Construction of the Moscow-Kazan High-Speed Railway

The project 'Construction of the Moscow-Kazan High-Speed Railway' was implemented in accordance with the network schedule for the Moscow-Kazan (HSR-2) High-Speed Railway approved by Chairman of the Russian Government Dmitry Medvedev on 30 September 2013 (No. 5858p-P9) and also on the basis of a memorandum signed on 13 October 2014 by the Ministry of Transportation of the Russian Federation, the National Development and Reform Commission of the People's Republic of China, Russian Railways and China Railway on cooperation in high-speed railway transportation.

Projects to eliminate infrastructure constraints

Project 'Reconstruction of the Mga-Gatchina-Veymarn-Ivangorod section and railway approaches to ports on the south shore of the Gulf of Finland'

This project is being carried out to prepare railway infrastructure on the near approaches to the Ust-Luga port and to ensure Russian Railways has the projected transportation volume that experts estimate may amount to 80.3 mln tonnes by 2020.

In 2015, the Company commissioned the following as part of the project: 1.4 km of secondary tracks, 56.6 km of station tracks, 12 km of the automatic blocking system and 233 electric interlocking units, and also rebuilt 1.2 km of railway tracks and 20 km of contact network. The gravity hump at the Luzhskaya-Marshalling station was equipped with the MSR-32 interlocking system.

These measures will help to ensure the Ust-Luga railway hub has carrying capacity of 64.0 mln tonnes.

RUB 13,4 bln

amount of work performed in 2015

Project 'Organisation of rapid-transit passenger traffic on the St Petersburg-Buslovskaya section (2nd stage)'

This project is being implemented to ensure passenger trains run at the required speed. The overall travel time from St Petersburg to Helsinki should decrease from 5 h 50 min (2 h 30 min on Russian territory) to 3 h 30 min (1 h 30 min on Russian territory). To this end, the project provides for shifting freight traffic travelling to the sea ports of the Gulf of Finland for export to Finland from the St Petersburg-Buslovskaya line to the Ruchi-Petyayarvi-Kamennogorsk-Vyborg route.

As part of the project, the Company electrified 41.3 km of tracks, commissioned 16.5 km of secondary tracks on the Vyborg-Kamennogorsk section, four crossings, 9.7 km of noise screens and 19.0 km of the automatic blocking system.

RUB 0,9 bln

project expenses in 2015

Project 'Development of the Tobolsk-Surgut-Korotchayevo section'

The goal of this project is to ensure the transportation of the projected volume of raw hydrocarbons from the Yamalo-Nenets and Khanty-Mansi Autonomous Districts through a phased increase in the traffic and carrying capacity of the Tobolsk-Surgut section to 66 train pairs per day.

In 2015, the Company commissioned 30.6 km of secondary tracks, 16.6 km of station tracks and 51 electric interlocking units.

Spending on this work in 2015 totalled RUB 9.7 bln.

RUB 9,7 bln

work expenses in 2015

Projects to ensure safety

In 2015, Russian Railways rebuilt:

- 2,814 km of railway tracks;
- a 99-metre bridge over the Adagum River on the Krymskaya-Novorossiysk section of North Caucasus Railway that had been damaged during catastrophic flooding on 6-7 July 2012;
- three engineering structures (reconstruction of small bridges over culverts);
- five roadbed objects and also built four pedestrian bridges at the Osechenka and Lyuban stations of October Railway, the Orichi station of Gorky Railway and the Mashmet station of South Eastern Railway.

2,814 km of tracks

rebuilt in 2015

Improving transportation accessibility for the public

Russian Railways had earmarked RUB 13.4 bln in investment for the implementation of projects to improve transportation accessibility for the Russian public in the reporting year and spent RUB 13.2 bln of this amount.

As part of this section, projects were carried out to rebuild railway stations for long-haul and suburban passenger transportation with the main goal of building and reducing wear on passenger and suburban infrastructure, adapting passenger infrastructure for people with limited mobility and ensuring transportation safety.

In 2015, the Company completed the reconstruction of Ladoga Railway Station (second phase), Ufa Railway Station as well as the Leningradskaya and Kazanskaya Railway Stations in Moscow and also built a new building for the Knyazhpogost Railway Station in the Republic of Komi.

The Seyatel station of West Siberian Railway and Verkhoturye station of Sverdlovsk Railway opened in the reporting year.

Purchase of traction rolling stock

The Company purchased 500 locomotives (99.6% of the plan) for a total of RUB 59.9 bln in 2015, including:

- 275 electric locomotives, including 43 passenger and 232 freight locomotives;
- 225 diesel locomotives, including 92 freight, 15 passenger and 118 shunting locomotives.

A total of 5,076 new locomotives were purchased over the period from 2003 to 2015. Increased purchases of locomotives reduce the overall wear level of the locomotive fleet. Overall, the physical wear level of the locomotive fleet has decreased to 68.76%.

In 2015, Bryansk Machine Building Plant quickly prepared for and started manufacturing modern 2TE25KM domestic diesel freight locomotives in place of the 2TE116 diesel locomotives manufactured by Ukraine's Luganskteplovoz. Compared with the Ukrainian 2TE116 diesel locomotives that Russian Railways operates, the Russian-produced 2TE25KM fully meets the requirements of Customs Union technical regulations and has a lower life cycle cost. A total of 68 such diesel locomotives were purchased for the needs of Russian Railways in 2015.

In addition, TG16M freight and passenger diesel locomotives started being supplied to the Yuzhno-Sakhalinsk operational locomotive depot of the Far Eastern Traction Directorate in 2015 to replace the TG16 diesel locomotives, which have exhausted their specified service life. The TG16M diesel locomotives are designed to haul freight and passenger trains on the tracks of Sakhalin Railway with gauges of 1,067-1,520 mm. The first three diesel locomotives of this series were delivered in 2015.

The Company purchased a new TEM19 gas-piston shunting locomotive, which was manufactured by Bryansk Machine Building Plant, for the first time in its history in 2015.

The supply of pilot TEM19 gas-piston locomotives that run on liquefied natural gas is required to confirm the locomotive's performance indicators under real operating conditions. The TEM19 is designed for shunting work, which includes detaching freight trains weighing up to 9,000 tonnes at the hump yards of marshalling yards.

Of the 500 new locomotives in the 2017 supply plan, 17 of them are innovative, including:

- 2ES10 direct-current freight electric locomotives with asynchronous traction drive and a booster section – 4 units;
- 2TE25A freight diesel locomotives – 8 units;
- EP20 double-current passenger electric locomotives – 4 units;

- TEM19 gas locomotive with a gas-piston power plant – 1 unit.

In 2015, the Company modernised 684 locomotive sections and commissioned 704 units (including locomotives with an extended service life) for a total of RUB 6.3 bln.

A total of 230 rolling stock railcars were purchased in the reporting year for a total of RUB 20.8 bln, including:

- 64 railcars of the ED electric train series manufactured by Demikhovsky Machine Building Plant;
- 6 railcars of the RA-2 rail bus series manufactured by Metrovagonmash;
- 4 Sapsan electric trains (40 railcars) and 1 Desiro electric train (5 railcars) manufactured by Siemens AG;
- 23 Lastochka (Desiro RUS) electric trains (115 railcars) manufactured by Ural Locomotives.

A total of 513 rolling stock railcars were modernised, including locomotive traction railcars and 8 Sapsan trains for a total of RUB 720.8 mln.

The electric trains are equipped with modern air conditioning systems, hermetically sealed inter-railcar walkways, automatic sliding doors, LED lighting, soft cushioned seating and headrests, a video surveillance system, forced ventilation of railcar vestibules, an on-board train diagnostics and technical monitoring system as well as security and fire alarm systems.

Other projects

Projects to introduce resource-saving technologies and develop the social sphere, among other things, were implemented as part of the 'Other projects' section.

17 innovative locomotives

purchased in 2015

Investment Programme results

The measures implemented as part of the Russian Railways investment budget in 2015 resulted in improvements to the following indicators:

- the work performed to rebuild (modernise) railway tracks in 2015 increased the domain of passenger train traffic with speeds of 120-140 km/h by 1,176 km, or 4.6%, with respect to 2014 and the domain of freight trains with speeds of more than 80 km/h by 580.6 km (+1.0%);
- the total length of main tracks on concrete sleepers stood at 97,794.517 km at the end of 2015, an increase of 1,756.4 km for the year (+1.8%), while the total length pf seamless tracks stood at 90,695.168 km, an increase of 1,701.778 km (+1.87%);
- when performing work to renovate and modernise railway automation and telemechanic equipment in 2015 on certain railway sections, the comprehensive approach prevailed with the simultaneous modernisation of electric interlocking devices, the automatic blocking system and remote monitoring and their integration into comprehensive transportation management systems. Modernisation of technical railway automation and telemechanic equipment that has doubled its service life made it possible to improve the safety and reliability of the devices; equipping technical diagnostic and monitoring centres with diagnostic and remote monitoring systems on railways ensured the maximum detection of pre-failure conditions in technical railway automation and telemechanic equipment. As a result of these measures, the number of first- and second-category failures (the KASANT system) decreased at the Company from 6,920 in 2014 to 6,363 in 2015, or 8.1%;
- work to renovate railcar fixed assets in 2015 resulted in an 11% decrease in the number of hardware failures compared with the 2014 level and also expanded the length of dedicated sections for non-stop train traffic by 16 km versus 2014;
- work to renovate electrification and power supply fixed assets in 2015 reduced the number of hardware failures 9.4% compared with the 2014 level, 111.5 km of contact network tracks for 160-km/h rapid-transit trains were rebuilt, 21.6 km of contact network were renovated on 200-250-km/h tracks to establish rapid-transit and high-speed transportation and restrictions were lifted on trains weighing 6,300 tonnes on 3 inter-station zones with total length of 71 km.