

Railway transportation and infrastructure

The railway transportation and infrastructure segment covers core business units engaged in railway transportation management, maintenance and development of infrastructure and locomotive fleet. The Company's operating and financial performance is directly linked to their efficiency, effectiveness and technical cooperation.



Anatoly Krasnoshchek

First Deputy CEO

// We expect to see transportation volumes increase in line with the draft Long-Term Development Programme of Russian Railways until 2025. Russian Railways will be consistently improving and developing infrastructure to accommodate the growing cargo Suburban passenger transportation. Railway transportation should not be seen as a bottleneck for the economy, and the Company must keep pace with its current needs.

KEY ACHIEVEMENTS IN 2017

- ⊙ In 2017, the average loaded freight car delivery speed went up by 1.6% to 386.4 km/day.
- ⊙ The reporting year saw the Company switch to the purchase of locomotives under life cycle contracts.
- ⊙ Downtime of locomotive crews fell by 3% y-o-y to 15.3 million hours, including a 2.7% reduction of downtime in freight transportation to 12.9 million hours.
- ⊙ The Company repaired 5,735.2 km of tracks (100% of the annual target), with key repair activities completed across all railways.
- ⊙ Process disruptions across the railway network caused by branches fell by 33.8% to 398,500 cases.

Improving the efficiency of infrastructure

To make freight transportation more effective and efficient, the Company delivered against the following qualitative targets for utilising the rolling stock:

- the service speed of a freight train, including along rail yards, was 40.7 km/h, 1.2% above the target and up 0.7% y-o-y;
- the average weight of a freight train was 4,041 t, 0.6% above the target and up 0.9% y-o-y;
- average daily productivity of a freight train locomotive stood at 2,135 thousand gross tkm, 1.1% above the target and up 1.8% y-o-y;
- downtime of locomotive crews across all types of transportation fell by 3% y-o-y, including by 2.7% in freight transportation;
- the number of equipment failures totalled 42,600 cases, down 11.8% y-o-y;
- the number of process disruptions totalled 398,500 cases, down 33.8% y-o-y;
- delays of freight trains due to equipment failures and process disruptions were reduced by 43.4% y-o-y to 472.8 thousand train-hours.

Repairs and upgrade of infrastructure in 2017

In 2017, the Company carried out all types of repairs to renovate 5,735.2 km of tracks (100% vs the target), down 3.8%, or 227.8 km y-o-y.

Some 2,553.5 km of tracks (100% vs the target) saw an upgrade. The Company laid 2,596 sets of turnouts (100% vs the target), overhauled 1,152.5 km with used materials¹, performed full replacement and intermediate overhauls of 1,706.1 km of tracks

between full overhauls. A total of 99 engineering structures (bridges, pipelines and tunnels) and 15 km of roadbed were repaired, and 136.6 km of the total length of overhead lines were reconstructed. The electrification and electricity supply costs amounted to RUB 10.53 bn (96% vs the target).

With regard to transportation overhauls, the Company put into operation 387 out of 388 facilities.

Effective management of the freight car fleet

To improve the effectiveness of rail transportation, Russian Railways is rolling out the Single Network Operating Procedure (SNOP). The SNOP is used to introduce technical standards for transportation, manage traffic, locomotives and locomotive crews, and provide information support, while also serving as a basis to formalise interactions between the Company's branches.

As part of its effort to develop the railcar fleet and boost its performance, the Company reduced the need for rolling stock by 25%. Scheduled rolling stock repairs were cut by 40%.

Also, the Company improved the on-time performance of its freight trains and keeps consistently increasing the number of freight trains that use allocated train paths.

Traction stock in 2017

As at the end of 2017, the operating locomotive fleet² of Russian Railways comprised 14,306 units, including:

- 7,568 freight train locomotives;
- 1,588 passenger train locomotives;
- 1,761 service train locomotives;
- 3,389 locomotives involved in special and other shunting operations.

As at the end of 2017, the active³ locomotive fleet of Russian Railways comprised 9,972 units, including:

- 5,492 freight train locomotives;

- 734 passenger train locomotives;
- 930 service train locomotives;
- 2,816 locomotives involved in special and other shunting operations.

In 2017, Russian Railways purchased 459 locomotives:

- 220 electric locomotives, including 21 passenger and 199 freight locomotives;
- 239 diesel locomotives, including 19 passenger, 86 freight and 134 shunting locomotives.

Improving locomotive utilisation

One of the focus areas for the Company is the replacement of locomotives and alignment of their types across operating domains. In 2017, the Company redeployed 541 locomotives (340 electric locomotives and 201 diesel locomotives).

The reporting year saw the Company switch to the purchase of locomotives under life cycle contracts. These provide for the purchase, maintenance, repair, and disposal (if needed) of products, and offer the following benefits:

- a single centre of responsibility for the technical condition of the locomotive, from commissioning to exclusion from the inventory fleet;

- manufacturer's motivation for improving the quality of design and manufacture;
- lifetime guarantee;
- lower organisational costs associated with the interaction of the parties;
- sustainably high quality of service as service payments are directly linked to the condition of the locomotive;
- shared commercial interests of the locomotive supplier and Russian Railways in providing locomotives to transport the required cargo volumes.

¹ Involves the replacement of a rail skeleton with a thicker or a less worn out one assembled from used materials only or from used and new materials.

² Operating locomotive fleet is the fleet involved in all types of transportation-related and technical operations, including the standby fleet.

³ Active locomotive fleet is the fleet directly involved in transportation and operated by locomotive crews.