

# Investment activities

The expansion and upgrade of railway transport fixed assets is indispensable for the balanced economic development of a nation, establishment of the domestic production base, unlocking of the industrial potential, and promotion of the country's territorial integrity and security. The implementation of the investment programme is a key enabler to deliver on the strategic goals and objectives of the Russian Railways Group.

The priority of the Russian Railways investment programme in 2020 is to achieve the targets set in the Comprehensive Plan for Upgrading and Expanding Core Infrastructure until 2024 and Russian President's Decree

No. 204 dated 7 May 2018 that aim to make substantial positive changes to the rail infrastructure across the country. Russian Railways investment activities provide RUB 6 tn worth of economic benefits to Russia.

## Investment programme approaches

The Company's investment programme is designed to:

- ensure uninterrupted transportation service;
- embrace the most promising projects in terms of both commercial and budget efficiency;
- minimise federal government spending on investment projects.

To evaluate project feasibility, Russian Railways applies a comprehensive approach involving assessments of investment efficiency for project participants and measurements of budget and social and economic efficiency

for the Russian Federation. The above assessments are performed in line with the Methodology for Evaluating the Social and Economic Impacts.<sup>1</sup> In addition, the Company uses the Procedure for Calculating the Russian Railways Group's Contribution to the GDP of the Russian Federation.<sup>2</sup> The procedure requires, among other things, to take into account social and economic factors when conducting the assessments. The balanced criteria for an investment project to be considered feasible are a payback period of up to 20 years and an IRR of at least 10%.



<sup>1</sup> Full title: Methodology for Evaluating the Socio-Economic Impacts of Transport Infrastructure Construction (Upgrade) and Operation Projects Intended to Be Funded from the Federal Budget, Backed by the Government Guarantees of the Russian Federation and Eligible for Tax Relief. Approved by Resolution of the Russian Government No. 1512 dated 26 November 2019.

<sup>2</sup> Approved by Russian Railways Order No. 1957r dated 6 September 2019.

## Investment highlights in 2020

As approved by the Russian Railways Board of Directors, the 2020 investment programme<sup>1</sup> totalled RUB 704.1 bn, including:

- RUB 583.1 bn of the Company's own funds;
- RUB 121.0 bn of the government support.

The spending on the Russian Railways 2020 investment programme stood at RUB 717.3 bn (101.9% of the approved plan).

In 2020, Russian Railways continued its work towards achieving the goals established in the Transport Section of the Comprehensive Plan for Upgrading and Expanding Core Infrastructure until 2024 (the "Comprehensive Plan") and Russian President's Decree No. 204 dated 7 May 2018.

### Investment projects included in the Comprehensive Plan

#### Enhancement of the throughput and carrying capacities to deliver a four-fold increase in transit container traffic, including the Trans-Siberian in Seven Days project



The project progress in 2020:

- in 2020, transit container shipping times on the Europe to Western China route were reduced to 2.0 days vs the 2.2 days' target (1.2 days faster than in 2019);
- in 2020, transit container shipping times on the West to East route improved to 7.8 days vs the 8.0 days' target (1.1 days faster than in 2019);

- in 2020, the transit container traffic totalled 830.9 thousand 20-foot equivalent units (TEU) vs the targeted 680 thousand TEU (increase by 212.7 thousand TEU vs 2019).

In 2020, the Company completed RUB 2.8 bn worth of works to develop design documents and estimates (143% vs 2020 plan).

<sup>1</sup> Meeting on 29 December 2020 (Minutes No. 5).

### Upgrade of rail infrastructure of the Baikal–Amur and Trans-Siberian main lines to increase throughput and carrying capacities (phase 1)



The project is aimed at developing and upgrading the rail infrastructure to create an additional 55 to 66.8 mt carrying capacity on routes to sea ports and Far East border crossings in 2021 vs 2012.

In 2020, the Company completed RUB 56.7 bn worth of works (87% vs 2020 plan).

In 2020, Russian Railways shipped 125.8 mt of coal and ore from the main mineral deposits, which is above the upper end of the target set in the project data sheet (124.9 mt).

In 2020, the total carrying capacity of the main lines stood at 144.0 mt vs the 144.0 mt target.

### Upgrade of the Baikal-Amur and the Trans-Siberian main lines (phase 2)

The project is aimed at increasing the carrying capacity of the Baikal-Amur and the Trans-Siberian main lines to 180 mt by 2024.

In 2020, the Company completed RUB 10.3 bn worth of works to develop design specifications and estimates (127% vs 2020 plan).

### Construction of a western bypass at the Saratov Transport Hub with the expansion of the Lipovsky–Kurdym section



The project is aimed at developing the rail infrastructure on the far approaches to the ports of the Azov and Black Seas, enabling an increase in freight carriage through the Saratov Transport Hub of at least 49.2 mt vs 2015.

In 2020, the total carrying capacity on the approaches to the Saratov Transport Hub of the Privolzhskaya Railway was 75.6 mt.

In 2020, the Company completed RUB 0.4 bn worth of works to develop design specifications and estimates (79% vs 2020 plan).

### Development and renovation of the rail infrastructure serving ports of the Azov and Black Seas



The project is aimed at creating the 125.1 mt carrying capacity of railway sections serving ports of the Azov and Black Seas by 2024 (+50.1 mt vs 2015).

In 2020, the Company completed RUB 15.2 bn worth of works (101% vs 2020 plan).

## Development and renovation of the rail infrastructure serving ports of the North-Western basin



The project is aimed at increasing the carrying capacity of the rail infrastructure in the North-Western operating domain to 145.6 mt in 2020 and to 177 mt in 2030.

In 2020, the Company completed RUB 11.4 bn worth of works (118% vs 2020 plan).

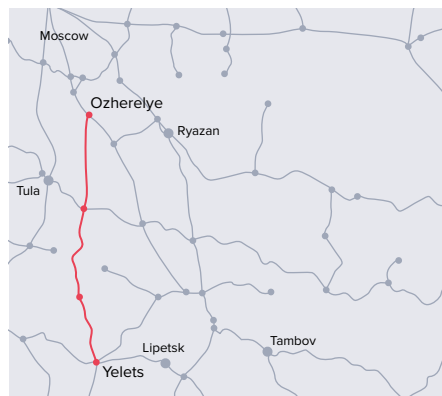
## Development of the Central Transport Hub



The project is aimed at strengthening the rail infrastructure to achieve the planned passenger transportation volumes at the Central Transport Hub.

In 2020, the Company completed RUB 99.3 bn worth of works (101% vs 2020 plan).

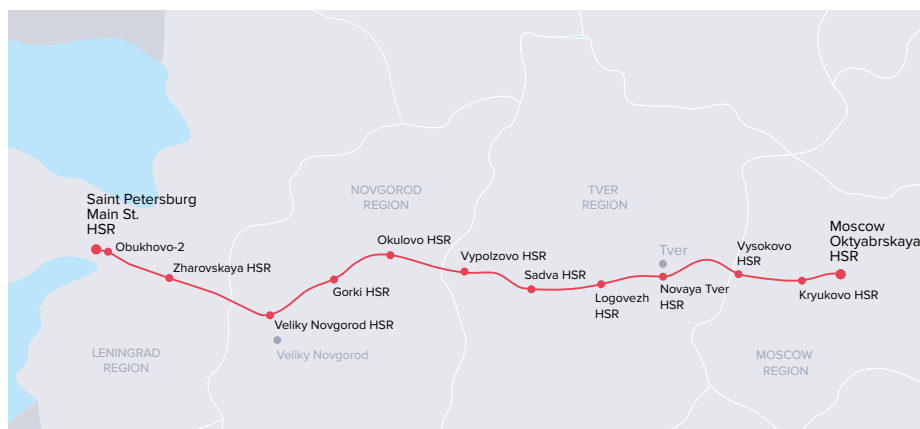
## Electrification of the Ozherelye–Uzlovaya–Yelets section (adjustments required for passenger transportation)



The project is aimed at diverting passenger trains from the Kazan and Paveletskoye routes of the Moskovskaya Railway, and increasing the throughput capacity of the Uzlovaya–Yelets section to 65 train pairs by 2030.

In 2020, the Company completed RUB 0.4 bn worth of works (100% vs 2020 plan).

## Creation of the St. Petersburg–Moscow Ultra High-Speed Railway



The project is aimed at laying the foundation for the development of high-speed and ultra high-speed railway services between major cities.

In 2020, the Company completed RUB 2.1 bn worth of works (100% vs 2020 plan).

## Other comprehensive rail infrastructure development projects

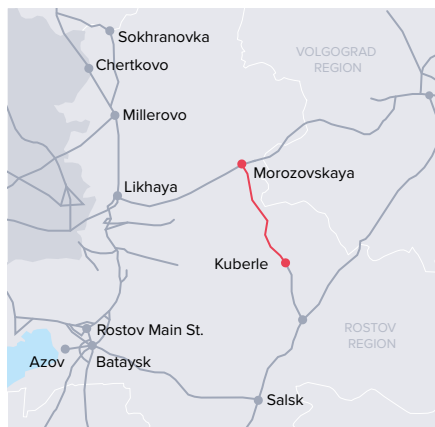
### Development of the railway hub of the St Petersburg transport system



The project is aimed at developing the St Petersburg Railway Hub in light of the projected increase in freight and passenger transportation volumes by 2030.

In 2020, the Company completed RUB 0.9 bn worth of works (97% vs 2020 plan).

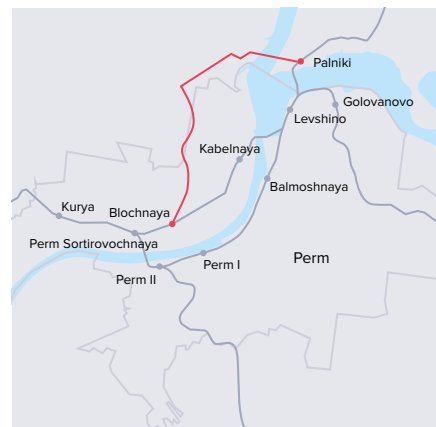
### Reconstruction of the Morozovskaya–Volgodonskaya railway section



In 2020, as part of the Comprehensive Plan for Upgrading and Enhancing Core Infrastructure until 2024, the Company implemented the Reconstruction of the Morozovskaya–Volgodonskaya Railway Section project to introduce an automatic block signalling system at the Morozovskaya–Tsimlyanskaya section of the North Caucasus Railway.

In 2020, the project moved from the investment phase to the operation phase.

### Development of the Perm Railway Hub and the construction of a river crossing



The investment project is aimed at accommodating the freight volumes from the Bereznikovsko-Solikamsky industrial hub by construction of a northern railway bypass of Perm with a railway river crossing over the Kama Reservoir.

In 2020, spending on the investment project stood at RUB 0.6 bn (98% vs 2020 plan).

### Development of the Tobolsk–Surgut–Korotchaev railway section



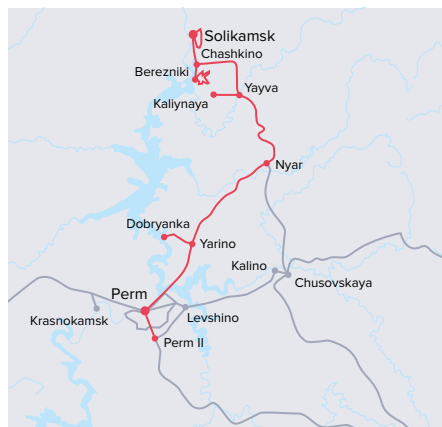
The project is aimed at ensuring the transportation of the expected volumes of hydrocarbons from the Yamalo-Nenets and Khanty-Mansi autonomous areas by gradually ramping up the throughput and carrying capacity of the Tobolsk–Surgut railway section to 66 train pairs per day.

The construction of the second main track throughout the Tobolsk–Surgut section was completed. As required

by the approved design documents, the throughput capacity of the section is now 66 train pairs per day.

In 2020, the Company completed RUB 0.8 bn worth of project works (92% vs 2020 plan).

### Development of the Perm–Solikamsk connection



The project is aimed at accommodating the rising freight volumes of up to 23.0 mt in 2021 and up to 31.9 mt by 2025 by providing the Solikamsk–Perm Sortirovochnaya route for freight trains with a weight of 6 kt and a length of 71 standard cars.

In 2020, the Company completed RUB 1.5 bn worth of works (101% vs 2020 plan).

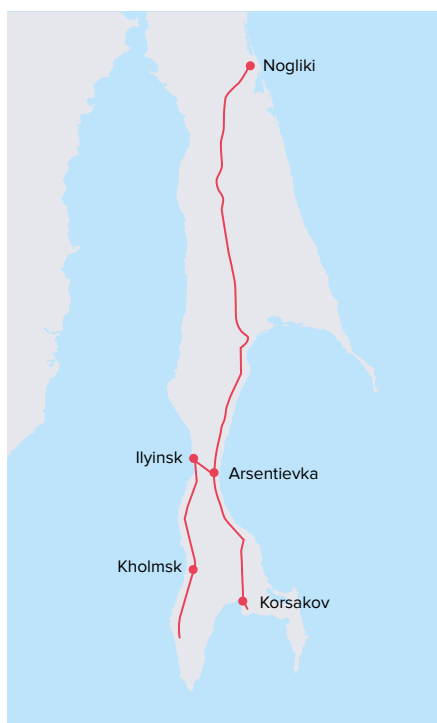
### Infrastructure expansion and upgrade on the Severnaya and Sverdlovskaya Railways to accommodate additional freight trains as part of the Northern Latitudinal Railway project



The project will facilitate a throughput of 23.9 mt of freight, reducing the length of transportation routes linking mineral deposits in the northern parts of West Siberia to the ports of the Baltic, White, Barents and Kara Seas and thereby contributing to the development of the Russian Arctic.

In 2020, the Company completed RUB 0.9 bn worth of project works (106% vs 2020 plan).

### Upgrade of rail infrastructure on the island of Sakhalin

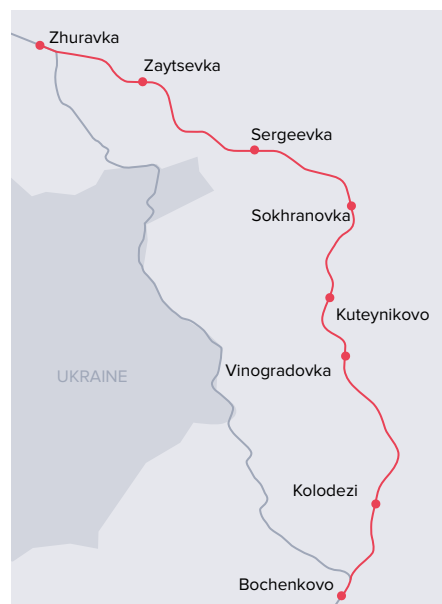


The project is aimed at ensuring uninterrupted transport access to Sakhalin and developing the railway transport on the island. A stationary bridge crossing will help develop the island's port capacities.

In 2020, the Company introduced a train service running on the 1,520 mm gauge network on Sakhalin Island. The gauge conversion made it possible to align the Sakhalin track gauge system with the Russian railway network.

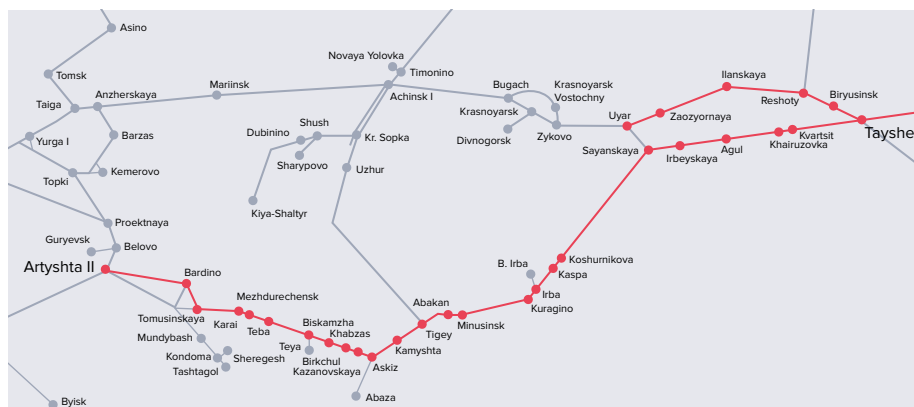
Actual spending on the investment project in 2020 amounted to RUB 5.2 bn (86% vs 2020 plan).

### Construction of the Prokhorovka–Zhuravka–Chertkovo–Bataysk line



The project is aimed at developing the infrastructure at the Moscow–Rostov passenger and freight main line section (part of the North–South corridor) with heavy passenger and commuter traffic.

In 2020, the Company completed RUB 0.4 bn worth of project works (82% vs 2020 plan).



### Throughput increase at the Artyshta–Mezhdurechensk–Tayshet section

The project draws on the parameters of the first and second phases of the project to upgrade the Baikal–Amur and the Trans–Siberian main lines discussed at the meeting of the Strategic Planning Committee of the Russian Railways Board of Directors on 31 July 2018.

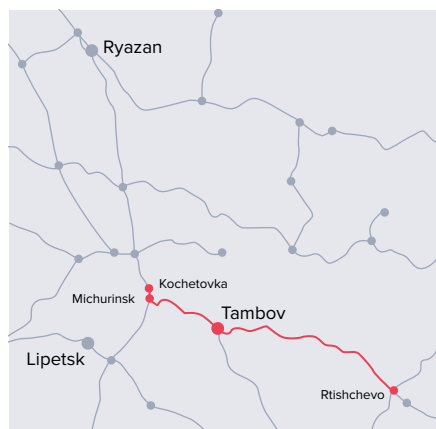
In 2020, the Company completed RUB 3.4 bn worth of works (100% vs 2020 plan).

### Comprehensive development of the Krasnoyarsk Railway's Mezhdurechensk–Tayshet section

When completed in 2021, the project will help handle all coal volumes expected to be shipped from the Kuzbass region to the Far East ports and sync the throughput and carrying capacities with the first phase of the project to upgrade Baikal–Amur and the Trans–Siberian main lines.

In 2020, spending on the project totalled RUB 8.7 bn (100% vs 2020 plan).

### Electrification of the Rtishchevo–Kochetovka section (adjustments required for freight services)



The project is aimed at ensuring the passage of freight trains by way of diverting transit trains from the passenger-crowded Voronezh route – up to 51 train pairs by 2030.

The Company completed RUB 0.6 bn worth of works to develop design documents (100% vs 2020 plan).

## Other rail infrastructure development projects

### Construction of second tracks, extension of station tracks, and development of railway hubs and border crossing stations

The project is aimed at increasing the throughput and handling capacities of the key railway routes with a view to allowing passage of freight trains with a unified mass of 6,300 t and length of 71 standard cars.

In 2020, the Company completed RUB 4.8 bn worth of works (102% vs 2020 plan).

### Development of marshalling yards

The project is aimed at ensuring the development of track infrastructure and equipping the marshalling yards with comprehensive mechanisation and automation systems.

In 2020, the Company completed RUB 1.7 bn worth of works (105% vs 2020 plan).

### Digital marshalling units

The project is aimed at introducing the technologies that will minimise the involvement of staff in industrial processes, including, among other things, through the deployment of:

- a comprehensive automation system to control the marshalling process;
- an automatic cab signalling switching system;
- systems intended to control and generate information about movements of train cars and locomotives at the station in real-time mode.

In 2020, the Company completed RUB 1.3 bn worth of works (100% vs 2020 plan).

## Conformance of infrastructure to regulatory standards

The above investment projects involve works to ensure conformance of the rail infrastructure to the regulatory standards by introducing transport safety equipment and installing environmental protection systems at the Company's facilities (water purification and air cleaning equipment, waste disposal and neutralisation equipment).

In 2020, the investment expenses amounted to RUB 10.4 bn (98% vs 2020 plan).

## Digitalisation and lean technologies

This section of the investment programme includes projects aimed at:

- developing and supporting the IT infrastructure that ensures uninterrupted industrial processes within the Company;
- upgrading and developing the primary transport telecommunication environment;
- introducing modern digital radio systems and upgrading the fixed assets;
- creating digital twins and using innovative traffic control, traffic safety and energy- and resource-saving technologies in rail transport.

In 2020, the investment expenses amounted to RUB 30.7 bn (116% vs 2020 plan).

## Upgrading the fixed assets

This section of the investment programme includes Russian Railways projects aimed at:

- improving the infrastructure and retrofitting freight yards and terminals;
- refurbishing the fuel storages and warehouses;
- refurbishing and erecting buildings, structures and critical infrastructure facilities (heat and power, water supply and sewage, lighting) used for process and utility needs of the railway;
- renovating track maintenance equipment, diagnostic facilities and train cars intended for maintenance and support of reconstruction (upgrade) and overhaul works, and works to build new railway tracks, and upgrading the fixed assets of maintenance sections and automation and telecontrol tools;
- developing electricity supply facilities of Russian Railways.

In 2020, the investment expenses amounted to RUB 250.1 bn (106% vs 2020 plan).



## Passenger infrastructure upgrade

This section of the investment programme includes Russian Railways projects aimed at implementing measures to enhance the accessibility of passenger services in all regions of Russia by improving the quality of service, developing new products and services, introducing digital services, and creating a comfortable transport environment for all categories of passengers.

In 2020, the investment expenses amounted to RUB 8.4 bn (102% vs 2020 plan).

## Rolling stock renewal

The projects covered by this section are aimed at renewing the rolling stock to ensure uninterrupted cargo and passenger transportation, train traffic safety and achievement of the targets relating to passenger traffic and cargo turnover, as defined by the Development Strategy of the Russian Railway Transport until 2030.

In 2020, the investment expenses amounted to RUB 152.7 bn (99% vs 2020 plan).

## Other projects

This section contains projects to deliver improvements in the social sphere and to support the establishment of Russian Railways' subsidiaries and affiliates.

In 2020, the investment expenses amounted to RUB 34.0 bn (100% vs 2020 plan).

## Ultra high-speed lines

The updates to the Russian High-Speed and Ultra High-Speed Lines Programme until 2036 continue into 2021. The Programme is scheduled for approval in 2021. It defines the procedure for implementing 15 high-speed and ultra high-speed railway projects until 2036, creating a high-speed and ultra high-speed rail infrastructure framework, and consolidating key centres of economic growth in Russia into a single network.

### Ultra High-Speed Line 1: Moscow–St Petersburg

In 2020, the Company started engineering surveys and developed area planning and design documents to build the Moscow–St Petersburg ultra high-speed line.<sup>1</sup> The railway line will run through 6 constituent entities of the Russian Federation: federal cities of Moscow and St Petersburg, and Leningrad, Novgorod, Tver and Moscow regions. The ultra high-speed line will serve an area with nearly 30 million residents.

The length of the railway line (including the upgraded existing infrastructure sections on the approaches to Moscow and St Petersburg) will be about 679 km. The travel time between Moscow and St Petersburg will be reduced by 1.7 times (to 2 h 15 min – 2 h 19 min).

<sup>1</sup> Pursuant to Russian President's Instruction No. Pr 623 dated 10 April 2019.