Data Centre customers with cryptographic protection of communications channels. It allows customers to promptly obtain virtual computing infrastructure (IaaS) services to host information systems and applications.

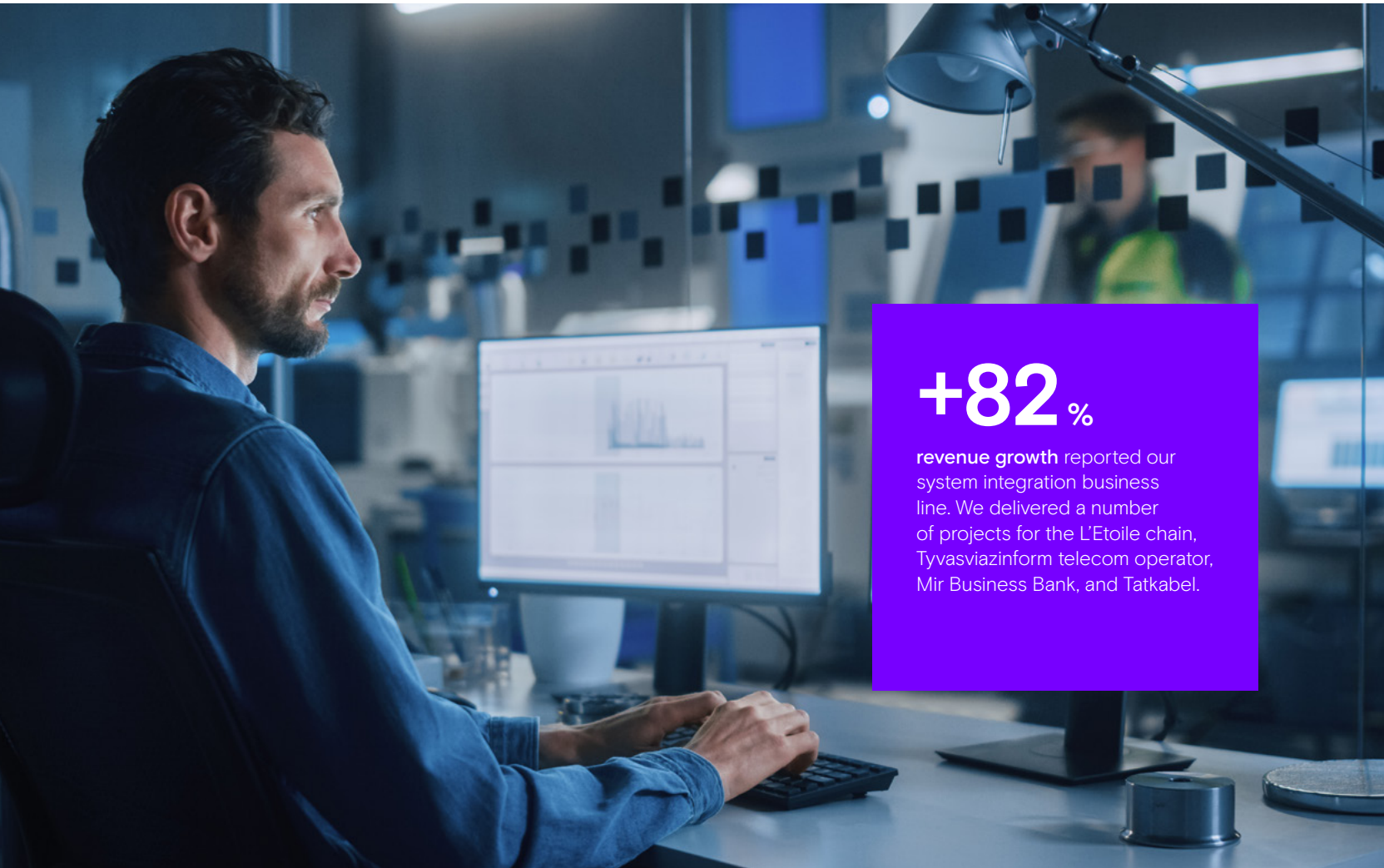## System integration and National CyberRange

Our system integration business line reported 82% revenue growth in 2021. We delivered a number of projects for the L'Etoile chain, Tyvasviazinform telecom operator, Mir Business Bank, and Tatkabel.

Furthermore, the National CyberRange created as part of the Digital Economy of the Russian Federation targeted programme was officially piloted in 2021, with its core centres launched at the Siberian State University of Telecommunications and Information Science (SibSUTIS) and ITMO University in Saint Petersburg.

To provide practice-oriented training to students, the National CyberRange hosted the finals of the Olympics among universities of Russia's North-West, as well as the first all-Russian inter-university cybersecurity drills involving teams from the country's eight leading universities. In addition, cybersecurity drills were arranged for students of Far Eastern Federal University and ITMO University, and events within the VolgaCTF 2021 inter-university student information security competition were held.

The National CyberRange hosted cybersecurity drills for employees of the Bank of Russia, the Russian Ministry of Energy and key players in the electricity industry, as well as cross-industry drills organised together with TMK and Sinara Group.

In 2021, an extensive bug bounty programme was launched at the National CyberRange to test and improve the security of solutions used by public sector organisations, major businesses and critical information infrastructure facilities across Russia.

+82%

revenue growth reported our system integration business line. We delivered a number of projects for the L'Etoile chain, Tyvasviazinform telecom operator, Mir Business Bank, and Tatkabel.
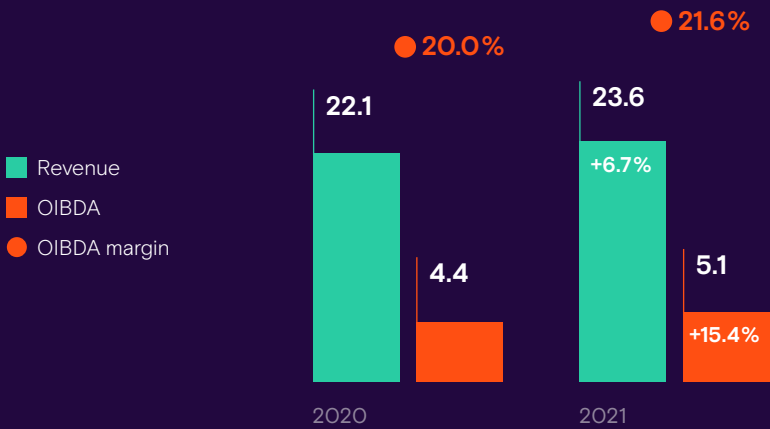
CLUSTER

Digital Regions

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

In 2021, the Digital Regions cluster strongly focused on key product segments, introducing cutting-edge digital solutions in Russian regions. The cluster's revenue grew by 7% to RUB 23.6 billion.

Key financial highlights of the segment, bn RUB[1]

- Revenue
- OIBDA
- OIBDA margin

20.0%   21.6%

22.1   23.6
+6.7%
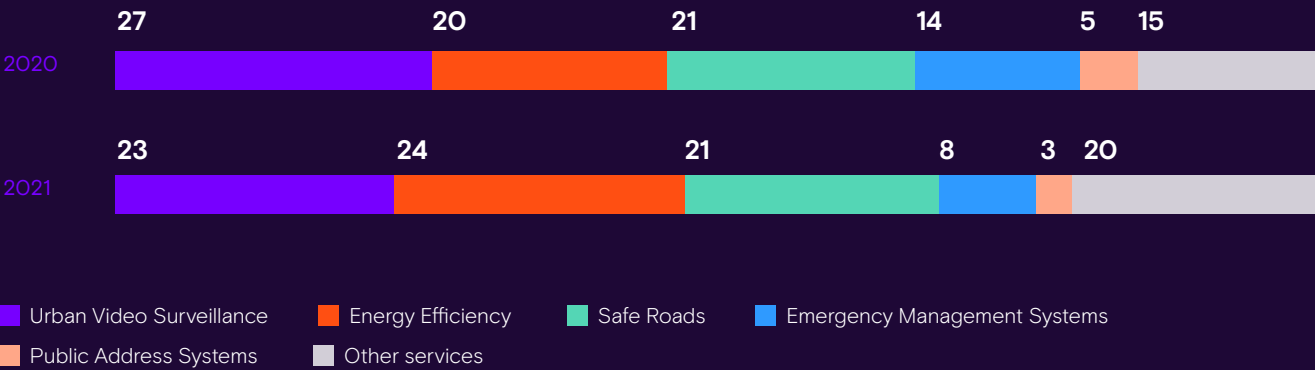
4.4   5.1
+15.4%

2020   2021

Note: Year-on-year growth for 2021 is shown unless stated otherwise.

1   Under the new segment- and cluster based model.

Structure of the Digital Regions cluster

Revenue mix, %

2020   27   20   21   14   5   15

2021   23   24   21   8   3   20

- Urban Video Surveillance
- Energy Efficiency
- Safe Roads
- Emergency Management Systems
- Public Address Systems
- Other services

In 2021, Rostelecom's Digital Region project made it to the finals of WSIS Prizes – an international contest to recognise the best ICT practices of the World Summit on the Information Society held under the aegis of E-environment

Over **200 thousand** breaches prevented by video surveillance

Up to **80%** energy saving achieved in the social sector

Emergency response time reduced from 60 to **40 min**

COVID-19 projects benefitting **30 million** people

Video surveillance

More than 70 thousand new cameras were connected as part of the CCTV project, with a cumulative total of more than 370 thousand since the launch of the project. Five new Russian regions were connected in 2021, bringing the total number of regions connected to the platform to 39.

The Unified National Video Surveillance Platform is rapidly evolving, with more than 3,000 cameras connected to the platform across virtually all Russian regions.

Projects for photo and video recording of traffic violations and weight and dimension compliance

Traffic enforcement cameras were deployed across 59 Russian regions. Two new regions joined the programme in 2021. Also in 2021, 489 new traffic enforcement cameras were installed, bringing their total number to 4,362.

Weight and dimension compliance projects are currently running in 33 regions. In 2021, four more regions joined the programme and 29 new weigh stations were set up. The total number of weigh stations in operation reached 147.

Evolution of traffic enforcement cameras in Saint Petersburg

In 2021, Rostelecom signed two public contracts for traffic enforcement services. Under the contracts, installation and commissioning operations were carried out on the street and road network in Saint Petersburg to install traffic enforcement cameras on 171 linear road sections, 40 intersections and 10 approaches to intersections. A total of 240 cameras were installed. Traffic enforcement cameras are integrated with the automated traffic violation detection system and the system for monitoring the payment of fines, with video streamed automatically fed to the urban video surveillance system. The system's technical operation and maintenance are supported 24/7.

Expansion of Saint Petersburg's urban video surveillance system

In 2021, Rostelecom launched a new phase of expanding Saint Petersburg's video surveillance system. For the first time since the start of the project in 2016, smart intercoms with a video surveillance function were added to the list of devices installed across the city. The total number of installed intercoms exceeded 20 thousand, along with almost 3 thousand urban surveillance cameras.

Several hundred cameras were installed around the Gazprom Arena stadium, which hosted matches of the UEFA European Football Championship in the summer of 2021.

Currently, every city district is covered by video surveillance. The public contract involves not only the installation of cameras, but also their subsequent maintenance; video is continuously streamed to the customer's data centre.

Energy efficiency

In 2021, Rostelecom installed 89 thousand electricity meters as part of joint projects with electricity distribution grid companies. A total of more than 470 thousand meters are in operation today.

Another two projects were implemented in 2021 in two more Russian regions, with energy efficiency solutions now implemented across 19 regions.

The eSIM and NB-IoT[1] technologies were piloted in electricity metering as part of Rostelecom's innovation efforts, and more than 30 contracts were signed within the Lighting business line.

Safe City

Rostelecom continues developing new and expanding existing applications of the Safe City hardware/software solution. To implement a scenario-based response function, the product is being deeply integrated with the video surveillance platform to enable the use of video analysis tools in surveillance to ensure an effective response to threats to the urban environment.

In addition, the solution has been interfaced with public address systems and automated process control systems used in energy efficiency projects, which has helped build end-to-end processes to assist urban services in responding to disruptions in utility systems.

The Safe City solution is also integrated with System 112 via a universal data exchange protocol, securing end-to-end interaction between the single dispatch service and emergency services, as well as helping to debug response scenarios.

A fundamentally new information model of the system was implemented, making it possible to use Safe City in adjacent areas, in particular as part of a unified regional platform for environmental monitoring and safety control of industrial enterprises, and a dispatch platform for small towns.

1   Narrow Band Internet of Things – a cellular communications standard for telemetry devices exchanging low volumes of data.

70 thsd
CCTV cameras connected
during the year **(total: 370 thousand)**

~500
traffic enforcement cameras set up
during the year **(total: 4.4 thousand)**

89 thsd.
electricity meters installed in 2021
(total: >470 thousand)

29
weigh stations built
during the year **(total: 147)**

CLUSTER

Digital Health

3 GOOD HEALTH AND WELL-BEING

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Rostelecom's goal is to become a leader in driving the digital transformation of healthcare in Russia. The Company aims to become an integral part of the healthcare management system at all levels, from government departments to individual patients.

Digital transformation of the healthcare system

Rostelecom's healthcare digitalisation solutions are featured across 49 Russian regions and include medical information systems, laboratory information management systems, a unified radiology information system, a central archive of medical images, an integrated emergency medical care information system, and a platform for telemedicine consultations and remote monitoring of patients with chronic diseases.

In accordance with a directive of the Russian Government, Rostelecom subsidiary was designated until the end of 2022 as the sole contractor under public contracts signed by the Russian Ministry of Health and its subordinate institutions on the creation, enhancement, implementation, and operation of subsystems of the Unified State Healthcare Information System.

In 2021, Rostelecom continued its efforts towards digital transformation of the healthcare system across Russian regions.

- Voice Assistant 122, an intelligent information system for voice communication between a robot assistant and a live person following a set script, was launched in five regions. The assistant relieves call centres and handles up to 50% of patient queries. The House Call script successfully processed up to 65% of calls while the Booking a Vaccination Appointment script handled up to 35% of cases without involving an operator.

- Artificial Intelligence (AI) projects were implemented in three Russian regions to improve early detection of diseases, including cancer, through automated diagnostic services based on medical images (fluorography, mammography, and CT scan of the lungs). The use of the AI technology during the COVID-19 pandemic helps detect signs of coronavirus such as pneumonia and other complications, and treat them effectively.

- The service for telemedicine consultations was launched in five regions, with 81 healthcare facilities connected. More than 17 thousand consultations were provided by 9 thousand doctors of different specialties as part of the service.

- The E-Prescription service was launched in five regions, with 139 healthcare facilities connected. More than 2,000 doctors received relevant training and 2,000 pharmacies joined the service. A total of more than 930 thousand prescriptions were issued.

- Two Russian regions successfully piloted a remote monitoring service for confirmed coronavirus cases, including during post-COVID-19 rehabilitation. The service uses voice assistants to collect data on the patient's current condition, transmit the information to the consulting physician and, in case of a serious deterioration requiring a physician's decision on emergency hospitalisation, arrange 24/7 telemedicine consultations with the doctor on duty.

Strategic partnerships

In 2021, Rostelecom Group and K-SkAI, a Skolkovo Foundation resident, signed an agreement on cooperation in artificial intelligence. The parties agreed on a technology partnership and carried out a seamless integration of Rostelecom's Unified Digital Platform (UDP.MIS) and K-SkAI's Webiomed predictive analytics and risk management platform. The integration enables early identification of risk factors and diseases, a comprehensive health assessment and prediction of possible complications, with personalised recommendations issued to patients and specialists.

At the end of 2021, RT MIS won a tender and received a grant worth RUB 119 million from the Russian Information Technology Development Foundation to develop the Unified Digital Platform for Emergency Medical Care solution by October 2023. The digital platform will automate the recording and planning of an organisation's resources, receipt of incoming calls, operational resource management, and generation of reports, including for services provided. The platform will also monitor the quality of care provided and make the necessary adjustments.

In addition, in the reporting year one of Rostelecom's subsidiaries won a tender and received a grant from the Russian Information Technology Development Foundation to develop the Central Archive of Medical Images software solution providing for the development and integration of an endoprosthesis module and a module for automated pathology highlighting on mammography images by October 2023. The central archive of images ensures the collection and centralised storage of, and access to, medical data. The system offers extensive possibilities to search for medical data based on a patient's personal information and the procedure profile, as well as to transfer the data to workstations and Rostelecom systems. The contract's value was at RUB 153 million.

CLUSTER

Public Sector Digital Services and Products

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

E-Government

An updated version of the Public Services Portal (www.gosuslugi.ru) was launched in 2021. E-services steadily gain traction, with 1 billion visits to the Public Services Portal registered in 2021 while the number of service orders through the mobile app grew 2.3 times in 2021, reaching 188 million. The number of successful payments amounted to 111.6 million.

In Q4 2021, Rostelecom completed the acquisition of assets consolidating competencies in key areas of public administration such as finance and procurement, property and asset management, public services (automation of Multifunctional Public Service Centre activities), social care, and employment.

It is a strategic transaction, which has expanded Rostelecom's product line within its ecosystem of digital public products, extended the offerings of the Public Sector Digital Services and Products cluster to new segments of public administration, and enabled the implementation of relevant projects of any complexity.

In 2021, Rostelecom was selected as the sole contractor to create a unified digital platform (UDP) for the Russian Ministry of Labour and Social Protection.

Electoral process digitisation

In 2021, Rostelecom continued its project to create a remote e-voting service based on the Unified Portal of State and Municipal Services, as well as a mobile app with cryptographic protection tools to enable participation in elections at all levels regardless of the voter's location.

The key objectives achieved by the project:

- Creation of a tool for the remote exercise of voting rights
- Increased accessibility of voting and a higher number of people taking part in elections
- Higher confidence in the electoral system
- Fewer social contacts during the pandemic

In 2020, remote e-voting was used for the first time in the by-election of deputies of the Russian State Duma on 13 September 2020.

In 2021, six Russian regions (the city of Sevastopol as well as the Kursk, Murmansk, Nizhny Novgorod, Yaroslavl, and Rostov Regions) participated in remote e-voting. A total of 635,560 people voted and 1,669,583 voting ballots were issued, with the votes counted in only 15 minutes.

During the remote e-voting, Rostelecom specialists countered 19 DDoS attacks, the longest of which continued for five hours without affecting the availability of the service. During the voting period, the Company's contact centre received and processed 14,527 queries from voters.

Roadmap of the remote e-voting service project

2022
- Further developing the solution to integrate Russian encryption devices, and finalising remote e-voting monitoring tools in 2022 Implementing quantum encryption tools for communication between data centres
- Remote e-voting is expected to cover 2 million voters.

2023
- Redesigning the system architecture to increase the number of voters to 25 million and then to 60 million
- Further developing encryption devices and enhancing quantum encryption tools
- Remote e-voting is expected to cover 10 million voters.

2024
- Running tests and implementing enhancements to enable nationwide remote e-voting covering 60 million voters

2025
- Integrating the service into the Unified Portal of State and Municipal Services and using it to run any nationwide voting

Unified Biometric System

In line with Federal Law No. 149-FZ, On Information, Information Technology and Information Protection, dated 27 July 2006, the Unified Biometric System (UBS) created by Rostelecom has been in operation in Russia since 2018.

Rostelecom was appointed a system operator by the Russian Government's Directive No. 293-r dated 22 February 2018. To date, the UBS covers over 220 business organisations that collect and use biometric personal data.

On 30 December 2021, the UBS was granted the status of a state information system and certified by the Russian Federal Security Service and Federal Service for Technical and Export Control (FSTEC) in line with Part 1.1 of Article 14.1 of Federal Law No. 149-FZ, On Information, Information Technology and Information Protection, dated 27 July 2006 (as amended by Federal Law No. 479-FZ, On Amendments to Certain Legislative Acts of the Russian Federation, dated 29 December 2020).

In 2021, Rostelecom continued to diversify its methods of collecting biometric personal data for the biometric sample database through the Multifunctional Public Service Centres and a secure mobile app.

At the moment, active further steps are taken to prepare a technical and regulatory framework for the launch of new mass biometric services across various institutions and organisations, such as notary offices, the Supreme Court of the Russian Federation, transport, metro, airports, and so on.

For more details, see the Operating Review section of Rostelecom's Annual Report 2021

>220

businesses connected to the UBS

17

major banks launched services using the UBS and the Unified Identification and Authentication System

Infrastructure development

In 2021, Rostelecom continued to upgrade its network and IT infrastructure. The technology platform upgrade implies an expansion of the fibre network and upgrade (replacement) of copper networks, as well as centralising the IT landscape to reduce maintenance costs and improve the overall network manageability. Furthermore, a resilient infrastructure provides equal access to information for users and contributes to greater data integrity.

Network infrastructure expansion

Rostelecom provides transmission services for any data format via cable, radio relay or satellite links. Our digital network is based on the DWDM[1] technology and covers virtually all of Russia.

In 2021, we designed, built and launched additional networks to expand our network infrastructure capabilities. We leveraged them to implement a number of large-scale projects.

- Construction of the 1,109 km Baltic communication line through Russian territorial waters and exclusive economic zones in the waters of Finland and Sweden.
- The All-Russian Population Census, with over 1,500 TB of data transmitted over Rostelecom's network.
- Video surveillance at 45,091 territorial election commissions and polling places, with new FOCLs laid to 982 of them, to ensure information exchange on the Single Voting Day.
- Digital Education project: R&D at 7,899 project sites and construction and installation works at 1,969 sites.
- 4,321 communication channels and 6 call centres to ensure uninterrupted communication during the Direct Line with Vladimir Putin, with 263 operators engaged in information processing.
- Connecting 12,650 facilities to the data network in 2021 as part of a project for connecting social infrastructure facilities, laying 20,181 km of fibre.
- Bridging the Digital Divide project: construction of 18,713 km of fibre and commissioning of 1,483 access points during the first phase, construction of 1,828 km of FOCL and commissioning of 1,201 base stations during the second phase.
- Online broadcasting of the Unified State Examination at 5,905 exam sites with security specialists ensuring proactive management of the telecommunications network for uninterrupted broadcasting, and implementation of a mechanism for prompt response to network incidents.

1　Dense Wavelength Division Multiplexing – modern technology for carrying a large number of optical channels on the same fibre.

IT cluster development

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

An IT upgrade has enabled remote video conferencing with a single integration platform.

A single reporting system to store corporate and business information has also been implemented, with its solutions already brought to market.

Self-organisation of the Karma Framework teams continued, with a workshop initiated and an upgrade of infrastructure management software completed. Workshop recordings are now available on Wink. In addition, a mobile app was developed to manage Rostelecom projects.

The BASIS programme to support internal business processes is ongoing, with target business processes in the B2B/B2G segment designed and implemented ahead of the first launch in Russia – in Novosibirsk. We developed groundbreaking CRM software to power the B2B/B2G segment at the federal level, potentially expandable to the B2O segment.

The product sales to small and medium-sized businesses piloted in a number of Russian regions.

Platform development efforts included deploying computing nodes in 13 data centres across all federal districts, bringing the total computing capacity to 14 thousand vCPUs and 133 TB vRAM. The capacity additions comprised 3,500 virtual machines and 338 information systems. Under the import substitution programme, we switched to Russian-made server hardware and TIONIX software, included in the unified register of domestic software of the Russian Ministry of Digital Development, Communications and Mass Media.

Improvement of operational efficiency

Rostelecom has continued to drive internal efficiencies as its strategic priority, with the key focus areas comprising Rostelecom's production system (RPS), operational excellence programme (OEP) and real estate portfolio optimisation.

For more details on Rostelecom's 2021 operating results, see Rostelecom's Annual Report 2021.

5 3 Contribution to the digital economy. Bridging the digital divide

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

GRI 203-1

Rostelecom is involved in the Digital Economy of the Russian Federation national programme, approved by the Russian Government in 2018. The company is building digital infrastructure in the national interest. When implementing federal projects, Rostelecom relies on its own backbone data network, data centres, cloud infrastructure and integrated hardware and IT solutions. Priority is given to Russian developers and manufacturers.

Priorities of partnerships with government authorities

1
Providing the infrastructure and communication channels
- Expanding the coverage of the core communications infrastructure
- Enhancing communications channels
- Enhancing the digital ID and UBS[1] technology and infrastructure

2
State projects and programmes
- Implementing national communications infrastructure initiatives (Digital Economy, Bridging the Digital Divide, connection of social infrastructure facilities)

3
Digitising key processes
- Enabling operations of public authorities (E-Government Infrastructure, Digital Region)
- Enabling communication of people and businesses with the government (single digital profile, expansion of the Public Services Portal functionality)

Centre of Excellence activities under the Information Infrastructure project

The Centre of Excellence within the Information Infrastructure federal project (the Centre of Excellence), set up at Rostelecom, continued to operate throughout 2021.

Along with Rostelecom employees, over 150 experts representing the leading Russian organisations, including major telecom operators, banks and data centre operators, as well as federal executive authorities and state-owned corporations, actively participated in the work of the Centre of Excellence. In 2021, the Centre of Excellence collaborated with members of the themed working groups for communications networks, data centres and digital platforms to review more than 80 requests to change the project charter of the Information Infrastructure federal project, prepare 13 opinions and take part in 14 meetings of the Information Infrastructure working group.

In 2021, the Centre of Excellence developed road maps for measures to encourage operators' investments in communications networks development through advanced technologies as well as plans to develop 5G and the Internet of Things.

These efforts involved defining further frequency conversion activities jointly with the government, including in the 700 MHz band. Experts from the Centre of Excellence prepared proposals for improving Russia's position in international digital economy development ratings and took part in drafting the strategy of the Digital Economy autonomous non-profit organisation to 2024.

1   Unified Biometric System.

Bridging the Digital Divide
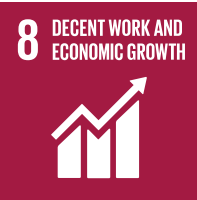
Goal:
install access points with bandwidths of at least 10 Mbps in communities with a population between 250 and 500 people.

Objective:
provide fibre connectivity to 13,958 facilities.

Progress in 2021:
the project is 99.7% complete.

Access points:
13,916 Wi-Fi access points connected.

FOCLs:
122 thousand km of fibre laid (cumulative).

Significance:
modern digital communications services improve the quality of rural life and give a strong impetus to the modernisation of agriculture and the social sector.

Rostelecom is the only operator implementing a project to address the digital divide under a ten-year public contract with the Federal Communications Agency.

The Bridging the Digital Divide project remains a key strategic project for Rostelecom. It aims to provide access to affordable communications services for people living in rural areas, particularly in remote and hard-to-reach areas, including border communities.

In 2021, Rostelecom completed the first phase of the project. Access points were installed in 13,916 communities. The Company also built 122 thousand km of fibre.

At the same time, Rostelecom launched the project's second phase to set up mobile radio telephony networks across localities with a population of between 100 and 500 people. In 2021, Rostelecom set up such communications networks in 1,201 communities.

Better communications services in small communities improve the quality of life for citizens and give a strong impetus to the modernisation of the infrastructure, business, and local communities.

Internet access for social infrastructure facilities

Goal:
internet connectivity for social infrastructure facilities.

Progress in 2021:
31.5 thousand organisations connected.

Significance:
the project will provide high-speed internet connectivity to social infrastructure facilities in many communities, which will eventually enable bringing fibre to local households. In addition, this campaign drives demand for Russian-produced fibre optic cables and telecommunications equipment.

Rostelecom is the contractor for the project to provide internet connectivity to social infrastructure facilities in 44 regions of the Russian Federation under the Information Infrastructure federal project, implemented as part of the Digital Economy of the Russian Federation national programme.

Facilities connected to the internet included primary care centres and rural health posts, educational organisations, state and local government authorities, polling places, fire stations and fire brigades, police stations, and facilities of the National Guard of the Russian Federation.

In 2021, Rostelecom completed a project to connect social infrastructure facilities to the internet, covering 31 thousand organisations. A total of 38.5 thousand km of fibre were laid to connect them to the communications network, including 19.9 thousand km in 2021. Some of these social infrastructure facilities were connected via satellites in line with respective public contracts.

During 2019–2021, connected social infrastructure facilities were provided with data services with bandwidths of up to 100 Mbps, depending on the facility's category as outlined in the respective public contract.

The implementation of the project generated demand for Russian-produced fibre optic cables and telecommunications equipment.

Development of a data centre ecosystem

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

One of Rostelecom's subsidiaries acts as a centre of excellence for building an ecosystem of data centres, cloud services, and connectivity services. The project was designed to provide a reliable digital infrastructure and a full range of related services of any complexity to corporate and government customers, regardless of their geographical location.

Rostelecom is tasked with expanding a fault-tolerant IT infrastructure for the benefit of the government and commercial customers, and delivering related cloud services.

Rostelecom has built and operates the IT infrastructure in the Single Governmental Cluster (IQ Quarter) and the combined data centre, supporting the migration of users while ensuring a high level of information security, providing computing capacity, and ensuring the fault tolerance and resilience of all E-Government services.
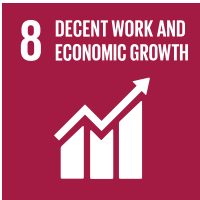
Significance:
- manage cloud services, create and operate cloud databases, and implement remote-working tools
- improve the quality and accessibility of data centre services
- support secure remote management of corporate services
- set up workstations using advanced IT technologies to enable server virtualisation and administration, and to ensure fault tolerance
- ensure agencies make the best use of IT resources
- meet the government agencies' need for a computing infrastructure
- place equipment and store information in a more reliable and advanced data centre infrastructure

Rostelecom continues to implement the digital transformation of prosecuting authorities, including the integration of automated workstations across all relevant offices. In addition, the Company is a service provider in an experiment launched by the Russian Ministry of Digital Development, Communications and Mass Media to move the IT infrastructure of the Russian Social Insurance Fund, Ministry of Labour and Social Protection, Ministry of Justice, Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostechnadzor), Federal Agency for State Property Management (Rosimushchestvo), State Courier Service, and the Federal Archival Agency to the unified national cloud platform. Based on the positive interim results of the experiment, the Russian Government decided to extend it and connect new agencies to the unified national cloud platform going forward.

Goal:
provide a reliable digital infrastructure and a full range of related services of any complexity to business and government customers, regardless of their geographical location.

Objective:
create and expand a fault-tolerant IT infrastructure for the benefit of the state and commercial customers, and deliver related cloud services.

Developing the unified national cloud platform

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

Goal:
improve the efficiency of using the IT and communications infrastructure set up to deliver public and municipal electronic services.

Objective:
migrate information systems and information resources of federal executive authorities and federal extra-budgetary funds to the unified national cloud platform, and provide public officials and the employees of these funds with workstations and software.

Significance:
developing the unified national cloud platform will optimise the use of IT resources by government agencies and have a positive impact on their demand for computing infrastructure. Placing equipment and storing information in a more reliable and advanced data centre infrastructure will improve the information security of federal executive authorities and federal extra-budgetary funds.

In accordance with a resolution of the Russian Government, from 30 August 2019 to 30 December 2022, an experiment is conducted to move information systems and data assets of federal executive authorities, the Central Election Commission of the Russian Federation and state extra-budgetary funds to the Government Cloud, a unified national cloud platform, and provide such federal executive authorities and state extra-budgetary funds with automated workstations and software.

The project was implemented to improve the efficiency of using the IT and communications infrastructure set up to deliver state and municipal electronic services.

By early 2021, seven pilot participants completed the migration of their information systems and data assets to the Government Cloud infrastructure. Another 13 pilot participants and other data assets of existing participants were moved to the Government Cloud without additional government funding.

As a result, the number of pilot participants has grown from 7 to 26 federal executive authorities and state extra-budgetary funds, including the Central Election Commission of the Russian Federation. A new approach to the structure and pricing of public contracts has been successfully implemented, providing, among other things, for a wide range of services such as protection against DDoS attacks, basic configuration functionality, support for virtual machines, and many more.

In order to develop the Government Cloud and the industry as a whole, Rostelecom prepared proposals for draft amendments to federal laws (No. 126-FZ On Communications and No. 149-FZ On Information, Information Technology and Information Protection), in particular proposals regarding the definitions for terms such as data centres, cloud technologies, cloud services, and cloud computing.

Rostelecom's proposals regarding an action plan to further promote the development of the IT industry by building domestic cloud services and data centre infrastructure were also accepted.

Rostelecom continues the digital transformation of the Russian prosecuting authorities. The project provides services for building and developing an advanced digital infrastructure for the Russian prosecuting authorities meeting global standards for operational reliability and information security.

99.99%
average service availability in 2021

74.21%
share of computing infrastructure import substitution in the Government Cloud

As at the end of 2021, a secure information and telecommunications infrastructure was put in place, covering 3,225 prosecuting authorities and over 50 thousand users. IT infrastructure availability was over 98%.

As part of this infrastructure building project, the Company:
- set up three support lines within the ServiceDesk centralised system
- built a system for protection against external and internal attacks
- provided a multifunctional service based on state-of-the-art equipment (about 41 thousand phone sets, 106 video conferencing servers, and 13.5 thousand printers and scanners)
- set up a remote communications and conferencing system.

Progress in 2021:
- Average service availability was 99.99% (above the mandatory requirement)
- Over 40 information systems of seven federal executive bodies were hosted, with more than 10 thousand employees connected
- The service quality rate is 100% (as per the formula set out in the public contract)
- Three infrastructure platforms (VMware, TIONIX Cloud Platform, Digital Energy) were deployed
- Over 17 thousand virtual CPUs were made available to users
- Over 1.5 PB of data were migrated to the Government Cloud
- Technical solutions from Russian hardware and software manufacturers are used, with the percentage of import substitution in computing infrastructure as high as 74.21%
- A system for dynamic reallocation of computing resources was implemented

Plans fo 2022:
the Company plans to migrate new participants to the Government Cloud, including regional executive authorities, and to create an environment to support the operation of the Government Cloud outside the pilot project. As the project evolves, the authorities will be able to streamline their use of necessary IT resources, meet their computing infrastructure needs as well as place their equipment and store their information within more reliable and advanced data centre infrastructure.

Developing 5G mobile network in Russia

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

The roadmap for 5G Mobile Networks high-tech area development until 2024 was developed as part of implementing an agreement of intent between the Russian Government, Rostelecom and Rostec.

5G deployment opens up new opportunities for process digitisation in virtually every sector of the economy. Rostelecom is set to engage other market players in facilitating the development of infrastructure and market for digital services.
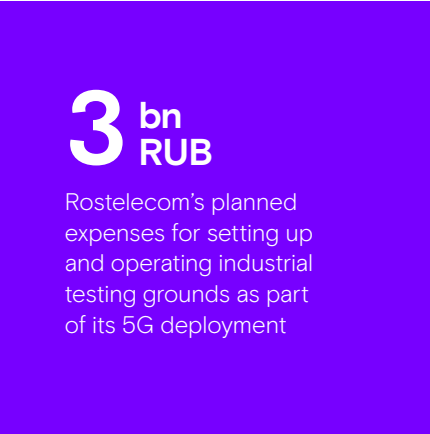
Promotion of 5G-enabled digital and mobile services is a promising area of Rostelecom's development. The funding all Russian operators are expected to provide for 5G network infrastructure development and relevant spectrum allocation until 2024 totals some RUB 160.0 billion. In particular, Rostelecom plans to allocate RUB 3 billion of its own and borrowed funds to set up and operate industrial testing grounds as part of this initiative.

Goal:
develop 5G mobile communications networks in Russia.

Objective:
build an ecosystem and a market for 5G-enabled digital services.

Significance:
the deployment of 5G mobile networks will generate benefits across priority sectors of the economy and the social sector: the manufacturing industry, healthcare, agriculture, construction, transport, logistics, etc.

Plans:
- at least 10 cities with a population of 1 million or more covered by 5G networks by 2024, using Russian equipment
- over 50 million subscribers using 5G networks by 2030
- allocation of radio frequency bands for pilot and commercial 5G networks

160 bn RUB

The funding all Russian operators are expected to provide for 5G network infrastructure development until 2024

3 bn RUB

Rostelecom's planned expenses for setting up and operating industrial testing grounds as part of its 5G deployment

Digital infrastructure for the All-Russian Population Census

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

In 2021, the Federal State Statistics Service conducted the All-Russian Population Census with the support of Rostelecom. The Company prepared digital infrastructure for the census and delivered 360 thousand tablets to territorial state statistics bodies, featuring the Russian-made Aurora operating system and a special app for census takers.

>1.5 thsd TB of data

were transferred via Rostelecom networks during the census

Submarine communication lines

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

Submarine cables provide connectivity between Russia and other markets. Rostelecom has an indefeasible right of use in the Fibre-Optic Link Around the Globe international submarine links between the UK–Middle East–Japan and South-East Asia–Middle East–Western Europe.

As the owner of core capacities in international submarine fibre links, Rostelecom holds a 67% stake in the Georgia–Russia link and a 50% stake in the Russia–Japan link.

In 2021, Rostelecom completed the construction of the submarine fibre-optic communication line (SFOCL) Kingisepp–Kaliningrad in the Baltic Sea as part of the Access to Communications Services Across Russia initiative.

In 2021, the SFOCL had a total length of 1,109 km, including 1,064 km of submarine and 45 km of land infrastructure, with 4 and 16 core[1] fibre cables, respectively, and a capacity of 100 Gbps, expandable to 8 Tbps. The new SFOCL will provide the region with access to all services without relying on landlines laid through other countries.

1   The number of cores in a fibre optic cable.

54 Digital equality integrated social programme

| 4 QUALITY EDUCATION | 8 DECENT WORK AND ECONOMIC GROWTH | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | 10 REDUCED INEQUALITIES |

| 11 SUSTAINABLE CITIES AND COMMUNITIES | 17 PARTNERSHIPS FOR THE GOALS | GRI 203-1 |

Rostelecom breaks down digital barriers and strives to make technology-driven solutions available to all Russian citizens. The Digital Equality programme is geared to address the needs of vulnerable social groups: retirees, people with disabilities, children in orphanages, children in large and low-income families.

Under the programme, Rostelecom:
- provides people with access to the telecommunications technology
- provides a toll-free federal phone number (8 800)
- improves telecommunications literacy
- develops remote learning
- establishes educational portals and supports their activities
- promotes socialisation and practical application of acquired skills
- ensures internet safety for children, the elderly and other at-risk groups.

Key projects within the Digital Equality programme in 2021:

ABC of the Internet, a computer literacy project for senior citizens.

GROWTH, a distance learning and socialisation project for children in orphanages and foster homes, as well as children deprived of parental care.

Learn the Internet – Manage It! A digital literacy project for Russian internet users.

Social Impact Award Russia, an international programme supporting early-stage social entrepreneurs.

Internet for Social Infrastructure Facilities project.

Children's Technology Parks, a project promoting additional education.

ABC of the Internet computer literacy project for senior citizens

4 QUALITY EDUCATION	10 REDUCED INEQUALITIES

Implementation of the ABC of the Internet project

Indicator	2019	2020	2021
Number of senior participants	55,000	38,345	43,106
Funds allocated to the programme, RUB thousand	2,250	2,250	2,250
Number of training modules	7	9	10

Rostelecom helps senior citizens develop computer literacy and build internet skills. Together with the Pension Fund of the Russian Federation, we launched the ABC of the Internet project in 2014. With this project, anyone can develop computer literacy, build internet skills and learn how to get public and social services online. The project empowers retirees to make appointments with doctors, pay their bills and communicate with their peers without leaving their home. The project's website is azbukainterneta.ru.

The content of the ABC of the Internet educational portal is supplemented and updated on an annual basis. In 2021, we released a cybersecurity module. Ergonomics and user feedback are used to enhance the website design and structure.

The internet portal is visited by more than 20 thousand users every year, with over 8,500 people registered in the For Teachers section. Some 400 thousand retirees have participated in the programme since 2014.

Online seminars for ABC of the Internet teachers and course organisers contributed significantly to the project's development in 2021. The first seminar was attended by participants from 13 Russian regions, while more than 1,100 representatives of regional ministries of social policy, librarians and social workers, as well as university professors from 63 Russian regions registered for the first webinar.

The ABC of the Internet project features an annual contest Thank You, Internet!, where entrants share their experiences of improving life through training and describe life without digital barriers. Despite the pandemic and lockdown challenges, about 5,000 entries from 79 Russian regions were submitted to the 7th All-Russian Contest in 2021, with 85% of entries coming from residents of small and medium towns and rural areas. 91.3% of entrants are users of the Public Services Portal.
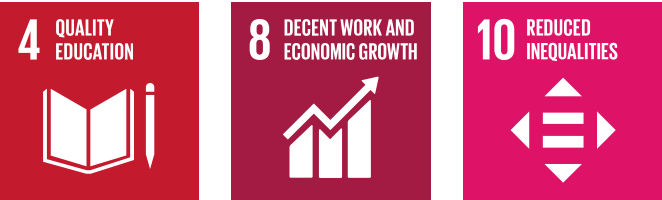
400thsd

retirees have participated in the programme since 2014

The ABC of the Internet plans for 2022::
- expand continuing education opportunities by developing new modules and putting together new training courses
- engage with non-profit organisations delivering offline and online courses under the ABC of the Internet programme

GROWTH project

Under the GROWTH project, Rostelecom implements distance learning and socialisation initiatives for children in orphanages and foster homes, as well as children deprived of parental care.

Since its launch, the GROWTH project has provided over 1,000 children from 65 child-care institutions in 34 Russian regions with access to high-quality remote learning. Some GROWTH graduates are now students at Lomonosov Moscow State University and the National Research University Higher School of Economics.

Demand for the project also increased in 2021, with the number of classes in the first half of the year up 40% year-on-year. The children's attitude to education is changing: they are more enthusiastic about their studies.

Going forward, we intend to further expand the project and to include new regions.

Implementation of the GROWTH project

	2019	2020	2021
Number of participants	222	312	312
Number of institutions covered	30	35	35
Number of GROWTH project participants who passed the state exams	113	15[1]	157

312

number of GROWTH project participants in 2021

Rostelecom has been running the unique social remote learning project GROWTH in collaboration with the autonomous non-commercial organisation of the same name since 2014. We identify four features that make the project stand out:

- The target audience of the project is children in orphanages and foster homes. The project aims to develop, educate and facilitate the employment of children deprived of parental care
- Remote learning uses electronic textbooks and multimedia materials (video lessons, teachers' audio and video comments)
- The project is run by professional teachers that have been successfully preparing graduates for taking the Unified State Examinations and enrolling at higher education institutions for several years
- The project attracted volunteers and teachers from other countries. The GROWTH remote learning team includes German, Dutch, French and US citizens

In 2021, Rostelecom helped merge two project, GROWTH and Polden (Midday), into one educational programme, enabling the expansion of the project's geographical footprint. Ten new institutions joined the programme. A total of 19 ninth and eleventh graders started classes at Boarding School No. 1 in Nalchik.

1   Only 11th grade and college graduates who wanted to enrol at a higher education institution took the state exams in 2020. All those who had taken the examination were enrolled.

Learn the Internet – Manage It! digital literacy project

4 QUALITY EDUCATION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Implementation of the Learn the Internet – Manage It! project

>200 thsd

registered portal users in 2021

	2019	2020	2021
Registered portal users	98,000	150,000	>200,000
Learn the Internet – Manage It! nationwide online championship participants	17,500	21,500	16,000
Funds allocated to the project by Rostelecom, RUB	800,000	998,000	998,000

Key project initiatives

2019
- Nationwide online championship (17.5 thousand participants)
- Family IT marathon (180 teams from 20 Russian regions)
- School of Real Deeds
- 17 local online tournaments
- 10 on-site (offline) events
- Closed online tournament within the Cadet Sports Competition (590 teams, 4,000 participants)

2020
- Nationwide online championship (21.5 thousand participants)
- Family IT marathon (70 teams from 24 Russian regions)
- School of Real Deeds
- An exhibition web tournament held in Stockholm, Sweden, as part of the 31st marketing workshop of the Council of European National Top-Level Domain Registries (CENTR)
- 11 online and offline educational events
- Russian financial IT literacy cyber dictation (jointly with the Russian State Children's Library, the Bank of Russia and the Russian Ministry of Culture)
- Open online internet-proficiency tournament for Moscow cadets co-organised with the Moscow centre Patriot.Sport

2021
- Nationwide online championship (16 thousand participants)
- Family IT marathon (120 teams from 40 Russian regions)
- 100LETCRYPTO: a quiz tournament for school students
- World of Crypto open quiz tournament for school students
- Open online internet-proficiency tournament for Moscow cadets co-organised with the Moscow centre Patriot.Sport

Rostelecom promotes digital literacy among the younger generation. We launched the Learn the Internet – Manage It! project jointly with the Coordination Centre for TLD .RU/.РФ in 2012. The main purpose of the project is bridging the digital divide in Russian society by improving digital literacy among young users and encouraging their interest in IT professions.

School and university students can become advanced internet users and develop safe internet surfing skills. Given its target audience profile, the project is organised as a gaming portal: digital technologies, IT service design and internet safety rules are learned through arcade games, puzzles, crosswords and quizzes. For more details on the project, see игра-интернет.рф (in Russian).

Since its inception, Learn the Internet – Manage It! has grown from a digital literacy project to a multi-project geared to the needs of school and university students, teachers and parents. The project features local online tournaments, a family IT marathon and the Nationwide Online Championship on Cyber Literacy. Rostelecom promotes the importance and value of knowledge. The tournament participants can win awards and champion titles by competing against IT experts.

In 2021, 120 family teams from 40 Russian regions competed in the 5th Family IT Marathon. The 9th Nationwide Championship for School and University Students attracted 16 thousand people.

As at the beginning of 2022, over 200 thousand people representing all federal districts of Russia participated in the project.

In 2022, the project will once again feature a nationwide online championship, a family IT marathon, cyber literacy quizzes and online tournaments within the Cadet Sports Competition. Future plans include updating the main project sections: new learning modules will be added to the gaming portal, new terms will be added to the internet dictionary, and the quiz content will be audited and updated. The number of project users is expected to reach 220 thousand.
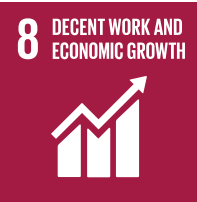
120 family teams

from 40 Russian regions competed in the 5th Family IT Marathon in 2021

>200 thsd people

are participants in the project as at the beginning of 2022

Social Impact Award

Together with the Impact Hub Moscow centre for support of social enterprises, Rostelecom selects the winners of the Russian stage of the Social Impact Award (SIA) competition, an international programme supporting young social entrepreneurs. In 2020, the Russian stage of SIA was renamed to 90 Days Challenge.

Implementation of the Social Impact Award project

2019	2020	2021
119 entries from 31 cities and towns	249 entries from 21 cities and towns	189 entries from 41 cities and towns
45 finalists	44 finalists	46 finalists
3 winners	12 winners	7 winners

189 applications

from 41 cities were received in 2021

The programme was founded in 2010 by the University of Vienna. The competition is held in 20 European countries. SIA is a programme to support social entrepreneurs at early stages of their projects. The programme can be joined by entrepreneurs from different Russian regions with business ideas on addressing important problems of society and the economy.

As part of SIA, Rostelecom announces a special category, Internet for a Better World, acknowledging people behind projects driven by internet technology. It can be an internet product or its use as a key enabler.

In 2021, 46 projects from 27 Russian cities and towns made it to the finals. The finalists represented diverse geographies – from Murmansk to Salekhard. Other participants also came from Cologne, New York and Riga.

In addition, project initiators joined a 3-month business incubation programme, learning key subjects from consumer research to business plan development.

Over the seven years of its existence, the 90 Days Challenge programme has attracted more than 4,000 people from 105 Russian cities and towns and helped to launch 212 projects, 70% of which were scaled up.

« For many years, Rostelecom has supported social-impact programmes aimed at improving the quality of life for millions of people across Russia. Our Internet for a Better World category offers young entrepreneurs a great opportunity to use advanced digital technology to help those in genuine need. It is not a mere competition but a full-fledged development programme which brings to life real projects changing the world for the better».

Juliana Sokolenko
Director of the External Communications and Corporate Social Responsibility Department

Internet for Social Infrastructure Facilities project
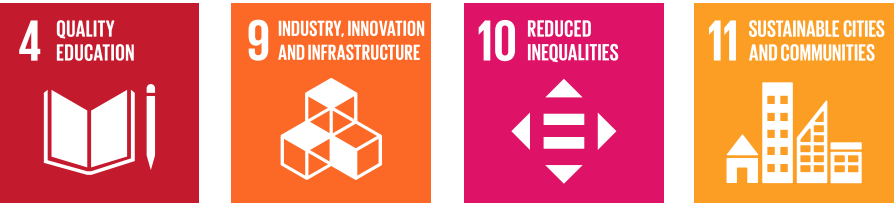
Rostelecom brings fast internet connectivity to social infrastructure facilities – schools, hospitals, museums, EMERCOM buildings, state and local government authorities, etc. – as part of the Information Infrastructure federal project within the Digital Economy of the Russian Federation national programme.

During 2019–2021, connected social infrastructure facilities were provided with data services with bandwidths of up to 100 Mbps, depending on the facility's category as specified in the respective public contract.

The project is aimed at building a competitive, sustainable and secure infrastructure for high-speed data transmission, processing and storage, accessible to Russian citizens, business and government authorities.

Rostelecom completed this project in 2021 having delivered the relevant public contracts on time and in full.

A total of 31.5 thousand social infrastructure facilities were connected, including 12.7 thousand in 2021, with 38.5 thousand km of fibre laid, including 19.9 thousand km in 2021. Some of the social infrastructure facilities in remote hard-to-reach communities have been connected by satellite links.

Children's Technology Parks project promoting additional education

4 QUALITY EDUCATION   **8 DECENT WORK AND ECONOMIC GROWTH**   **9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
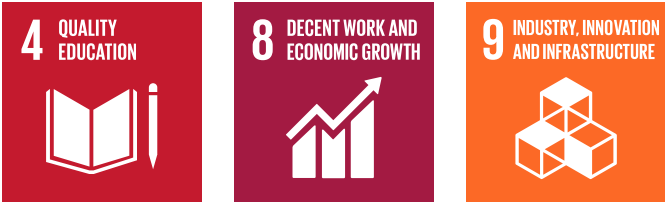
Rostelecom is driving teenagers' interest in digital technology. Rostelecom employees give lectures at technology parks, deliver master classes, hold contests, and act as experts and coaches.

The Company supports technology contests for young people: IT-SKILLS and IT-KHOD hackathons, Vostok-1 aero engineering hackathon, the Roboquant regional competition in robotics, the Success Trajectory 2.0 project ideas contest, and a Rube Goldberg machine contest.

Quantorium technology parks for children

Quantorium technology parks for children, featuring high-tech equipment, were launched in Russia in 2014. The purpose of Quantorium technology parks is to unlock the full creative potential of children and foster future talent in science and engineering. The parks are financed from federal and regional budgets: training is free for children. Rostelecom and other companies support the project as Quantorium technology park partners. For more details on the project, see www.roskvantorium.ru (in Russian).

Supporting the Sirius project

4 QUALITY EDUCATION

In 2021, Rostelecom and the Talent and Success Educational Foundation established a joint venture, Sirius Digital Operator, to design and develop the digital infrastructure of the Sirius federal territory. The JV will provide communications services and ensure cybersecurity all while introducing technologies for a smart and secure city.

Sirius ecosystem

The Sirius educational centre was founded by the Talent and Success Foundation in 2015. The centre's mission is to provide professional support to children with outstanding abilities in sciences, engineering, arts and sports.

Its teachers are leading specialists in physics, mathematics, chemistry, biology, sports, art music, classical ballet and fine arts. The centre's target audience is children between 10 and 17. Up to 800 children come to the centre every month from all over Russia. For more details on the centre, see www.sochisirius.ru (in Russian).

Since 2019, the Sirius ecosystem has comprised the Innovative Science and Technology Centre and the University of Science and Technology, offering short-term intensive modules as well as Master's and postgraduate programmes. The Lyceum Sirius established in 2020 comprises grades from 1 to 11, a pre-school department and, from 2021, an IT college. In December 2020, Sirius urban-type settlement (an administrative unit) became the first federal territory.

5 Supporting our regions of operation

For more details on federal-level charitable and volunteer programmes, see the Philanthropy and Volunteering section.

Rostelecom actively participates in public life in its regions of operation. Below are the highlights and impacts of the activities across Rostelecom branches in 2021, consolidated by Russia's federal district.

GRI 203-1   GRI 204-1

Headcount, thousand

— Central
— Siberian
— Volga
— Southern and North Caucasian
— Ural
— Northwestern
— Far Easter

16.0 11.9 11.2 11.0 11.0 8.3 7.3

Number of branches

— Central
— Siberian
— Volga
— Southern and North Caucasian
— Ural
— Northwestern
— Far Easter

12 8 12 10 6 8 7

Taxes, RUB bn

— Central
— Siberian
— Volga
— Southern and North Caucasian
— Ural
— Northwestern
— Far Easter

8.7 1.4 1.5 1.4 1.4 1.6 1.0

Procurement from local suppliers, RUB bn

— Central
— Siberian
— Volga
— Southern and North Caucasian
— Ural
— Northwestern
— Far Easter

17.6 17.6 8.0 10.5 12.5 11.7 8.2
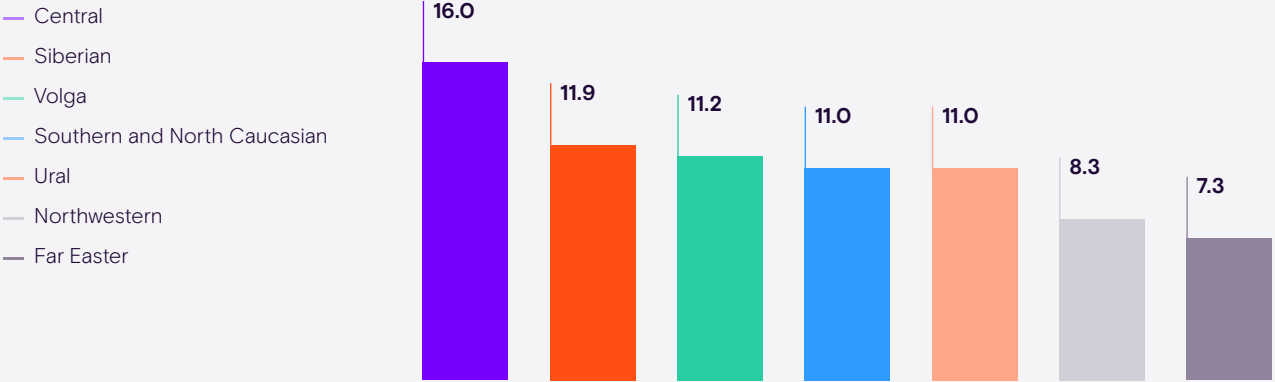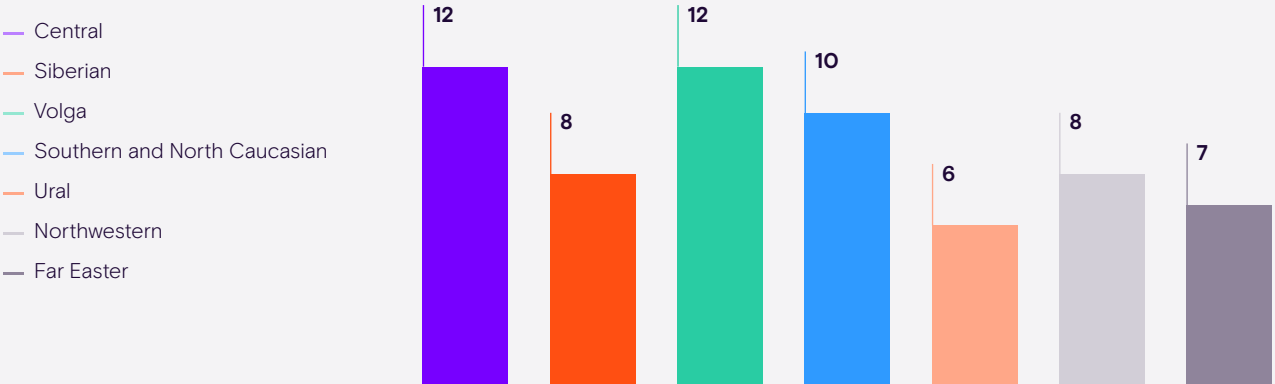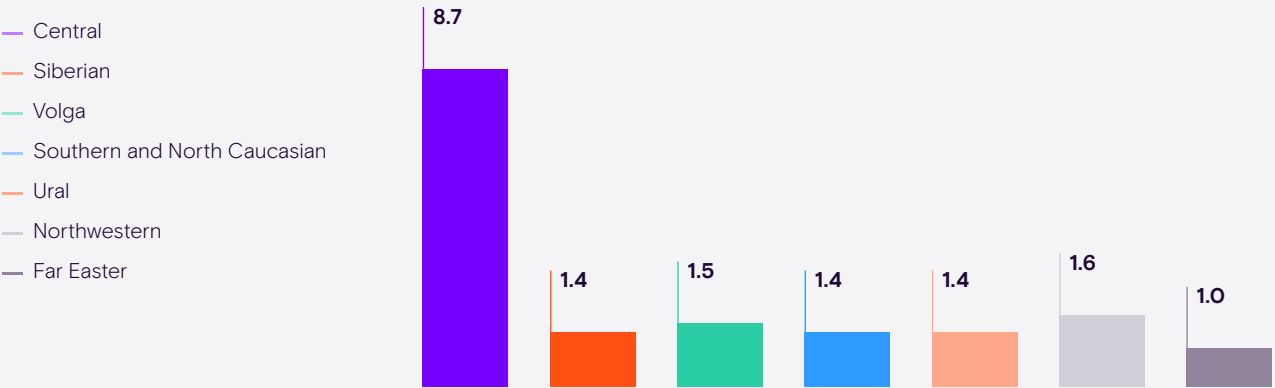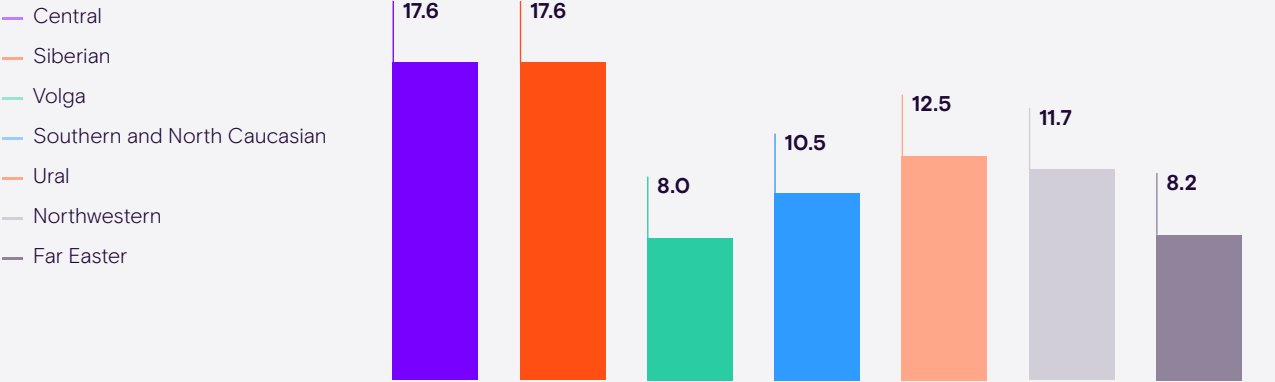
Number of ESG projects

— Central
— Siberian
— Volga
— Southern and North Caucasian
— Ural
— Northwestern
— Far Easter

50 160 87 91 17 42 38
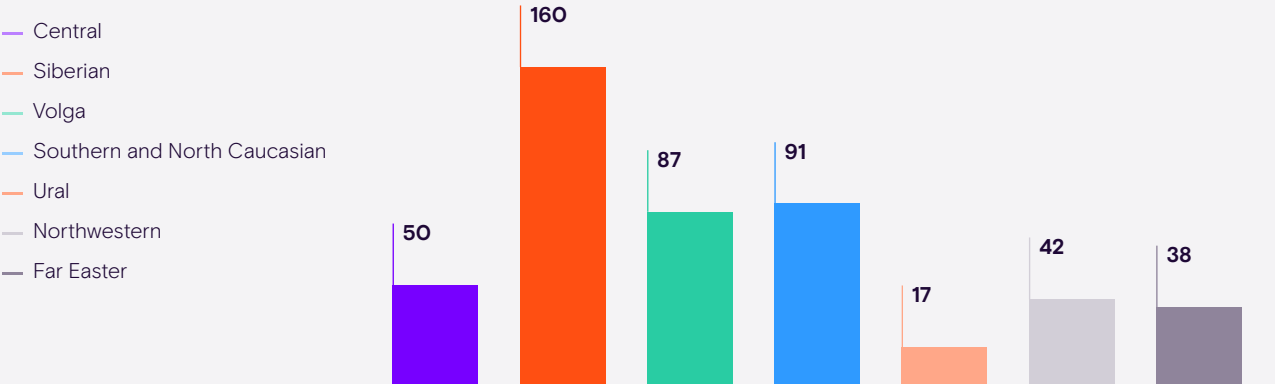
Central Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- IT Family project
- Safe Internet and the ABC of the Internet
- Internet access for social infrastructure facilities
- Bridging the Digital Divide 2.0
- Support for educational institutions and social centres

Key partners

- SO-Deystvie, an autonomous non-profit organisation
- Quantorium children's technology park
- Charity service for medical aid search Right Direction
- Immortal Regiment of Russia, a national public civil-patriotic movement
- Orel Secondary School for Students with Special Needs
- STEP IT Academy

Combating the COVID-19 pandemic

- More than 3 million protective masks, over 1.9 million gloves, 1 million shoe covers, 3 million alcohol wipes, and more than 230,000 tubes of antiseptic gel were purchased.
- Over 2,000 employees were tested for COVID-19

Impact in action

- The Kaluga Branch collected and sent for recycling more than 7 tonnes of waste paper, 56 kg of spent batteries and 7 kg of plastic bottle caps.
- A total of 163 grandparent-grandchild pairs participated in the IT Family project, aimed at teaching internet literacy to older people and their grandchildren.
- Over 2,000 social infrastructure facilities were connected to the internet
- The Company built 288 base stations in small communities with less than 500 inhabitants.

8.72 bn RUB

Tax payments to the regional budget

17.59 bn RUB

Procurement from regional suppliers

16,011 people

Employees

50 projects

Environmental, social and charitable initiatives

1   Excluding VAT.

Siberian Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- ABC of the Internet
- Become a Santa charitable campaign
- Polden (Midday) education volunteer project
- Tips from Cyber Traffic Lights educational project
- Hockey in the Hinterland charitable video contest for children

Key partners

- Retired-online, a Novosibirsk regional NGO
- Altai territorial branch of the Russian Children's Fund
- Navigator Esports Club
- Ministry of Sports, Tourism and Youth Policy of the Kemerovo Oblast–Kuzbass
- The Club of Kind Persons federal charitable foundation
- Ministry of Sports and Youth Policy of the Republic of Buryatia and DobroDom volunteer resource centre
- Irkutsk branch of the Russian Children's Fund
- Bee, a Novosibirsk regional environmental NGO

Combating the COVID-19 pandemic

- Support for 14 COVID-19 polyclinic-based call centres in Barnaul, Biysk, Rubtsovsk and Novoaltaisk (Altai Territory).
- Prepaid SIM cards were provided to the #AllInThisTogether corps for coordination between volunteers, medical doctors, the elderly and people with reduced mobility.
- Support for the Good White Moon charity campaign: provision of urgent social assistance in the form of food rations, clothes and hygiene products to low-income large families.
- Chatbot for the Kuzbass Multifunctional Public Service Centre: a robot called people who had appointments for vaccination reminding them of the appointment and sent negative PCR test result messages.

Impact in action

- In Siberia, 16 offline events and 17 webinars themed around computer literacy were held for senior citizens. A total of 1,834 pensioners were trained. Besides the free courses, the Altai Branch provided personal laptop maintenance for 146 pensioners.
- New Year gifts were also collected for 400 children.

1.44 bn RUB

Tax payments to the regional budget

17.56 bn RUB

Procurement from regional suppliers

11,897 people

Employees

160 projects

Environmental, social and charitable initiatives

Volga Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- Digital Education
- Polden (Midday) volunteer project
- ABC of the Internet
- Light Up – a road accident prevention campaign
- The Christmas Tree of Wishes and Become a Santa volunteer campaigns

Key partners

- Quantorium
- STEP Academy
- Nizhny Novgorod Regional Oncology Dispensary
- Regional branches of the Russian Pensioners' Union
- Nizhny Novgorod regional branch of the Russian Children's Fund
- The Pet centre for stray animals

Combating the COVID-19 pandemic

- 15 toll-free phone numbers for the call centre of the "Help the Medics. The 3rd Wave" project

Impact in action

- About 200 toys were collected for patients of the Nizhny Novgorod Regional Children's Clinical Hospital.
- New Year gifts were collected for 200 children.
- Rostelecom prepared video lessons for children on artificial intelligence, biometrics and 5G connectivity. The lectures were followed by a quiz in which more than 200 schoolchildren took part. The winners received a subscription to Rostelecom Lyceum and an invitation to a tour of our local office.
- The Company prepared career guidance videos for the Start in Life website, a project of the Chamber of Commerce and Industry of the Nizhny Novgorod Region. The website has over 2,000 registered users, two-thirds of whom are high-school students.
- Two lyceums in Penza held classes on jobs of the future, technology trends and innovative services.
- Some 100 pensioners attended the ABC of the Internet computer literacy lessons.
- A voluntary cleanup in Orenburg, joined by Rostelecom employees, collected 8 tonnes of litter.

1.5 bn RUB

Tax payments to the regional budget

7.97 bn RUB[1]

Procurement from regional suppliers

11,232 people

Employees

87 initiatives

Environmental, social and charitable initiatives

1   Excluding VAT.

Southern and North Caucasian Federal Districts

Top 5 social and environmental programmes run by Rostelecom in the region

- Digital Education project
- Collaboration with Quantorium children's technology parks
- Telecom support and expert assistance to youth forums in southern Russia: Selias (Astrakhan), Young Wave and Rostov (Rostov Region), Mashuk (Pyatigorsk)
- Online safety lessons for schoolchildren
- ABC of the Internet

Key partners

- Quantorium
- Krasnodar regional branch of the Russian Children's Fund, AIF. Kind Heart, Rusfond and Bluebird
- Dobry-Yug, a Krasnodar regional charitable organisation
- Typography Centre for Contemporary Art (Krasnodar)
- PchelinHouse Art Residence (Krasnodar Territory)
- Warm Artists (Volgograd)

Combating the COVID-19 pandemic

- Telemedicine services were launched in some regions to book an appointment remotely or consult a medical doctor via video conference.
- Call centre-based COVID-19 hotlines were set up with the single toll-free number 122.
- Video surveillance was set up to monitor COVID hospital construction sites.

Impact in action

- Rostelecom and Quantorium children's technology parks held 38 educational events attended by 1,735 children.
- 2,600 pensioners took the ABC of the Internet computer literacy course.
- The Company donated RUB 3.6 million for medical treatment of children to the following charities: Krasnodar regional branch of the Russian Children's Fund, AIF. Kind Heart, Rusfond and Bluebird.
- Rostelecom experts held sessions on the Internet of Things, blockchain, cybersecurity and big data in 18 universities in southern Russia, reaching 1,300 students.

1.36 bn RUB

Tax payments to the regional budget

10.47 bn RUB[1]

Procurement from regional suppliers

10,982 people

Employees

91 projects

Environmental, social and charitable initiatives

1　Including VAT.

Ural Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- Digital David graffiti project in Chelyabinsk
- Gen Z project in Chelyabinsk
- Cyberchum in Yamal
- Online teacher-parent meetings held across the federal district
- A project for environmental monitoring of Yamal areas using camera traps

Key partners

- Regional education and healthcare departments
- Regional government authorities
- United Russia political party
- Regional offices of Russia's Pension Fund
- Holiday Hotel for Veterans of War and Labour
- Youth Department
- National Library of the Yamal-Nenets Autonomous Area
- Information Technology and Telecommunications Department of the Yamal-Nenets Autonomous Area

Combating the COVID-19 pandemic

- Rostelecom launched an IVR service to notify South Uralians of COVID-19 test results.
- Public Wi-Fi hotspots were set up at 106 units of 18 medical institutions in the Yamal-Nenets Autonomous Area.
- Rostelecom provided a solution for non-contact body temperature measurement at important public organisations.
- Wi-Fi networks were installed at hospitals in the Khanty-Mansi Autonomous Area-Yugra.

Impact in action

- The Company provided charitable aid to buy presentation equipment for a Quantorum children's technology park teaching over 1,200 kids aged 5 to 18.
- Charitable aid was also provided to the Regional employers' association – Sverdlovsk Regional Union of Industrialists and Entrepreneurs. The funds will be used to set up a crisis centre for women with young children under the Home for Family project.
- Rostelecom specialists held online classes for students at the Company's partner educational institutions in the Yamal-Nenets Autonomous Area, speaking on topics such as the Internet of Things, cybersecurity, big data and many other relevant subjects.

1.44 bn RUB

Tax payments to the regional budget

12.52 bn RUB

Procurement from regional suppliers

10,952 people

Employees

17 projects

Environmental, social and charitable initiatives

Northwestern Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- Restoration of the Curonian Lagoon fauna
- Upgrading street lighting in the capital of the Komi Republic
- Advisory, mentoring and methodological support for Quantorium children's technology parks
- Advisory, mentoring and methodological support for IT-Cube additional education centres for children
- Youth to Live in the North! social project in Murmansk, aimed at the all-round development of children, mentoring and assistance in career choice

Key partners

- Kidsberg, children's city of professions
- IT-Cube digital education centre for children
- Quantorium technology parks for children
- Karelian Volunteer Development Centre
- Information Security School (based at Petrozavodsk State University)
- Pskov regional branch of the Russian Children's Fund
- Save the Life foundation of the Novgorod Region
- North Star search team in the Republic of Komi
- Gymnasium No. 24, City of Arkhangelsk
- United Volunteer Centre, Murmansk Region
- Angel Kids of Murman, a Murmansk regional NGO for children with disabilities and their parents
- Murmansk regional centre of education Laplandiya

Combating the COVID-19 pandemic

- Online events with school and university students in all regions of the federal district.
- We focused on setting up and maintaining the single number 122 COVID-19 hotlines in the Republic of Karelia, Arkhangelsk, and the Novgorod and Pskov Regions.
- In the Novgorod Region, another dedicated communication channel was set for the regional government to provide a COVID-19 hotline.
- A coronavirus hotline was set up (number 8 800 and a virtual PBX) for the Ministry of Digital Technologies and Communications of the Kaliningrad Region.

Impact in action

- Following the completion of the Kaliningrad–Kingisepp SFOCL project, the Company released 100,000 whitefish fry into the Curonian Lagoon.

1.64 bn RUB
Tax payments to the regional budget

11.7 bn RUB [1]
Procurement from regional suppliers

8,261 people
Employees

42 projects
Environmental, social and charitable initiatives

1   Excluding VAT.

Far Eastern Federal District

Top 5 social and environmental programmes run by Rostelecom in the region

- The Concerned Citizen project
- Environmental clean-up campaigns
- Help to people in difficult life situations
- Support and development of talented children and young people, with a focus on modern technology
- ABC of the Internet

Key partners

- Union In the Name of Kindness
- National Council on Corporate Volunteering of the Primorye Territory
- Vega Centre for the Identification and Support of Gifted Children in the Amur Region
- Robotics Development Centre
- Zoozaschita-DV, a Khabarovsk regional NGO movement
- Sakhalin Regional Universal Scientific Library

Combating the COVID-19 pandemic

- In Kamchatka, Rostelecom provided Internet access for a local office of the All-Russian National Front within the #AllInThisTogether campaign to support those in need during the third wave of the pandemic.
- A help desk using the number 1 300 was set up in Yuzhno-Sakhalinsk to make appointments with medical doctors.
- In the Amur Region, a dedicated hotline was set up to support entrepreneurs through the pandemic.
- Thermal imaging equipment was installed in educational institutions in the Khabarovsk Territory, Chukotka and the Sakha Republic.

Impact in action

- The Company launched the Digital Education online project for students from 16 HEIs in 7 Far Eastern regions. In 2021, a total of 1,875 students participated in the project.

988 mn RUB

Tax payments to the regional budget

8.18 bn RUB [1]

Procurement from regional suppliers

7,262 people

Employees

38 projects

Environmental, social and charitable initiatives

1   Excluding VAT.

Philanthropy and volunteering

Rostelecom's sustainability strategy embraces philanthropy and volunteering. Its core pillars are founded in our external social policy. We launch and support environmental, educational, sports and cultural initiatives that aim to benefit the residents of our regions of operation.

Rostelecom has built an organisational structure and a management team responsible for philanthropy and approved its performance evaluation procedure. The Charity Committee is an authorised body under the Management Board and is responsible for efficiently allocating funds from the budget. Rostelecom's External Communications and Corporate Social Responsibility Department (ECD) and the ECDs of its branches coordinate our philanthropic and charitable activities. ECD specialists in regional units and the Headquarters gather and compile data using a model assessment system. The Management Board evaluates philanthropic and charitable activities and the results of our social investments.

The consistent development of existing projects coupled with the launch of new initiatives evidences the systematic nature of our philanthropy. Rostelecom employees are becoming increasingly engaged with volunteer and environmental projects. Our projects improve the quality of life and provide opportunities for social fulfilment while unlocking access to modern technology and monitoring and warning systems, and improving the environment.

Rostelecom Group's key charity priorities

Building up an ecosystem around sustainable development

Partnering with government authorities to develop the telecom industry and ensure information security

Working with regional administrations on national information development projects and programmes to bridge the digital divide out in the Russian regions

Ensuring a stable social environment and improving the quality of life for Russian citizens

Rostelecom's major projects in 2021

1. Run and Help, a charity sports project
2. Polden (Midday), a volunteer project
3. The employee volunteer project competition
4. Sferum information and communication platform
5. Digital Education, a project to build digital skills
6. Class Magazine, a popular children's weekly
7. Support for environmental volunteer movements
8. Let's Help Together, a charity crowdfunding programme focused on helping severely ill children and elderly people
9. Bravery Box, a charity campaign to collect toys for children undergoing treatment at healthcare facilities
10. Support for the KnowTeach socio-educational project for children undergoing lengthy inpatient treatment

177 mn RUB
charitable investments in 2021

In 2021, Rostelecom delivered 316 significant social projects, including 121 educational projects. Charitable investments totalled 177 m RUB.

In 2021, Rostelecom made it to the top of the Corporate Philanthropy Leaders ranking – the most prestigious social activity competition for Russian businesses. The Company was named the best in Group A – Best Practice.

I Run and Help charity sports project

In 2018, Rostelecom joined efforts with the Life Line Charity Foundation to launch the all-Russian sports project I Run and Help.

In 2021, the project was integrated into StayFitt sports mobile app, so employees can now join global and personal challenges, connect fitness trackers, view participants' activity feeds by sport and read useful materials on sports and healthy lifestyle. More subsidiaries and affiliates have joined the project.

Plans for 2022 include webinars with famous athletes to promote sports and healthy lifestyle among employees, as well as the Company's I Run and Help team participation in the biggest running events of the year – the Zabeg.RF All-Russian Half Marathon and the Moscow Marathon.

Purpose: to get people involved in a charity run with a cumulative distance of 100 thousand km which Rostelecom "converts" into RUB 1 million and donates to the Life Line foundation to treat children with rare diseases.

Sponsor: I Love Supersport.

Reach: around 3,000 Rostelecom employees and other volunteers from across Russia.

Regional development: the project takes place across the Company's footprint.

Synergy: providing assistance to sick children, team building and promoting an active lifestyle among employees, including skiing, running, swimming and race walking.

Outcomes: promoting a healthy lifestyle, engaging employees in a charity sports programme and fundraising for children with serious illnesses.

8 mn **RUB**

raised for children's endoprosthesis operations in 3 years through the I Run and Help project

Polden (Midday) volunteer project

Polden aims to help socially vulnerable children in orphanages to develop modern telecom skills.

Starting from 2013, Rostelecom and the Social Development Foundation Polden have been running an interactive educational programme for children in orphanages and foster homes, providing social adaption courses and career guidance with a focus on the telecom industry. Its main focus is helping children in Polden orphanages. The project helps children develop independent living skills for adult life in society: task setting, teamwork, communicating with people and constructively solving problems as they arise. For more details, see the project's website at thenoon.ru.

In 2021, a series of webinars on the psychology of adolescence was delivered for the project supervisors and volunteers. The project won three grant competitions: the Presidential Grants Foundation with its Bound Up programme, the Absolute-Help Charitable Foundation with its Golden Age programme, and the Moscow Mayor's Grants with its Risk Zone programme (prevention of risky behaviour among adolescents).

In 2013–2021, a total of 586 educational activities involved more than 380 children from 10 orphanages, and 15 gaming modules were developed.

The employee volunteer project competition

Rostelecom encourages its employees to get involved in corporate volunteering. To promote the best initiatives, we hold a volunteer project competition. The competition methodology allows the expert panel to select priority projects related to education, health, sports, care, the environment or spiritual heritage, while a systematic approach opens up the possibility of tracking each project's performance and fine tuning their dynamics accordingly.

Competition organiser: Rostelecom.

The competition's expert panel: employees and representatives of non-profit organisations and charities.

Entrants: Rostelecom employees.

Judging criteria: the relevance of the issue addressed, how well the project has been planned out, social impact, creativity and novelty, synergies with other social projects at Rostelecom, the project team's own contribution and partnerships with non-profit organisations.

Prizes: grants to make the project a reality.

Ten volunteer projects made it to the finals in 2021. All of the winning initiatives will be implemented through the Company's financial support. The projects aim to support people with disabilities, promote responsible attitudes towards animals, foster social activism, and instill an environmental culture.

Between 2018 and 2021, about 420 employees submitted more than 130 applications to enter the competition, with 38 volunteer projects announced winners.

Sferum information and communication platform

>2 mn people

number of users

In 2021, Rostelecom teamed up with VK to launch the Sferum information and communication platform. The platform aims to make learning, including remote learning, more flexible, technologically advanced and user-friendly.

Sferum offers the following options:

- Group videoconferencing for up to 100 people, accessible from any device, with options to remotely connect either the whole class or individual students. Any participant can share their screen or raise their hand virtually
- Chat rooms for learning and socialising with options to share videos, photos, presentations and other materials needed for classes
- School communities – closed groups, where teachers, parents and students can be invited. Teachers can manage classes and assign lessons, and the school administration can post videos, articles and documents for all members of the community
- Broadcasts for up to 10 thousand viewers at a time. They are available to both registered Sferum users and unauthorised participants, such as the students' close relatives

Digital Education, a project to build digital skills

Rostelecom runs the Digital Education online course for students from 18 major HEIs in the south of Russia.

The course introduces students to digital economy opportunities and enables them to navigate these opportunities and use the technologies they unlock. The course includes 22 online lessons in the specifically developed mobile app Digital RTC. Each participant is issued a certificate upon course completion.

All classes are available on the project's official YouTube channel: https://www.youtube.com/channel/UC0kn4TKahZO672E7esMI9OQ/videos.

>1.2 thsd

students took part
in the 2021 stream

The best students represented their HEIs in the final event of the programme, the Non-Hackathon. The winners received internship invitations from Rostelecom and partner companies, as well as useful prizes.

The Class Magazine

Rostelecom contributes to delivering a safer internet for children and adolescents. We collaborate with the Class Magazine interactive project, a popular Russian children's weekly.

The magazine covers three main topics: education, information and culture/ entertainment. The magazine's content is extremely varied. The classmag.ru portal features cartoons, children's movies, video game reviews, school and educational materials, and information on scientific discoveries and new inventions.

The magazine holds regular interactive contests for children from all over Russia. One of these is Being Kind Is Class! – a good deeds contest run with the support of Rostelecom since 2014. The contest brings together young volunteers and spurs them on.

In 2021, Rostelecom and the Class Magazine held a nationwide video competition Cool Dad with the main objective to promote successful fatherhood. 217 videos on fathers embodying responsible attitude towards family, child-rearing and social activities were submitted to the competition. 39 participants won prizes. For more details on the competition, visit https://classmag.ru/news/20101030.

Rostelecom and the Class Magazine have the following plans for 2022:

- Fill the website with positive content and materials that promote reading
- Add a section themed "All About Arts and Crafts" and featuring content on traditional arts, crafts and trades of peoples in Russia
- Expand the Literary Odyssey section

Support for environmental volunteer movements

Rostelecom supports environmental movements and projects in its regions of operation.

The Company supported the Clean Games social environmental project in Murmansk. The activists cleaned up the area around Semenovskoye Lake, collecting almost a tonne of litter. In 2021, the event took place on World Cleanup Day.

Rostelecom supported An Apple for a Battery – an environmental initiative of the DaDobro corporate volunteer centre. The nationwide campaign, timed to coincide with World Habitat Day, puts the spotlight on the global issue of proper disposal of environmentally hazardous waste. Special boxes for collecting used batteries were installed in Rostelecom offices.

In 2021, Rostelecom was an IT partner of the Ecosystem All-Russian Environmental Youth Forum, which was held in the Vologda Region. The event brought together environmental activists from all over Russia, with 150 people participating in person and 360 online.

During the regional stage of the all-Russian #VmesteYarche (#TogetherBrighter) energy saving festival, Rostelecom held a contest of videos promoting energy saving. In 2021, the event was held online. The participants were students of sports schools and clubs of the Smolensk Region.

510

people took part
of the Ecosystem forum

The Bravery Box charity campaign

Rostelecom and DaDobro volunteers participate in the Bravery Box campaign every year.

The charity event takes place on World Children's Day, 20 November. The idea behind the project is that children can take any gift from the Bravery Box when undergoing a difficult procedure at hospital. It is a reward for being brave and not giving up.

In 2021, Rostelecom employees from Moscow, Volgograd, Rostov-on-Don, Krasnodar, Perm, Nizhny Novgorod, Tyumen, and Krasnoyarsk supported the campaign.

During the campaign, Rostelecom employees collected around 3,000 gifts for young patients.

Let's Help Together: a charity crowdfunding programme focused on helping severely ill children and elderly people

For many years now, providing assistance to sick children and caring for the elderly have been at the heart of Rostelecom's charitable activities.

As part of the Let's Help Together donation programme, Rostelecom employees help severely ill children and elderly people. The programme is run in cooperation with the charitable foundations Life Line and Old Age Is Fun, with a dedicated section set up for Rostelecom on www.donatenow.ru where people can make a donation by bank card and learn more about the activities of these foundations. The website posts regular news updates and reports on the use of funds donated by Rostelecom employees. Rostelecom employees collected RUB 351,360 in 2021.

>351 mn RUB

Rostelecom employees
collected in 2021

Including:
- RUB 208,310 for the Life Line Charity Foundation, and
- RUB 143,050 for the Old Age Is Fun.

In 2021, our people helped pay for the treatment of 11 children supported by the Life Line Charity Foundation. Ten children have already been treated, with another one to be treated in 2022.

Through the Old Age Is Fun foundation, the Company provided aid to a nursing home in the Voronezh Region and to people with disabilities in Buryatia, helped to arrange volunteer trips and purchase essential items and gifts for senior citizens living alone or in nursing homes.

KnowTeach socio-educational project

Rostelecom has been supporting the social and educational project KnowTeach since 2017. The project aims to support children undergoing long-term inpatient cancer treatment, by organising lessons that follow the Russian school curriculum and by offering further education programmes. More details can be found at uchimznaem.ru, the project's information website.

In 2021, the KnowTeach educational programmes covered:

23 thsd children

pre-school and school age in Moscow

45 thsd children

across the project's 50 regional sites in Russia

As part of the project, Rostelecom helps to run Steps to Success! This programme allows children and their parents get to grips with media technology, in the process helping the children to develop self-presentation and communication skills.

A special feature of the project in 2021 was the enhancement of remote learning and education technologies due to COVID-19 restrictions on in-person learning. New combined learning and social inclusion formats have emerged for seriously ill children, their parents and close family members.

The KnowTeach project uses educational tools to create a supportive environment for children undergoing intensive long-term medical treatment in hospitals and their families. To this end, a retraining programme for teaching and other staff working with children in children's hospitals and a parent training programme are underway, and a research laboratory for interdisciplinary research on hospital pedagogy was set up. A particular focus is on volunteering and volunteerism to support social and educational initiatives for children in children's hospitals and their families. A special online project, Kind Knowledge, was launched for volunteers helping sick children in hospitals and at home.

Support for the Navstrechu Peremenam (Towards Change) foundation

400

projects the foundation has implemented since its inception

Rostelecom's mobile operator supports social entrepreneurship in Russia and is the title sponsor of the Navstrechu Peremenam foundation supporting social initiatives for children. The Company provides financial, organisational and consulting support. The foundation's mission is to help social entrepreneurs to put the best programmes for children into action.

Since its inception, the foundation has implemented around 400 projects, with 76 of them through the Towards Impact Start-Ups social start-up incubator – its flagship programme. The projects have changed the lives of 430 thousand children and adolescents for the better. Navstrechu Peremenam holds an annual all-Russian social project competition.

Get Granny Online

Rostelecom's mobile operator launched Get Granny Online in 2019. The project seeks to address the challenges the older generation faces due to their lack of digital skills.

Company specialists wrote the Mobile Internet Guide, which explains in simple language how to surf the web. It helps the older generation to find out the weather forecast, watch a TV programme and much more.

Each company call operator receives training in providing advice to the elderly. Our older customers can visit any store to ask any questions on the use of mobile data, or installing and using apps.

36.6 mn

users reached a federal digital media campaign supporting the Grannies Are No Strangers to Us project

The Grannies Are No Strangers to Us campaign was launched in 2021. A volunteer movement was founded so that anyone could support pensioners living alone. We produced a social video that encouraged young people to join the initiative and help older people explore the digital world. Apart from the traditional Mobile Internet Guide, volunteers were also able to use a chatbot on the VKontakte social network. The chatbot explained where to start a story about modern technology, explained the nuances of teaching to senior citizens, and gave answers to frequently asked questions.

Pereplavka (Melting) project

In 2019, Rostelecom's mobile operator launched the Pereplavka environmental project to explain the importance of recycling mobile phones, encourage users to dispose of them properly and create a convenient and reliable infrastructure to address this issue.

~14 thsd

devices were handed in for recycling

In total, about 14 thousand devices were handed in for recycling in 64 Russian regions. Residents of Moscow, Urals and the Volga region were the most active participants in the initiative. The environmental project also has an educational dimension: 19% of the project participants surveyed said they had not been aware of the need to dispose of phones properly.

In 2022, we will continue cooperation under the Pereplavka project with Corporation ECOPOLIS, Russia's only complex of plants for eco-friendly recycling of electronic and electrical equipment waste.

APPENDICES

6.1 About the Report

Rostelecom Group's Sustainability Report 2021 (the "Report") is the eleventh public non-financial report prepared by PJSC Rostelecom and targeted at a diverse range of stakeholders. The Report describes the Company's activities from 1 January 2021 to 31 December 2021. It covers important events that occurred after the reporting period but are closely connected to it, as well as Rostelecom Group's plans for the medium term.

The Sustainability Report of PJSC Rostelecom was approved by the Board of Directors of PJSC Rostelecom.

We adhere to an annual reporting cycle, with the previous Report issued in 2021 and detailing our performance in the 2020 reporting year.

Rostelecom continuously improves its reporting process and strives to present as detailed information as possible on its performance to all stakeholders. The Report has been prepared in accordance with the new Sustainability Reporting Standards of the Global Reporting Initiative (the GRI Standards). The Report also complies with:

- key provisions of Directive 2014/95/EU of the European Parliament as regards disclosure of non-financial and diversity information by certain large undertakings and groups[1], in particular, methodology and information disclosure indicators.
- some United Nations Conference on Trade and Development's (UNCTAD) core indicators for entity reporting on the contribution towards the implementation of the UN SDGs
- AA1000SES Stakeholder Engagement Standard
- UN Global Compact Communication on Progress (CoP) Policy
- ISO 26000:2010, Guidance on social responsibility.

Since 2017, the Company has been reporting its contribution to the United Nations Sustainable Development Goals (UN SDGs) outlined in Transforming our World: the 2030 Agenda for Sustainable Development that was adopted in 2015. This approach was incorporated in this Report as well.

The 2021 Report preparation was coordinated by PJSC Rostelecom's External Communications Department and involved all the Group's key business units. The Sustainability Report is available to stakeholders in Russian and English in print and digital.

GRI 2-1

GRI 2-2

GRI 2-3

GRI 2-4

Report structure

The aim of this Report is to provide stakeholders with material information on the economic, environmental and social aspects of Rostelecom's operations.

The Report focuses on the following areas of Rostelecom's business:

- Development strategy and business model
- Corporate governance
- Risk management, including sustainability risks
- Supply chain management and supplier engagement
- Business ethics, human rights and anti-corruption
- Sustainability management system
- Stakeholder engagement
- HR management, employee development, training and engagement
- Cooperation with the public education system
- Occupational health and safety
- Support and development of local communities in the Company's regions of operation
- Environmental protection and energy efficiency improvement
- Provision of high-quality, affordable and safe products and services

The Report uses references to PJSC Rostelecom's Annual Report 2021 and corporate website, which makes the Report more informative and easier to read.

There were some changes to 2021 disclosures of certain topics vs 2020 due to several factors:

- Changes in the GRI Standards
- Stakeholder expectations established during the identification of material topics to cover in the Report, in particular, through PJSC Rostelecom's dialogue with stakeholders to discuss the concept of the Sustainability Report 2021, as well as following the Opinion of the RSPP Board

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1   3'2'Directive 2014/95/EU on disclosure of non-financial and diversity information.

Report boundaries

The Report is published by Rostelecom Group (the "Group", "Rostelecom Group", "Rostelecom", "we") and discloses the most material sustainability performance indicators of PJSC Rostelecom ("Rostelecom", the "Company"), its MRFs and 20 key subsidiaries and affiliates.

The 2021 Report covers the most material impacts of subsidiaries and affiliates on the Group's economic, environmental and social performance .

The environmental protection and HR management indicators presented in this Report include sustainability data for PJSC Rostelecom and the Group's most significant subsidiaries and affiliates.

Unless stated otherwise in a note, all data for 2019–2021 in this Report have the same scope for all periods and include indicators for all key subsidiaries and affiliates covered in this Report, regardless of their consolidation date.

The Company's legal address:
14 Sinopskaya Embankment,
Saint Petersburg, 191167,
Russian Federation

Reporting principles

When determining the Report's content, Rostelecom Group was guided by the GRI Standards. An appendix to the Report features a GRI Compliance Table.

The comments and recommendations of the RSPP Board on Non-Financial Reporting, which had been received following the assurance of the 2020 Sustainability Report, were considered during the preparation of the Report.

Material topics

Material topics

Safety of services

Indirect economic impacts

Markets and competition

Providing quality, affordable services

Contribution to the development of the Company's regions of operation

Employee development

Roll-out of innovations

Employment

Human rights

Health and safety

Responsible business practice and anti-corruption

Responsible procurement

Economic performance

Energy consumption

Materials

Waste

Environmental compliance

Biodiversity

Air emissions

Water resources

When defining material topics to cover, we were guided by the GRI Standards and:

- made a list of potential material topics considering the telecom industry specifics, based on the GRI methodology
- assessed the materiality topics based on the analysis of the internal and external environment, including:
  - an analysis of internal environment – monitoring regulations on multiple aspects of operations; interviewing representatives of key business units responsible for sustainability
  - an analysis of external environment – reviewing sustainability reports of Russian and international telecom companies; analysing the media space (monitoring the coverage of relevant topics by the mass media); surveying stakeholders
  - an analysis of RSPP's recommendations received as part of the public assurance of Sustainability Report 2020 as regards material topics to disclose in future reports.

In the reporting period, in addition to the above-mentioned stakeholder engagement tools, PJSC Rostelecom held a dialogue with key stakeholders. The follow-up comments and proposals were considered when preparing this Report (for more details, see the Stakeholder Engagement During the Process to Identify Material Topics subsection of the Sustainable Development: Why and What We Do section). In the future, we plan on improving our approach to incorporating stakeholder views in reporting.

Key material topics:

- Safety of services
- Indirect economic impacts
- Markets and competition
- Providing quality, affordable services
- Contribution to the development of the Company's regions of operation
- Employee development
- Roll-out of innovations
- Employment
- Human rights
- Health and safety
- Responsible business practice and anti-corruption

Principles for defining report quality

The quality of the Report is assured through applying the key principles of the GRI Standards:

- **Balance**. The Report reflects both the positive and negative aspects of the organisation's performance to enable substantiated evaluation of the overall performance.
- **Comparability**. The information in the Report is presented in such a way as to enable stakeholders to track changes in the organisation's performance over time and to benchmark against other organisations.
- **Accuracy**. All material topics are disclosed in detail so that the stakeholders can evaluate the Group's performance. All data are officially recognised by Rostelecom Group and are confirmed by internal and publicly available documents.
- **Clarity**. The information in the Report is presented in a form that is clear to stakeholders who have the necessary understanding of the organisation and its activities.
- **Completeness**. The Report provides sufficient information to assess the Company's impacts during the reporting period
- **Context of sustainable development**. The Company reports on its impact in the broader context of sustainable development.
- **Verifiability**. Information is collected and presented in the Report so that it can be verified.
- **Timeliness**. The Report contains information for 2021 and is published in 2022.

Internal procedures to ensure quality and accuracy of the report

Rostelecom Group has an internal reporting system in place and has designated the units responsible for the collection and provision of consolidated data on every aspect of the Group's key sustainability dimensions. Their scope of responsibility includes the accuracy of both qualitative (text) and quantitative information.

Public assurance of the report

The document was assured by an independent party – the RSPP Board on Non-Financial Reporting.

We will take into account RSPP's recommendations and comments received during the public assurance of the 2021 Report and incorporate them into our future reports.

Disclaimer

The Report includes information on PJSC Rostelecom's plans and intentions for the medium and long term. These plans and intentions are forward-looking and may be influenced, inter alia, by a range of economic, political and legal factors beyond the Company's control (the global financial, economic and political situation, the situation in key markets, changes in tax, customs and environmental legislation, etc.). Consequently, actual performance in future years may differ from the forward-looking statements published in this Report.

Opinion of the RSPP board

on non-financial reporting on PJSC Rostelecom's sustainability report 2021 submitted for public assurance purposes

The RSPP Council on Non-financial Reporting, ESG Indices and Sustainable Development Ratings (the "RSPP Council on Non-financial Reporting" or the "Council") reviewed PJSC Rostelecom's Sustainability Report 2021 (the "Report") submitted by PJSC Rostelecom (the "Company", "Rostelecom").

The Company contacted RSPP asking the Council to provide public assurance of the Report. The Council's task was to form an opinion on the relevance and completeness of information on the Company's performance disclosed in the Report in accordance with the principles of responsible business practice contained in the Social Charter of Russian Business and compliant with the United Nations Global Compact, as well as Russian and international social responsibility standards and guidelines.

In the period between 16 June and 4 July 2022, the Council examined the Report submitted by the Company and prepared this Opinion in accordance with the Public Assurance Procedure for non-financial corporate reports approved by the Council. Members of the Council have the necessary expertise in corporate responsibility, sustainability and non-financial reporting, comply with ethical requirements (independence and objectivity of assessment) and express their own expert opinion rather than the opinion of the organisations they represent.

The Report was evaluated based on the following criteria for the relevance and completeness of the information contained in it.

Information is deemed relevant if it reflects the Company's activities aimed at implementing the principles of responsible business practice outlined in the Social Charter of Russian Business (www.rspp.ru).

Information is deemed complete if the Report gives a comprehensive view of the Company's activities: values and underlying strategic priorities, governance systems and structures, stakeholder engagement, achievements, key results, and KPIs.

Responsibility for the information and statements contained in the Report lies with PJSC Rostelecom. Reliability of the reported data is not subject to public assurance.

This Opinion has been prepared for PJSC Rostelecom. The Company is entitled to use this Opinion both for internal purposes and for stakeholder communications, publishing it with no alterations.

The public assurance procedure takes into account the fact that the Company used international reporting standards. However, assurance of the Report's compliance with the international reporting standards is outside the scope of this Opinion.

Conclusions

After analysing the Report and the information publicly available on the Company's website, and holding a group discussion of results of the independent evaluation performed by members of the Council, the Council confirms the following:

PJSC Rostelecom's Sustainability Report 2021 contains relevant information on key areas of responsible business practice in compliance with the principles outlined in the Social Charter of Russian Business and discloses the Company's performance in these areas with sufficient completeness.

Recommendations offered by the Council after the public assurance of PJSC Rostelecom's Sustainability Report 2020 were reflected in the Report for 2021. Specifically, the new Report contains data on involving the Board of Directors in sustainability efforts and implementing anti-corruption programmes at new subsidiaries, expands the disclosure on sustainability risk management and provides information on the charity management structure.

The Report for 2021 contains relevant information on the following principles of responsible business practice.

Economic freedom and responsibility

The Report presents the progress on key sustainability performance metrics and key achievements in key segments and clusters in 2021; the mission, corporate values, strategic priorities, and business model; the updated 2025 Development Strategy, its expected results, the strategic ESG targets included, and the envisaged transition to a segment- and cluster-based development model; contribution towards Rostelecom's priority UN SDGs, with examples of specific projects; and Rostelecom's participation in government programmes on developing of advanced digital infrastructures as a key partner.

The Report provides information on expanding innovative businesses and new products while maintaining leadership in traditional business segments; measures to improve the quality and efficiency of services, including in occupational health and safety; information security and cybersecurity solutions; the continuing strategic project to bridge the digital divide and a completed major project to connect social infrastructure facilities to the internet; approaches to corporate governance and involvement of the Board of Directors in sustainability efforts; risk management, including sustainability risks; and anti-corruption compliance procedures, key anti-corruption tools and results in the reporting year.

Partnership in business

The Report covers the Company's engagement with relevant stakeholder groups and communication channels; reviewed channels of communication and new mechanisms using digital technologies; regular meetings with the investment community, digital platforms and online investor communication channels; the HR management system, Rostelecom's incentive and development programmes in place for employees, onboarding of young professionals, social support programmes, occupational health and safety measures, prevention of work-related injuries; digitisation of operations, tailored to the Company's divisions; substantial transformation of employee communication tools; conducted pulse surveys and surveys of employee engagement, loyalty and satisfaction in order to take into account their responses when planning HR projects; change in employee engagement and loyalty levels; measures taken to prevent coronavirus spread among employees, countering the pandemic with the help of telemedicine, vaccination drive and COVID-19 testing; approaches to supply chain management, logistics and procurement strategy for goods and services involving digital technologies; and supplier management, including work with SMEs; ESG criteria for product quality, occupational health and safety, environmental protection, and protection of employee rights referenced from Rostelecom's Code of Supplier Business Ethics, an anti-corruption clause included in contracts, and monitoring environmental compliance during work execution and acceptance; feedback channels for questions and complaints from suppliers about completed procurement; engagement with corporate and retail customers, provision of various services to them; cooperation with industry-related universities and business organisations; and involvement of key stakeholders in the Report preparation.

Environmental conservation

The Report informs about the Company's activities in line with its Environmental Policy and the HSE and Fire Safety Policy; the Company's environmental impacts across three areas: its own environmental impact, digital environmental management solutions for third parties and promoting a culture of responsible consumption across society; priority ESG objectives the implementation of which was launched in 2021 as part of the five-year ESG strategy, focusing on reducing electricity consumption, increasing the use of renewable energy, delivering waste management programmes, and promoting the Green Office concept; Rostelecom's investment in this area; the Company's successful passing of an external audit, with the certificate of conformity to GOST R ISO 14001-2016 renewed for one year; transformation of the environmental management system, training for employees responsible for environmental management; occupational health and safety measures, environmental protection measures in waste management, reduction of pollutant and greenhouse gas emissions; water management and the Pereplavka (Melting) project to collect used phones for recycling; development of digital solutions for external stakeholders to detect illegal logging activities, deployment of a forest fire monitoring system in Russian regions; the energy policy objectives and implementation methods in line with the Energy Policy and the Energy Saving and Energy Efficiency Programme for 2019–2023; planned and actual energy saving and energy efficiency performance metrics; and energy consumption, including energy from renewable sources.

Human rights

The Report states that the Company is committed to respecting human rights outlined in Russian and international laws, the Code of Ethics, the Corporate Governance Code, and the collective bargaining agreement covering all Company employees, and that the Company provides equal opportunities for every employee to fulfil their potential and does not discriminate on any grounds unrelated to the employee's professional performance. The Report explores the grievance mechanism for employees; employment of disabled people and adherence to inclusive practices; partner engagement on human rights; and the Company's role in protecting people's right for information, bridging the digital divide and providing socially vulnerable groups with opportunities for digital inclusion, which are seen as important efforts within the Company's commitment to human rights in business.

Participation in local community development

The Report explores the Company's core business activities that contribute to the development of all regions of the Company's operation and improve the quality of life for citizens; projects of national significance implemented under the Digital Equality integrated social programme that reach out to different population groups; partnership with the Pension Fund of the Russian Federation and ministries to implement social projects; development of Rostelecom's software solutions to automate processes in education and healthcare; Rostelecom's sustainability strategy that embraces philanthropy and volunteering; organisational management structure in this area; an approved procedure for evaluating performance in place in this area; active involvement of Rostelecom's divisions in the social and economic life of its regions of operation; the highlights and impacts of the activities across Rostelecom branches in 2021, consolidated by Russia's federal district; Rostelecom's major environmental, educational, sports, and cultural projects in 2021; and the Company's initiatives to develop digital products that help countering the spread of the COVID-19 pandemic and assist people across the country.

Final conclusions

On the whole, the information contained in the Report reflects PJSC Rostelecom's responsible business practice, strategy and management approaches in the context of sustainable development. The Report shows the link between the Company's key projects and priority UN SDGs for 2030.

The Company's contribution to national projects is covered. The document shows a comprehensive approach to information disclosure, presents key economic, environmental and social performance indicators, as well as plans for the next reporting period, and highlights stakeholder engagement.

The Report is prepared in compliance with Russian and international reporting standards (the GRI Standards), which makes the information provided therein easily comparable to that contained in the reports compiled by other companies in Russia and abroad. It also complies with UNCTAD guidance, the ISO 26000:2010 standard and others.

PJSC Rostelecom's Sustainability Report 2021 is the Company's eleventh non-financial report, which reflects its consistent efforts to enhance public reporting and its commitment to transparency and openness

Recommendations

While recognising the strengths of PJSC Rostelecom's Sustainability Report 2021, the Council would like to draw the Company's attention to several aspects of relevance and completeness of information that are of importance for stakeholders and recommends taking them into account when preparing reports in the future.

The Council would like to note that the recommendations offered after analysing the Company's 2020 Report remain relevant and can be used in future reporting practice.

The Report presents the progress on key sustainability performance metrics in 2017–2021. Changes in the metrics need further explanation.

We recommend that these data should be provided together with comments about change drivers.
When discussing risk management, the Report points out that the focus was shifted to business continuity, the components shortage crisis and import substitution risks. In view of today's challenges, demand for information on approaches to managing the above risks is growing.

We recommend that this information and information on the Company's experience in this area is included in future reports. We also recommend increasing the focus on climate risks and their possible impact on the Company, especially in connection with a large number of ongoing infrastructure projects.

Highlighting the opportunities associated with digital services and products and the growing digitalisation in people's everyday lives, it would also be useful to pay attention to associated risks of introducing these products and processes as well as the Company's measures to prevent them.

The Report mentions that Rostelecom has a charity management system in place, including an approved procedure for evaluating performance in this area. It would be useful to expand on these matters in the future and include information on approaches to performance evaluation, with examples of specific projects.

We recommend that, as the sustainability management system evolves, information on these matters should be detailed further and plans and specific indicators aligned with key ESG factors should be presented, including quantitative targets in occupational safety and health and other areas.

We recommend taking a more systematic approach to reporting on products, services and projects involving the Company in order to eliminate duplication of information while better analysing their combined impact.

In addition to the large number of described ESG products, projects and initiatives, it would be useful to expand on their results, especially those of completed projects or project stages. We recommend to expand project coverage beyond initiation to subsequent stages, including the Company's role at each stage. For example, it would be useful to complement the information on the Pereplavka (Melting) project with how the Company organises further recycling of collected used mobile phones, how they are recycled and whether the collected materials are reused.

The RSPP Council on Non-financial Reporting expresses its positive opinion on the Report, supporting the Company's commitment to the principles of responsible business practice and noting the consistency in enhancing its reporting practices, and confirms that PJSC Rostelecom's Sustainability Report 2021 has passed the public assurance process.

RSPP Council on Non-financial Reporting

Key performance indicators

6.3.1

Environment

Rostelecom Group's payments to water suppliers, RUB thousand

	2019	2020	2021
Cold water	54,630	47,402	47,670
Hot water	7,168	7,756	10,088
Total centralised water supply costs	**61,798**	**55,158**	**57,759**

Other significant air emissions, tonnes

	2019	2020	2021
Persistent organic pollutants (POPs)	0.0	0.0	0.0
Volatile organic compounds (VOCs)	35.4	86.3	76.3
Hazardous air pollutants (HAPs)	42.8	18.9	10.9
Particulate matter (PM), excluding soot	175.2	273.5	239.7
Total	**253.4**	**378.7**	**326.9**

Note: In addition, methane emissions totalled 1.2 tonnes and other emissions 3.0 tonnes.

Rostelecom Group's total environmental expenditures and investment, RUB thousand

	2019	2020	2021
Landfill disposal fees for municipal solid waste	85,462	95,561	95,237
Disposal / neutralisation fees for non-landfill wastes	8,422	9,951	9,364
Environmental charges for air pollution	867	415	441
Environmental charges for water pollution	–	33.2	13.7
Environmental charges for waste landfill	7,500	6,598	2,174
Third party fees for drafting an environmental charge declaration	849	614	1,862
Permit / licence fees and duties	61.7	72.5	7.5
Fees for emission inventory, the development of maximum allowable emissions limits, obtaining air pollution permits	9,875	16,070	7,630
Fees for inventory of waste sources, the development of draft waste generation rates and disposal limits, obtaining approvals for waste generation rates and disposal limits	2,151	–	89
Expenses related to obtaining subsoil licences (for wells) (excluding duties)	1,086	1,652	667
Employee training and upskilling	1,575	1,889	906
Expenses related to setting up separate waste collection (procurement of containers, setting waste collection sites, waste sorting, etc.)	4,013	1,398	840
Expenditures on area improvements and urban greening	2,496	5,158	2,927
Expenditures on air pollution control and climate change mitigation (filter installation and repairs, air sampling and analysis, developing adverse weather conditions action plans, etc.)	5,736	9,032	6,863
Expenditures on surface water and groundwater pollution control, and wastewater treatment (renovation and refurbishment of water treatment facilities, water well reconstruction and liquidation, cleaning of river beds, setting up sanitary protection zones around water bodies and wells, etc.)	2,189	2,898	90
Expenditures on soil contamination control (sampling, decontamination, reclamation, etc.)	88.9	77.8	86.0
Expenses on wastewater laboratory testing	2,039	1,910	1,605
Expenses on groundwater laboratory testing	2,165	2,105	2,008
Expenses related to the development and approval of draft projects to establish buffer zones and sanitary water protection zones	15,689	10,861	14,560
Fees for official registration of facilities affecting the environment	910	1,449	543
Fees for the development of environmental operational control programmes and progress reports	5,296	3,481	2,333
Fees for waste certification	713	386	343
Noise measurements at the borders of a buffer zone in line with the monitoring programme	124.8	47.6	0
Setting up temporary waste accumulation sites, purchasing containers	–	1,388.0	76.1
Developing projects to implement measures aimed at reducing pollutant emissions in the periods of adverse weather conditions, obtaining information on adverse weather conditions	–	717	1,580
Other	293	244	11,657*
TOTAL	**159,601**	**174,008**	**163,903**

Note: Other includes RUB 10,719 thousand of expenses related to the development and approval of reports and other permits and RUB 838 thousand of expenses related to other focus areas.

Monetary value of significant fines imposed on Rostelecom Group for non-compliance with environmental laws and regulations, RUB thousand

	2019	2020	2021
Monetary value of significant fines	93	3	228*

* Note: RUB 58 thousand for officers and RUB 170 for a legal entity.

Other key performance indicators of Rostelecom Group

	2019	2020	2021
Length of business trips (air), km	46,287,589	10,293,482	18,806,657
Length of business trips (rail), km	8,413,977	1,197,566	2,822,530

Paper consumption by Rostelecom Group, tonnes

	2019	2020	2021
Paper consumption	1,672	1,439	1,155

Energy efficiency

Energy consumption by Rostelecom Group

		2019	2020	2021
Fuel and other energy resources	**Unit of measurement**	**Consumption**	**Consumption**	**Consumption**
Total fuel consumption				
Coal	t	10,846	7,375	5,815
Diesel fuel / oil	l	8,279,680	7,895,918	7,768,314
Gasoline	l	37,758,724	37,584,170	37,175,201
Fuel briquettes	t	231	260	291
Gas (including gas condensate)	thousand cu m	23,499	21,694	22,969
Liquified petroleum gas (propane)	l	866,569	1,155,501	1,418,601
Firewood	cu m	7,367	6,100	6,077
Renewable fuel consumption	thousand kWh	18,558	15,662	15,745
For vehicles and mechanical equipment				
Gasoline	l	36,261,559	36,365,496	36,088,894
Diesel fuel	l	4,392,253	4,232,244	4,201,616
Liquified petroleum gas (propane)	l	866,569	1,143,456	1,408,592
For energy generation				
Natural gas	thousand cu m	23,226	21,694	22,969
Liquified petroleum gas (propane)	l	0	12,045	10,009
Coal	t	10,846	7,375	5,815
Diesel fuel / oil	l	3,887,427	3,663,674	3,566,699
Gasoline	l	1,497,165	1,218,675	1,086,307
Fuel briquettes	t	231	260	291
Firewood	cu m	7,367	6,100	6,077
Total energy generation	**thousand kWh**	**201,276**	**183,862**	**166,746**
Electricity generated	thousand kWh	4,197	4,356	4,100
Heat generated	Gcal	169,458	154,348	139,850
Total energy consumption	**thousand kWh**	**4,478,408**	**3,988,342**	**4,448,304**
By energy type:				
Electricity consumption	thousand kWh	3,042,452	2,817,344	3,224,728
Heat and hot water consumption	Gcal	1,234,700	1,006,877	1,052,086
Cooling consumption	thousand kWh	219,920	213,120	209,472
Electricity consumption per sq m of gross area	thousand kWh/sq m	0.3432	0.3259	0.366
Heat consumption per sq m of gross area	Gcal/sq m	0.1393	0.1165	0.119
Total energy consumption by data centres	**thousand kWh**	**282,544**	**310,017**	**391,935**

Fuel and other energy resources	Unit of measurement	2019 Consumption	2020 Consumption	2021 Consumption
By type:				
Average power usage effectiveness (PUE)	ratio	1.67	1.76	1.544
Total electricity consumption by data centres	thousand kWh	282,544	310,017	391,935
Total energy sold	**thousand kWh**	**12,963**	**10,671**	**14,834**
By type:				
Electricity sold	thousand kWh	0	0	0
Heating and hot water sold	Gcal	11,146	9,175	12,755
Cooling sold	thousand kWh	0	0	0
Steam sold	thousand kWh	0	0	0
Total energy purchased from external suppliers	**thousand kWh**	**4,277,132**	**3,804,480**	**4,296,393**
Electricity purchased from external suppliers	thousand kWh	3,038,255	2,812,988	3,220,628
Heat purchased from external suppliers	Gcal	1,065,242	852,529	924,991

6.4 GRI content index

Statement of use

PJSC Rostelecom discloses information listed in this GRI Content Index for the period from 1 January 2021 to 31 December 2021 in accordance with the GRI Standards.

GRI standard	Disclosure	Section of the Report	Excluded information
GRI 1 Foundation 2021	(no disclosures)		
GRI 2 General Disclosures 2021	2-1 Organisational details	ROSTELECOM – ABOUT US Development strategy and business model	–
	2-2 Entities included in the organisation's sustainability reporting	APPENDICES About the Report	–
	2-3 Reporting period, frequency and contact point	APPENDICES About the Report	–
	2-4 Restatements of information	APPENDICES About the Report	–
	2-5 External assurance	Sustainability Report 2021 has passed the public assurance process at the RSPP Board. For more details, see the Opinion of the RSPP Board Appendix	–
	2-6 Activities, value chain and other business relationships	ROSTELECOM – ABOUT US Development strategy and business model Supply chain	–
	2-7 Employees	INVESTMENT IN HUMAN CAPITAL Recruitment	Breakdown by region
	2-8 Workers who are not employees	INVESTMENT IN HUMAN CAPITAL Recruitment	–
	2-9 Governance structure and composition	ROSTELECOM – ABOUT US PJSC Rostelecom's corporate governance structure	–
	2-10 Nomination and selection of the highest governance body	ROSTELECOM – ABOUT US Requirements for nominees to the Board of Directors	–
	2-11 Chair of the highest governance body	ROSTELECOM – ABOUT US President and Management Board	–
	2-12 Role of the highest governance body in overseeing the management of impacts	ROSTELECOM – ABOUT US Board of Directors	–
	2-13 Delegation of responsibility for managing impacts	ROSTELECOM – ABOUT US Rostelecom's corporate governance framework	–

GRI standard	Disclosure	Section of the Report	Excluded information
	2-14 Role of the highest governance body in sustainability reporting	The Board of Directors approves the Sustainability Report	–
	2-15 Conflicts of interest	ROSTELECOM – ABOUT US Conflict of interest management	–
	2-16 Communication of critical concerns	ROSTELECOM – ABOUT US Feedback channels	Total number of requests
	2-17 Collective knowledge of the highest governance body	ROSTELECOM – ABOUT US Induction of Board members	–
	2-18 Evaluation of the performance of the highest governance body	ROSTELECOM – ABOUT US Evaluation of the Board of Directors' performance	–
	2-19 Remuneration policies	ROSTELECOM – ABOUT US Remuneration	–
	2-20 Process to determine remuneration	ROSTELECOM – ABOUT US Remuneration	–
	2-21 Annual total compensation ratio	–	Remuneration payable to President is not disclosed
	2-22 Statement on sustainable development strategy	Chairman's statement	
	2-23 Policy commitments	SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO	–
	2-24 Embedding policy commitments	SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO	–
	2-25 Processes to remediate negative impacts	SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO	–
	2-26 Mechanisms for seeking advice and raising concerns	SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO Stakeholder engagement	–
	2-27 Compliance with laws and regulations	ROSTELECOM – ABOUT US Responsible business practice	Number of instances for which fines were incurred and number of instances for which non-monetary sanctions were incurred
	2-28 Membership associations	APPENDICES Membership of associations	–
	2-29 Approach to stakeholder engagement	SUSTAINABLE DEVELOPMENT: WHY AND WHAT WE DO Stakeholder engagement	–

GRI standard	Disclosure	Section of the Report	Excluded information
201 Economic Performance 2016	201-3 Defined benefit plan obligations and other retirement plans	INVESTMENT IN HUMAN CAPITAL Private pension insurance	–
203 Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	FOR CUSTOMERS, FOR SOCIETY, FOR THE NATION Digital Equality integrated social programme Supporting our regions of operation	–
204 Procurement Practices 2016	204-1 Proportion of spending on local suppliers	FOR CUSTOMERS, FOR SOCIETY, FOR THE NATION Supporting our regions of operation	Spending on local suppliers is given in absolute terms
205 Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	ROSTELECOM – ABOUT US Responsible business practice	–
302 Energy 2016	302-1 Energy consumption within the organisation	ROSTELECOM FOR THE ENVIRONMENT Energy efficiency APPENDICES Key performance indicators	
303 Water and Effluents 2018	303-1 Interactions with water as a shared resource	ROSTELECOM FOR THE ENVIRONMENT Water consumption	–
	303-2 Management of water discharge-related impacts		
	303-3 Water withdrawal		
	303-4 Water discharge		
	303-5 Water consumption		
305 Emissions 2016	305-1 Direct (Scope 1) GHG emissions	ROSTELECOM FOR THE ENVIRONMENT Emission management	–
	305-7 Nitrogen oxides (NO_x), sulphur oxides (SO_x) and other significant air emissions		
306 Waste 2020	306-1 Waste generation and significant waste-related impacts	ROSTELECOM FOR THE ENVIRONMENT Waste management	–
	306-2 Management of significant waste-related impacts		
	306-3 Waste generated		
401 Employment 2016	401-1 New employee hires and employee turnover	INVESTMENT IN HUMAN CAPITAL Recruitment	Breakdown by region
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees		–
	401-3 Parental leave		–
402 Labour/ Management Relations 2016	402-1 Minimum notice periods regarding operational changes	INVESTMENT IN HUMAN CAPITAL Social benefits and compensations	–

GRI standard	Disclosure	Section of the Report	Excluded information
403 Occupational Health and Safety 2018	403-1 Occupational health and safety management system	INVESTMENT IN HUMAN CAPITAL Ensuring workplace safety	–
	403-2 Hazard identification, risk assessment and incident investigation		
	403-3 Occupational health services		–
	403-4 Worker participation, consultation, and communication on occupational health and safety		–
	403-5 Worker training on occupational health and safety		–
	403-6 Promotion of worker health		–
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships		–
	403-9 Work-related injuries		The number of hours worked
	403-10 Work-related ill health		–
404 Training and Education 2016	404-1 Average hours of training per year per employee	INVESTMENT IN HUMAN CAPITAL Employee Training and Development	–
	404-2 Programmes for upgrading employee skills and transition assistance programmes	INVESTMENT IN HUMAN CAPITAL Employee Training and Development	–
	404-3 Percentage of employees receiving regular performance and career development reviews	INVESTMENT IN HUMAN CAPITAL Remuneration and incentives	–
405 Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	INVESTMENT IN HUMAN CAPITAL Remuneration and incentives	–
	405-2 Ratio of basic salary and remuneration of women to men		–

6.5

UNCTAD indicators table

Area	Indicators	Calculation methodology	Rostelecom Group's performance indicators in 2021	For more details
A Economic area				
A.1 Revenue and/or (net) value added	A.1.1. Revenue	IFRS 15	RUB 580.092 billion	
	A.1.2. Value added	Revenue less cost of materials, goods and services purchased (gross value added, GVA)	RUB 351.961 billion	
	A.1.3. Net value added	Revenue less cost of materials, goods and services purchased and less depreciation of tangible assets (net value added, NVA)	RUB 272.380 billion	
A.2 Payments to the government	A.2.1. Taxes and other payments to the government	The total amount of taxes paid and payable (including income taxes as well as other fees and taxes, such as property tax or VAT) plus any related fines paid, plus any royalties, licensing fees and other payments to budgets at various levels for a specified period	RUB 121.854 billion (including VAT)	
A.3 New investment/expenditures	A.3.1 Green investment	The total cost of the said investments aimed mainly at preventing and reducing pollution and other detrimental effects on the environment, in absolute and percentage terms	RUB 119.1 million[1] These expenditures account for 0.04% of the Group's net value added in 2021	
	A.3.2. Community investments	The total amount of voluntary/charitable donations and investments (CAPEX and OPEX) in a wider community where beneficiaries are not directly related to the Company, in absolute and percentage terms for the reporting period	The Group has no consolidated records of social investments. Charitable investments, which are a part of our external social policy, amounted to RUB 184.141 million in 2021 (0.03% of revenue)	
	A.3.3. Total expenditures on research and development	The total expenditures on research and development in the reporting period in absolute and percentage terms	RUB 11.548 billion These expenditures account for 2.0% of the Group's revenue in 2021	
A.4 Local supplier/purchasing programmes	A.4.1: Percentage of local procurement	The share of the Company's procurement from local suppliers (based on invoices and commitments made by the Company in the reporting period) in percentage and absolute terms	In 2021, Rostelecom's expenditures on local procurement for infrastructure construction amounted to RUB 49.5 billion (18.3% of the total procurement spending in 2021)	

1   The sum of OPEX featured in lines 1, 2, 12, 13, 14, 15, 16, 17, 18, and 24 of the table Rostelecom Group's total environmental expenditures and investments, RUB thousand. For more details, see the Key Performance Indicators Appendix to this Report.

	Area	Indicators	Calculation methodology	Rostelecom Group's performance indicators in 2021	For more details
B	**Environmental area**				
B.1	**Sustainable use of water**	B.1.1. Water recycling and reuse	The total volume of water recycled and/or reused by the Company in the reporting period in absolute and percentage terms	The Company does not recycle or reuse water. Water supplied by public utilities or withdrawn from water supply wells is used in one production cycle and then sent for treatment to public or own sewage systems (in the latter case, after treatment water is discharged into water bodies).	For more details, see the Rostelecom for the Environment section (Water Consumption subsection) of this Report.
		B.1.2. Water use efficiency	Water consumption per unit of net value added in the reporting period. Water consumption dynamics per unit of net value added over two reporting periods (where water consumption is defined as water withdrawal plus the total volume of water received from third parties) in percentage and absolute terms and over time (difference)	Water consumption by the Group in 2021 amounted to 1,849 thousand cu m. Water consumption per net value added was 6.79 cu m per RUB 1 million of net value added. Water consumption increased by 6.57% year-on-year in the reporting period.	For more details, see the Rostelecom for the Environment section (Water Consumption subsection) of this Report.
		B.1.3. Water stress	Water withdrawal by source (surface water, groundwater, rainwater, wastewater) specifying regions with water scarcity (as a percentage of relative total water withdrawal) in absolute and percentage terms	The total water withdrawal in 2021 amounted to 1,937.71 thousand cu m: • Groundwater (artesian water) – 168.2 thousand cu m (8.7%) • Water from public utilities (mainly surface water with a minor share of groundwater) – 1,769.51 thousand cu m (91.3%) • Rainwater and wastewater are not used The Group does not operate in regions with water scarcity.	For more details, see the Rostelecom for the Environment section (Water Consumption subsection) of this Report.
B.2	**Waste management**	B.2.1. Reduction of waste generation	Waste generation per unit of net value added as a percentage, over time (difference) and in absolute terms	In 2021, 33,310 tonnes of waste were generated. Waste generation per net value added was 0.12 tonnes per RUB 1 million of net value added. Waste generation increased by 4.6% year-on-year in the reporting period.	For more details, see the Rostelecom for the Environment section (Waste Management subsection) of this Report.
		B.2.2. Waste reused, re-manufactured and recycled	The total volume of recycled or reused waste in absolute terms, in percentage and over time (difference)	In 2021, 60.5 tonnes of waste generated (0.18%) was reused for own operational needs. Waste reuse reduced by 16% year-on-year in the reporting period (71.98 tonnes in 2020).	For more details, see the Rostelecom for the Environment section (Waste Management subsection) of this Report.
		B.2.3. Hazardous waste	The total amount of hazardous waste in absolute terms, as well as the share of treated hazardous waste, considering the total amount of waste declared by the Company (in absolute and percentage terms and overtime (difference))	In 2021, a total 26,466 tonnes of Hazard Category 1–4[1] waste was generated (79.5% of the total waste generated by the Group). Generation of Hazard Category 1–4 waste per net value added was 0.097 tonnes per RUB 1 million of net value added. Treated hazardous waste (environmental Hazard Category 1–4, handed over for treatment and disposal) amounted to 2,225 tonnes (6.68% of the total waste generated). The amount of environmental Hazard Category 1–4 waste handed over for treatment and disposal decreased by 22.7% from 2019 in the reporting period (2,878 tonnes in 2019).	For more details, see the Rostelecom for the Environment section (Waste Management subsection) of this Report

1 The Russian legislation currently has no definition of hazardous waste. Waste can be categorised into 5 environmental and 4 human health Hazard Categories. The total includes waste of environmental Hazard Category 1–4; no records are made for human health Hazard Categories.

	Area	Indicators	Calculation methodology	Rostelecom Group's performance indicators in 2021	For more details
B.3	Greenhouse gas emissions	B.3.1. Greenhouse gas emissions (Scope 1)	Scope 1 emissions in absolute terms, in percentage and over time (difference)	In 2021, Scope 1 emissions amounted to 173,249 tonnes of CO2 equivalent (10.15% of the total GHG emissions). Scope 1 emissions per net value added were 0.636 tonnes of CO2 equivalent per RUB 1 million of net value added. Scope 1 emissions reduced by 4.25% year-on-year in the reporting period due to lower coal consumption.	For more details, see the Rostelecom for the Environment section (Emission Management subsection) of this Report.
		B.3.2. Greenhouse gas emissions (Scope 2)	Scope 2 emissions in absolute terms, in percentage and over time (difference)	In 2021, Scope 2 emissions amounted to 1,462,888 tonnes of CO2 equivalent (85.7% of the total GHG emissions). Scope 2 emissions per net value added were 5.37 tonnes of CO2 equivalent per RUB 1 million of net value added. Scope 2 emissions increased by 15.97% year-on-year in the reporting period due to higher electricity consumption and larger amount of waste handed over for landfilling.	For more details, see the Rostelecom for the Environment section (Emission Management subsection) of this Report.
B.4	Ozone-depleting substances and chemicals	B.4.1. Ozone-depleting substances and chemicals	The total volume of ozone-depleting substances (ODS) (bulk chemicals/substances in pure form or as a mixture) per unit of net value added	The Group does not use ozone-depleting substances	
B.5	Energy consumption	B.5.1. Renewable energy	The share of renewable energy in the total final energy consumption	Renewable energy may include: • Self-generation – solar panels (33 units), hybrid wind and solar power systems (82 units), micro turbines (19 units). The share in the total energy consumption – less than 0.1% (32.29 thousand kWh) • Heat generation from combustion of biomass (firewood and fuel briquettes), 15,745 thousand kWh in 2021 (0.35% of the total energy consumption) • Purchasing grid electricity generated by hydropower plants and other renewable sources: as electricity suppliers do not provide data on its origin, the share in the total energy consumption is unknown. Therefore, it is obtained by calculation: electricity consumption in each federal district of Russia is multiplied by the percentage of renewable electricity in this district; the share of renewable electricity consumed by the Group in 2021 was 427,943 thousand kWh (13.27% of the total electricity consumption, 9.6% of the total energy consumption). The data for calculating energy consumption in each federal district are taken from Rosstat's website[1] (the share varies from 0.01% to 59.3%, the average share of electricity generated from renewable sources in Russia is 19.8%).	For more details, see the Rostelecom for the Environment section (Energy Efficiency subsection) of this Report.
		B.5.2. Energy efficiency	Energy consumption per unit of net value added	In 2021, the total energy consumption amounted to 4,448,304 thousand kWh. Energy consumption per net value added was 16.33 thousand kWh per RUB 1 million of net value added.	For more details, see the Rostelecom for the Environment section (Energy Efficiency subsection) of this Report.

1   Rosstat's data for 2019 — https://www.gks.ru/folder/11189.

Area		Indicators	Calculation methodology	Rostelecom Group's performance indicators in 2021	For more details
C	**Social area**				
C.1	**Gender equality**	C.1.1. Proportion of women in managerial positions	The number of women in management positions relative to the total headcount (full-time employees)	The proportion of women in management positions was 35% in 2021.	For more details, see the Rostelecom for Employees section (Attractive Working Conditions subsection) of this Report.
C.2	**Human capital**	C.2.1. Average hours of training per year per employee	The average number of training hours per employee per year (as the total number of training hours per year divided by the total number of employees), possibly by employee category	The average amount of training received by employees in 2021 was 31.5 hours per employee	
		C.2.2. Expenditure on employee training per year per employee	Direct and indirect training costs (including trainers and teachers' fees, training supplies and materials, training equipment, and related travel expenses) per employee per year, possibly by employee category	Direct and indirect training costs in 2021 were RUB 5,500 per employee[1].	
		C.2.3. Employee wages and benefits as a proportion of revenue with breakdown by employment type and gender	The total payroll (wages, benefits package, and other compensations) divided by the total revenue for the reporting period	The Group's total payroll in 2021 amounted to RUB 99.52 billion (17.2% of the Group's revenue).	For more details, see the Rostelecom for Employees section (Remuneration and Incentives subsection) of this Report.
C.3	**Employee health and safety**	C.3.1. Expenditures on employee health and safety as a proportion of revenue	The total expenditure on health and safety and healthcare programmes funded directly by the Company and all expenditures incurred to improve working conditions and address health and safety issues in the reporting period, divided by the total revenue for the same period	The total expenditures on health and safety amounted to RUB 1.731 billion in 2021 (down 19% year-on-year), which is equivalent to 0.30% of the Group's revenue.	For more details, see the Rostelecom for Employees section (Ensuring Workplace Safety subsection) of this Report.
		C.3.2. Frequency/incident rates of occupational injuries	Injury frequency rate: the number of new injuries divided by the total number of hours worked by employees in the reporting period; lost time injury frequency rate: the total amount of lost time accident days expressed as the number of hours divided by the total number of hours worked by employees in the reporting period	In 2021, injury frequency rate was 0.3 per 1,000 employees. Due to historical and legal reasons, injury frequency rate in the communications industry is calculated as the number of incidents divided by 1,000 employees. Lost time accident days – 3,251.107	For more details, see the Rostelecom for Employees section (Ensuring Workplace Safety subsection) of this Report.
C.4	**Coverage by collective agreements**	C.4.1. Percentage of employees covered by collective agreements	The number of employees covered by collective bargaining agreements relative to the total headcount (full-time employees)	100%	
D	**Institutional area**				
D.1	**Corporate governance disclosure**	D.1.1. Number of board meetings and attendance rate	The number of meetings of the Board of Directors in the reporting period and the number of Board members attending all meetings of the Board of Directors in the reporting period divided by the total number of Board members multiplied by the number of Board meetings in the reporting period	In 2021, the Board of Directors had 15 meetings[1] (3 meetings in person and 12 meetings in absentia). The number of Board members attending all meetings of the Board of Directors in the reporting period divided by the total number of Board members multiplied by the number of Board meetings in the reporting period – 15.	For more details, see the Corporate Governance section of Rostelecom's Annual Report 2021.
		D.1.2. Number and percentage of women board members	The number of women on the Board of Directors in relation to the total number of Board members	One woman served on the Board of Directors in 2021; women account for 21% of boards members at subsidiaries and affiliates.	

1　Data for PJSC Rostelecom.

Area	Indicators	Calculation methodology	Rostelecom Group's performance indicators in 2021	For more details
	D.1.3. Board members by age range	The number of Board members by age category (e.g. under 30 years old, 30 to 50 years old, over 50 years old)	The average age of the board members was 53.7 years, the average tenure on the Board of Directors was 5.1 years[1]. Members of PJSC Rostelecom's Board of Directors by age group (as at 31 December 2020): under 30 years old – 0 30 to 50 years old – 6 over 50 years old – 5	
	D.1.4. Number of meetings of audit committees and attendance rate	The number of meetings of the Board of Directors in the reporting period and the number of members of the Audit Committee attending all meetings of the Audit Committee in the reporting period divided by the total number of members of the Audit Committee multiplied by the number of the Audit Committee meetings in the reporting period	In 2021, PJSC Rostelecom's Audit Committee held 8 meetings, including 2 meetings in person.	For more details, see PJSC Rostelecom's Annual Report 2021.
D.2 **Anti-corruption practices**	D.2.1. Amount of fines paid or payable due to settlements	The total amount of fines paid and payable for corruption offences imposed by regulatory authorities and courts in the reporting period	No administrative fines for corruption offences were imposed in the reporting period	
	D.2.2. Average hours of training on anti-corruption issues per year per employee	The average number of anti-corruption training hours per employee per year (the total number of anti-corruption training hours per year divided by the total number of employees)	All PJSC Rostelecom's new hires working at automated workstations undergo a 45 min induction course on the principles set out in the Code of Ethics, comprising an anti-corruption section. In 2021, about 12,000 Rostelecom employees successfully completed the online Code of Ethics course and passed end-of-course tests. PJSC Rostelecom employees in positions exposed to corruption risk need to take additional advanced training on corruption prevention, either classroom (2 hours) or remote (1.5 hours), once every two years. In 2021, over 3,000 employees successfully completed the course.	

1   Data for PJSC Rostelecom.
2   D 1.5. covers data for PJSC Rostelecom only.

6.6 Glossary

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
AI	
AMR	Artificial intelligence
B2B	Automated meter reading
B2C	Business-to-business
B2G	Business to consumer
B2O	Business-to-government
	Business-to-operator
B2X	
Big data	Large amounts of varied structured and unstructured data efficiently processed by horizontally scaled software tools
Broadband	Broadband internet access
CDP	Carbon Disclosure Project
Corporate social responsibility	A concept according to which organisations take into account the interests of society, taking responsibility for the impact of their activities on companies and other public stakeholders
CPI	Consumer price index
CPO	Chief Procurement Officer
cu m	Cubic metre
CVS	Cloud video surveillance
Data centre	Data processing centre
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

ECD	External Communications and Corporate Social Responsibility Department
EDF	Electronic document flow
Employee engagement	Emotional and intellectual commitment of employees to go above and beyond in doing their job
eNPS (Employee Net Promoter Score)	A method to measure employee loyalty
EOC	Environmental operational control
ESG	Environmental, social and corporate governance
FOCL	Fibre-optic communications line
Gamification	Application of gaming approaches that are widely used in computer games in non-game contexts to engage people in solving practical tasks and using products and services, and to strengthen customer loyalty
Gcal	Gigacalorie
GHG	Greenhouse gases
GLF	ITW Global Leaders' Forum
GRI Standards (The Global Reporting Initiative)	The GRI Sustainability Reporting Guidelines offer an international standard for the preparation of voluntary sustainability reports by organisations
GVA	Gross value added
GWh	Gigawatt hour
Hackathon	An event in which software developers collaborate to solve a problem
HAPs	Hazardous air pollutants
HR	Human Resources
HSE	Health, safety and environment
ICPC	International Cable Protection Committee
IIC	Industrial Internet Consortium
ILO	International Labor Organization
Information Society, 2011–2020	A Russian national programme to improve life quality, ensure Russia's competitiveness, develop the economic, social, political, cultural, and spiritual spheres of life, and enhance the public administration system using IT and telecommunications technologies
Internet of Things (IoT)	A global network of physical devices ("things") that are connected to the internet, equipped with sensors and able to transfer data

IP	Internet Protocol
Internet Protocol television (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
IT	Information technology
ITU	International Telecommunication Union
IVR	Interactive voice response
KPI	Key performance indicator
kWh	Kilowatt hour
l	Litre
m	Million
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
NACC	National Association of Contact Centres
NDR	Non-deal roadshow
NPS (Net Promoter Score)	An index reflecting consumer loyalty to a product or company (likelihood to recommend) and used to gauge repurchase intent
NVA	Net value added
ODS	Ozone depleting substances
Outsourcing	An agreement in which one organisation contracts another one, which has expertise in a needed area, to be responsible for certain types of operations or functions
p.p.	Percent point
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
PCR testing	Polymerase chain reaction (PCR) testing
PJSC	Public joint stock company
PM	Particulate matter
POPs	Persistent organic pollutants
PPE	Personal protective equipment

PUE	Power usage effectiveness
RAEC	Russian Association for Electronic Communications
RCC	Regional Commonwealth in the Field of Communications
Regions of operation	Regions where the organisation has production facilities and key employees
RID	Russian Institute of Directors
RSPP	the Russian Union of Industrialists and Entrepreneurs
RUB	Rouble
Smart City	A project aimed at making Russian cities more competitive, improving the efficiency of city management and creating a safe and comfortable environment for urban residents
SMEs	Small and medium-sized enterprises
sq m	Square metre
Stakeholder	An individual, group or entity that can be affected by the Company and/or that can affect the Company
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
Sustainability	Societal development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs
t	Tonne
UN SDGs	17 goals and 169 targets that all members of the United Nations (193 countries) agreed to achieve by 2030
UNCTAD	United Nations Conference on Trade and Development
VAT	Value-added tax
VDI	Virtual desktop infrastructure
VHI	Voluntary health insurance
Virtual PBX	A service which allows IP telephony operators to replace traditional on-premise telephony hardware
VOCs	Volatile organic compounds
VPN/IP VPN (Virtual Private Network)	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

6.7 Membership of associations

GRI 2-28

Name	Date of admission	Type of membership
Association for Educational, Scientific and Business Collaboration between Educational Institutions, Businesses and Organisations in the Telecommunications Industry Sodeystviye	1992	Member
Regional Commonwealth in the Field of Communications (RCC)	1997	Member
International Telecommunication Union (ITU)	1999	Member of the ITU Telecommunication Standardisation Sector
Union of InfoComm Design Engineers ProjektSvyazTelekom	2011	Member
Russian Institute of Directors	2011	Member
Innovation and R&D Directors Club	2012	Member
National Association of Procurement Institutes	2012	Member
NATIONAL RADIO ASSOCIATION	2012	Member
Association of Electronic Document Communications	2013	Member
Media Communication Union	2014	Member
ASSOCIATION OF CABLE TV OF RUSSIA	2014	Member
International Cable Protection Committee (ICPC)	2014	Member
Anti-corruption Charter of the Russian Business	2014	Signatory
National Association of Contact Centres (NACC)	2015	Member
Industry IoT Consortium (IIC)	2015	Member
Russian Association for Electronic Communications (RAEC)	2015	Member
Construction Association (Association of Self-Regulatory Organisations)	2017	Member
Autonomous Non-Profit Organisation Digital Economy	2017	Member
Russian Union of Industrialists and Entrepreneurs (RSPP)	2017	Member
FinTech Association	2017	Member
Internet of Things Association	2018	Member
TM Forum	2018	Member
ITW Global Leaders' Forum (GLF)	2019	Member
Big Data Association	2019	Member
SRO Association CENTRIZYSKANIYA	2019	Member

6.8 Awards

Responsible business practice awards

- In 2021, Rostelecom ranked among the top companies for complete and high-quality disclosure of compliance with corporate governance principles, according to the National Corporate Governance Index[1]. Corporate governance rating assigned by the Russian Institute of Directors (RID)[2]: 7++ – advanced corporate governance practice.
- In September 2021, Rostelecom topped the national Anti-Corruption Ranking of Russian Business, receiving a highest-level (A1) certificate, as cited in the Final Ranking Report of the Russian Union of Industrialists and Entrepreneurs (RSPP).

Sustainability and reporting awards

- In 2021, Rostelecom was ranked in the top 10 Russian companies of the Expert magazine's sustainability ranking. The Company got the highest score among Russian telecom players.
- Rostelecom is also included in the two sustainability indices of the Moscow Exchange and the Russian Union of Industrialists and Entrepreneurs. The Company topped the ESG indexes compiled by the RSPP in 2021, namely the Responsibility and Transparency Index and the Sustainable Development Vector Index.
- Rostelecom made it to the top of the Corporate Philanthropy Leaders ranking – the most prestigious social activity competition for Russian businesses. The Company was named the best in Group A – Best Practice.
- In early 2021, our gender equality efforts earned global recognition as Rostelecom was included in Bloomberg's 2022 Gender-Equality Index – for the second year in a row.
- In 2021, Rostelecom ranked among the top three largest telecommunications companies in Russia in the social performance rating. The agency included 45 companies with the best ESG disclosure practices in its fourth annual ranking. The agency also upgraded Rostelecom's sustainability reporting rating to Resg1, the highest level of social disclosure in the company's public reports.
- Rostelecom has been consistently included in the FTSE4Good Index series since 2017.
- In 2021, Rostelecom's Final ESG Score in the S&P Global Ratings ESG Evaluation report was 40, up 10 points from the year before, with particularly high scores on human capital development and environmental policy.
- Rostelecom has been providing annual climate change reports to the international Carbon Disclosure Project (CDP) since 2015. In 2021, following a review of its report, the CDP affirmed Rostelecom's environmental rating at "C" (based on 2020 data).

1 http://cgindex.ru/wp-content/uploads/2021/12/National-CG-Index-2021.pdf
2 Affirmed in January 2021.

Human capital development awards

- According to hh.ru, Rostelecom ranked among the top 10 employers in Russia in the Largest Companies category, was named the best employer in the telecommunications industry (eighth place in the overall ranking), ranked first among telecom companies in a job seeker survey and second in the Most Advanced HR Processes subranking, and won the HR Brand Award for the Voluntary Turnover Prediction project.
- The Company was also listed in the Gold category of the Forbes ranking of the best employers in Russia.
- Rostelecom won the Investment Leaders 2021 award in the Investment in Human Capital category.
- Rostelecom's achievements in education were recognised in two categories of the Effective Business Education awards: the Sales Campus project was named the Programme of the Year, and Rostelecom Experts was named the Project of the Year, while Graduate Awards 2021 commended Rostelecom for engaging school students in the Best School Student Outreach Programme category.
- The Company won the Best ESG Projects in Russia annual programme in the Quality Education category.

Awards for supporting and developing the regions of operation

- I Run and Help, Rostelecom's sports charity project, won the all-Russian contest "Investing in the Healthy Development of the Nation: Best Corporate Practices 2021". The project was recognised the best among sporting events to develop corporate philanthropy and volunteering.
- For the second year in a row, Rostelecom's Digital Education course came second in the Skill-Based Volunteering category of the all-Russian social project competition the Champions of Good Deeds.

Environmental protection and energy efficiency awards

- The Carbon Disclosure Project affirmed Rostelecom's C score in 2020 following the review of our report.

Product innovation and customer service awards

1   According to the independent agency TMT Consulting.

- In 2021, Rostelecom was the leader[1] in the B2B broadband market by revenue and number of subscribers (49% of the market).
- In 2021, Rostelecom became the market leader[1] by number of Virtual PBX subscribers, growing its customer base by 37% from 2020.
- According to TelecomDaily's study of the cloud video surveillance (CVS) market, Rostelecom gained the leadership position by number of installed CVS cameras with a market share of 28%.
- According to the independent consultancy J'son & Partners Consulting, Rostelecom was the market leader in 2021 by number of subscribers (36.6% of all B2B subscribers) and total revenue from Pay TV services in the B2B segment.
- Rostelecom Group topped the ranking of Russian cloud Infrastructure-as-a-Service (IaaS) providers according to iKS-Consulting.

6.9

Feedback questionnaire

Dear Reader,

You have just read Rostelecom Group's Sustainability Report 2021.

We strive to maintain the most transparent and honest dialogue with all stakeholders, and we would be grateful for your responses to a few simple questions below to help us improve the Company's reporting quality.

Which stakeholder group are you in?

- ◯ Shareholder
- ◯ Investor
- ◯ Employee
- ◯ Partner/contractor/supplier
- ◯ Customer
- ◯ Government authority representative
- ◯ NGO / local community representative
- ◯ Environmental organisation representative
- ◯ Mass media member
- ◯ Academic/expert community representative
- ◯ Other group: _____

1. Have you found material information on the issues you are concerned with in the Report?

- ◯ Yes, full
- ◯ Yes, partial
- ◯ No
- ◯ I have just looked through the Report

2. Which information included in the Report was of most interest to you?

3. Which information did you find the least interesting?

4. Which topics of interest to you are not included in the Report?

5. Please rate this Report against the following criteria:

5 — excellent
4 — good
3 — satisfactory
2 — unsatisfactory
? — not sure

	5	4	3	2	?
Overall impression	◯	◯	◯	◯	◯
Completeness of the information you are interested in	◯	◯	◯	◯	◯
Accuracy and objectivity of information	◯	◯	◯	◯	◯
Clarity and ease of understanding of the information	◯	◯	◯	◯	◯
Structure and convenience of information search	◯	◯	◯	◯	◯
Layout and design	◯	◯	◯	◯	◯

6. What would you recommend to improve the Company's performance?

7. Other comments and recommendations on the Report:

8. If you wish to get a response to your comments, please leave your contact details:

Name:
Organisation:
Position:
Phone/e-mail:

Thank you for your feedback!

For the digital version of the feedback questionnaire, please use the QR code:

Rostelecom's website: www.company.rt.ru
Please send your feedback to: csr@rt.ru

Rostelecom's social media accounts:

VKontakte: https://vk.com/rostelecom
Youtube: https://www.youtube.com/user/rostelec
Odnoklassniki: http://ok.ru/rostelecom.official
Flickr: https://www.flickr.com/photos/rostelecom_photostream