JSC “ROSZHELDORPROJECT”: INNOVATIONS, SOLUTIONS, TECHNOLOGIES

ROSZHELDOR PROJECT

1520 GROUP OF COMPANIES

2 JSC “ROSZHELDORPROJECT”: KEY PARAMETERS

JSC “Roszheldorproject” is a leading design and survey work company in railway transport of Russia.

The Company provides design development for objects of construction, reconstruction and overhaul repairs of railway transport, industrial, social and cultural and residential construction infrastructure.

5 700+
Staff

18
Production branches

7 500+
Projects for OJSC “RZD” per year on the average

26
Valid patents and titles of protection by Rospatent

40
Doctors and Candidates of Science

ROSZHELDOR PROJECT

3 SOLUTIONS

Railway infrastructure objects designing

Engineering survey

Industrial and civil construction objects designing

Power supply and electrification systems designing

Development and implementation of railroad automation and telemechanichs and communication system

Development of technical standard documentation and software

Collection and preparation of planning permissions and land planning documents

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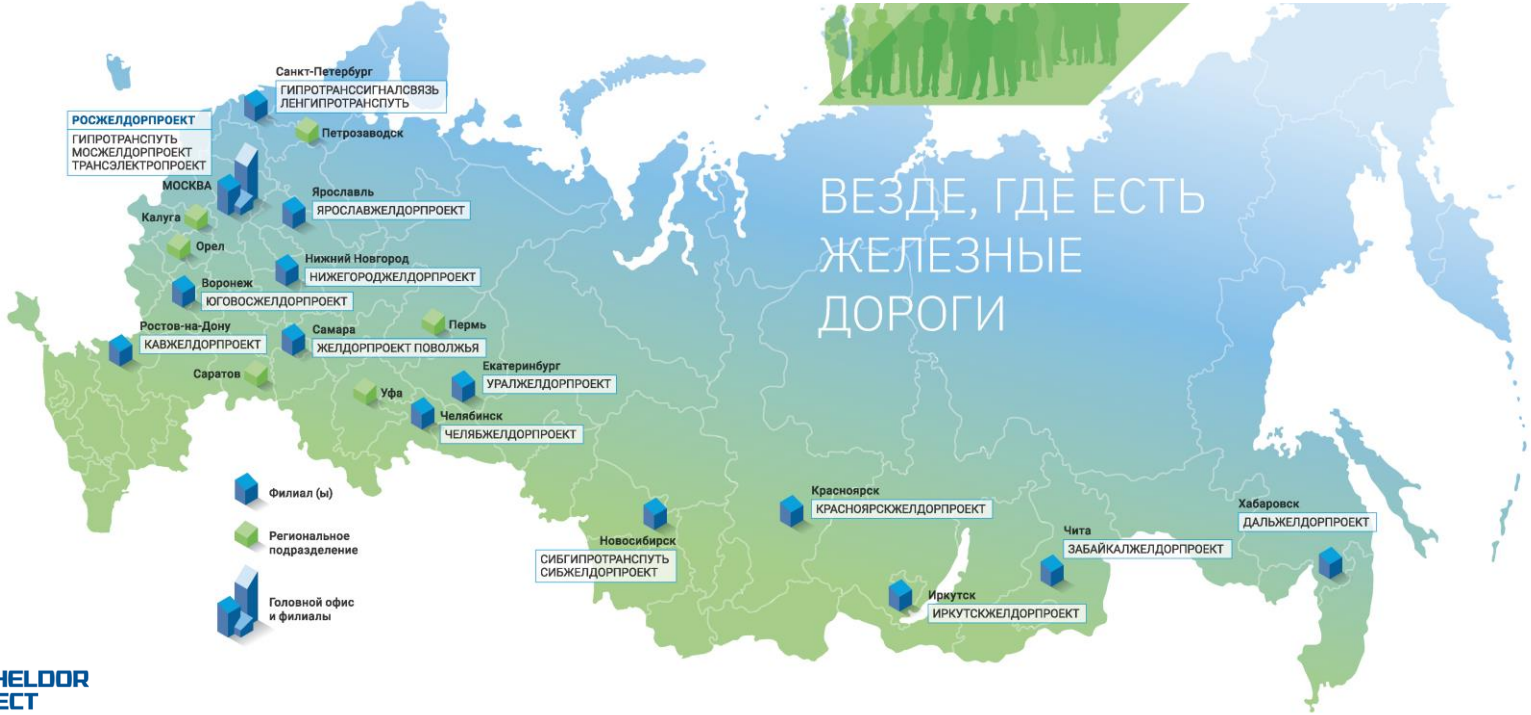
4 BRANCHES AND DIVISIONS

Over **5 700** Highly Qualified Specialists



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5 OUR STAFF

>85%
Production personnel

>90%
Academic degrees

>1100 people
Listed on the NOPRIZ-Register

>2000 people
Annual advanced training

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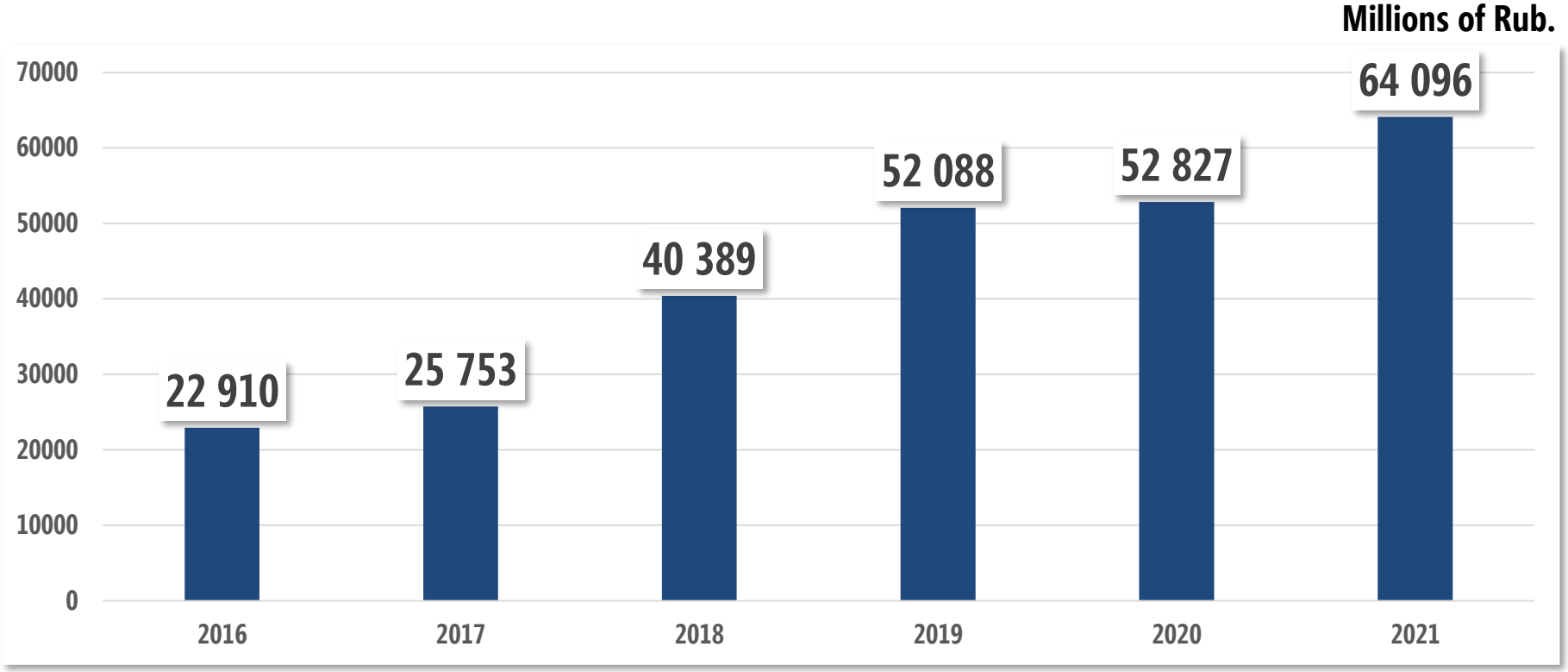
KEY PARAMETERS: ANNUAL REVENUE



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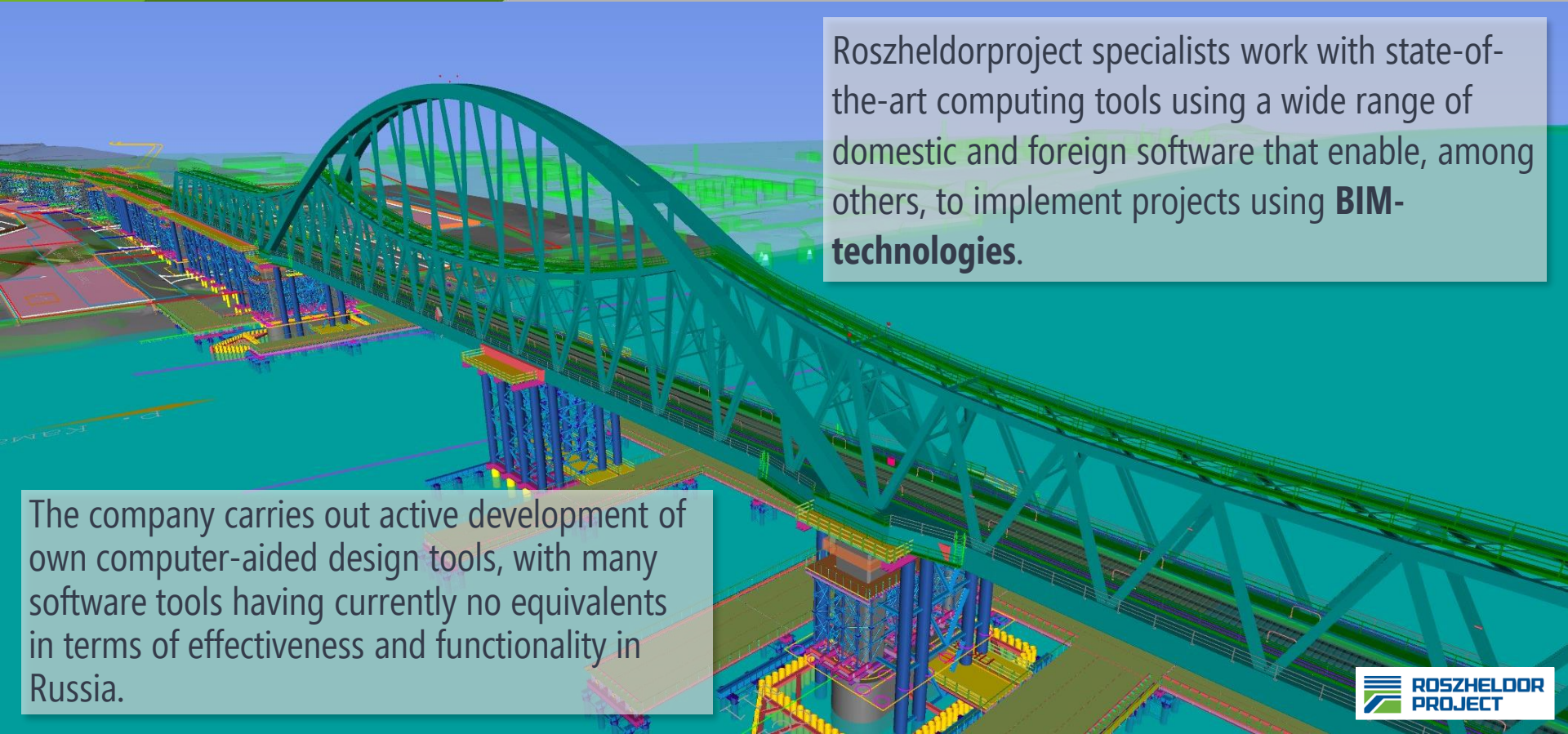
7 ADVANCED TECHNOLOGIES



Roszheldorproject specialists work with state-of-the-art computing tools using a wide range of domestic and foreign software that enable, among others, to implement projects using **BIM-technologies**.

The company carries out active development of own computer-aided design tools, with many software tools having currently no equivalents in terms of effectiveness and functionality in Russia.

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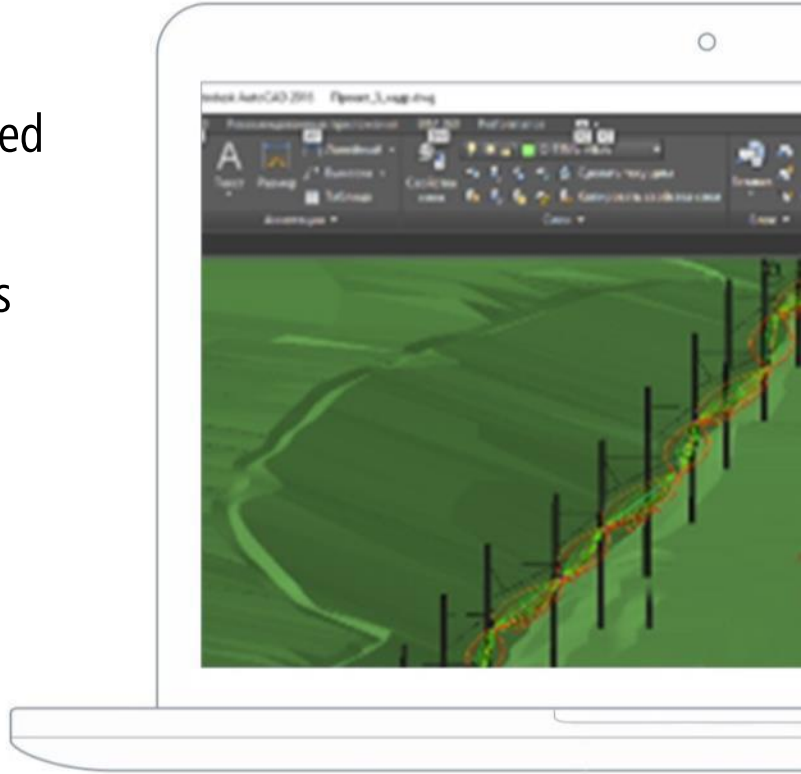
8 SELF-DEVELOPED CAD TOOLS

- Allow to be the industry technological Leader
- Allows to get the maximum benefit in highly specialized areas
- Allow to flexibly adapt to the customers' requirements
- Allow to adapt tools to information modeling requirements
- Reduce costs for design tools



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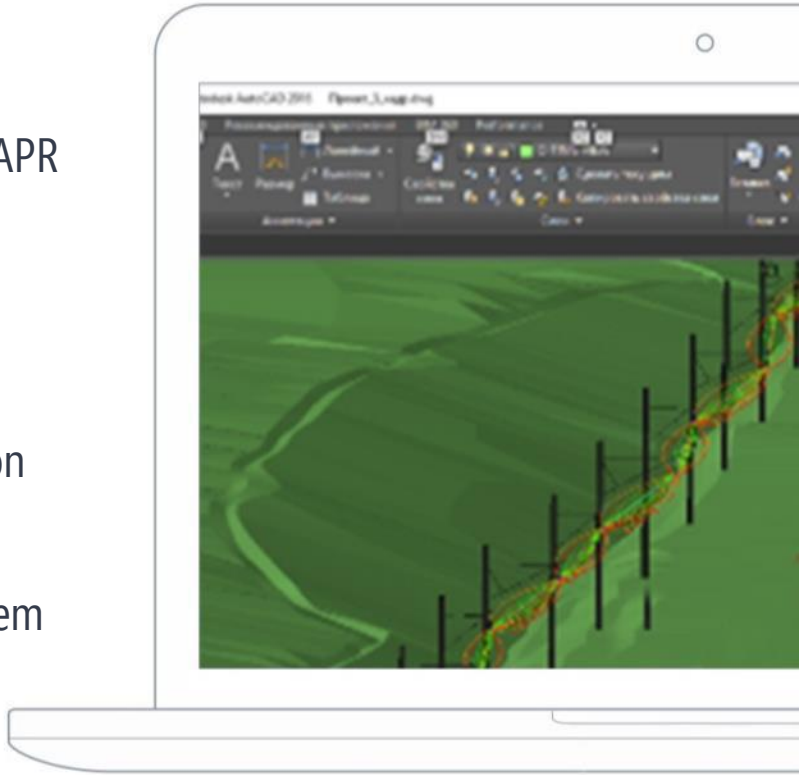
DEVELOPMENT OF INNOVATIVE CAD TOOLS

19 Rospatent titles of protection for software

- ✓ Computed-aided design system for track infrastructure (SAPR ZhD)
- ✓ Computed-aided design system for track overhaul repairs (SAPR KRP)
- ✓ Computed-aided design system for signaling, centralization and blocking and communication devices (CASPR)
- ✓ Computed-aided design system for overhead contact system (SAPR KS)



10 EQUIPMENT AND FACILITIES

Different class drilling installations – **185** items

Vehicles (including trailers, snow and swamp-going vehicles, boats) – over **300** items

Electronic total stations of various modifications **275** items

Laser scanning systems – **9** items

GNSS equipment – **278** items

Roszheldorproject has 12 certified and **2 accredited laboratories**, located in different parts of the country

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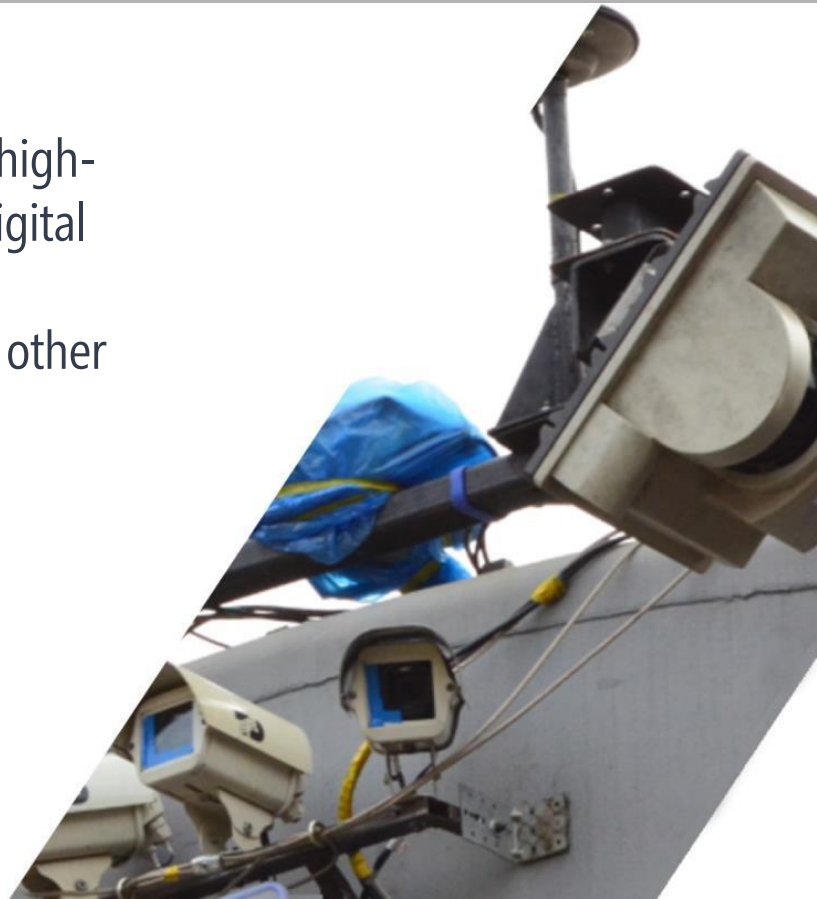
11 MOBILE LASER SCANNING

Mobile laser scanning in 3D mode using high-speed high-precision scanning system is used to create detailed digital models of locality, examination of long linear objects, topographic survey of terrain, 3D modeling and many other purposes.

Obtained data help quite accurately determine **actual volumes** and construction costs.



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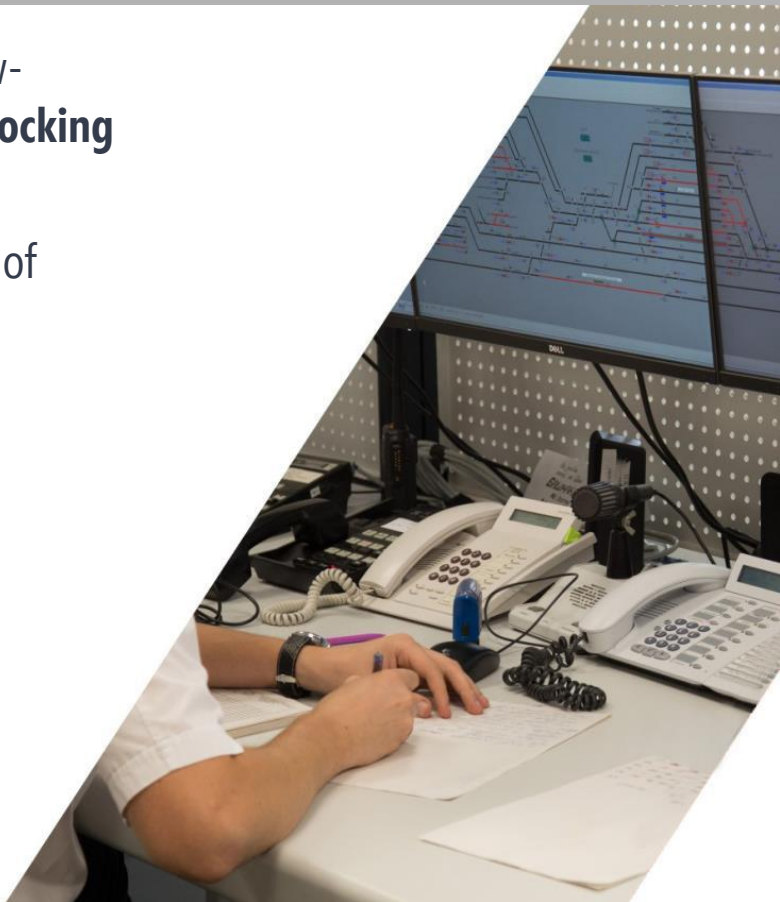
12 EXPERIMENTAL DEVELOPMENT

Development and commencement of production of reliable low-maintenance **floor and tower signaling, centralization and blocking equipment** based on most advanced component parts.

Development of **switching and locking equipment** complexes of railroad switches for speed and high-speed movement.

Development of **transportable modules (EZ-TM)** for microprocessor systems and communication equipment.

Development of **structures for laying signaling, centralization and blocking equipment and communication cables** in bridges, tunnels and overhead roads.



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13 MAJOR IMPLEMENTED PROJECTS

Organization of high-speed train operation at the section

Moscow → Saint-Petersburg → Buslovskaya of **Oktyabr'skaya Railway**

159Km
Length

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14 MAJOR IMPLEMENTED PROJECTS

Transport infrastructure design for the **2014 Winter Olympics in Sochi**

15 MAJOR IMPLEMENTED PROJECTS

Construction of combined (motor and rail) road **Adler → Alpika Service Ski Resort**

48,2Km
Length of a new railroad

46,5Km
Length of a new motor way

70
Engineering structures

6
Tunnel complexes

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16 MAJOR IMPLEMENTED PROJECTS

Organization of intermodal passenger transportations at

Vladivostok → Knevichi airport

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17 MAJOR IMPLEMENTED PROJECTS

Organization of intermodal transportations at the section from “Kazan” railway station to international airport “Kazan” for transport support for the **World Summer Universiade-2013**

18 MAJOR IMPLEMENTED PROJECTS

Construction of railway line

Prokhorovka → Zhuravka → Chertkovo → Bataysk (bypassing Ukraine)

19 MAJOR IMPLEMENTED PROJECTS

Comprehensive reconstruction of railway stations in the regions of the Russian Federation

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20 MAJOR IMPLEMENTED PROJECTS

Moscow Central Circle (MCC)

54km
Length

31
Stations

250mln.
Passengers annually

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21 INTERNATIONAL PROJECTS

DEVELOPMENT OF FEASIBILITY STUDY FOR THE OBJECT: “TRAFFIC SPEED INCREASE FOR PASSENGER TRAINS AT THE SECTION NAGPUR → SECUNDERABAD UP TO 200 KM/H”, INDIA

Implementation time

- ✓ 1 milestone completed on 29.06.2018
- ✓ 2 milestone completed on 29.03.2019
- ✓ 3 milestone completed in 2019

Key parameters of section under design

- ✓ Section length – 574 km
- ✓ Number of stations – 76 pcs
- ✓ Number of engineering structures– over 1500 pcs
- ✓ Number of railway crossings – 154 pcs
- ✓ Semi-automatic block system
- ✓ Overhead contact system – 1x25kV, AC

22 ONGOING PROJECTS

- ✓ Reconstruction and development of the Moscow Central Ring and the Radial Directions of the Moscow railway hub
- ✓ Development and renewal of railway infrastructure at the entries to Azov-Black Sea Basin ports

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23 ONGOING PROJECTS

- ✓ Complex modernization of railway infrastructure of the Eastern Polygon — Trans-Siberian and Baikal-Amur Mainlines
- ✓ Complex development of the section Mezhdurechensk → Taishet of Krasnoyarsk railway

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24 MAJOR PROJECTS

Moscow Central Diameters (MCD)

"Through" routes of shuttle trains via the capital center

MCD-1
Odintsovo → Lobnya

MCD-2
Nakhabino → Podolsk

MCD-3
Kriukovo (Zelenograd) → Ramenskoye

MCD-4
Aprelevka → Zheleznodorozhny

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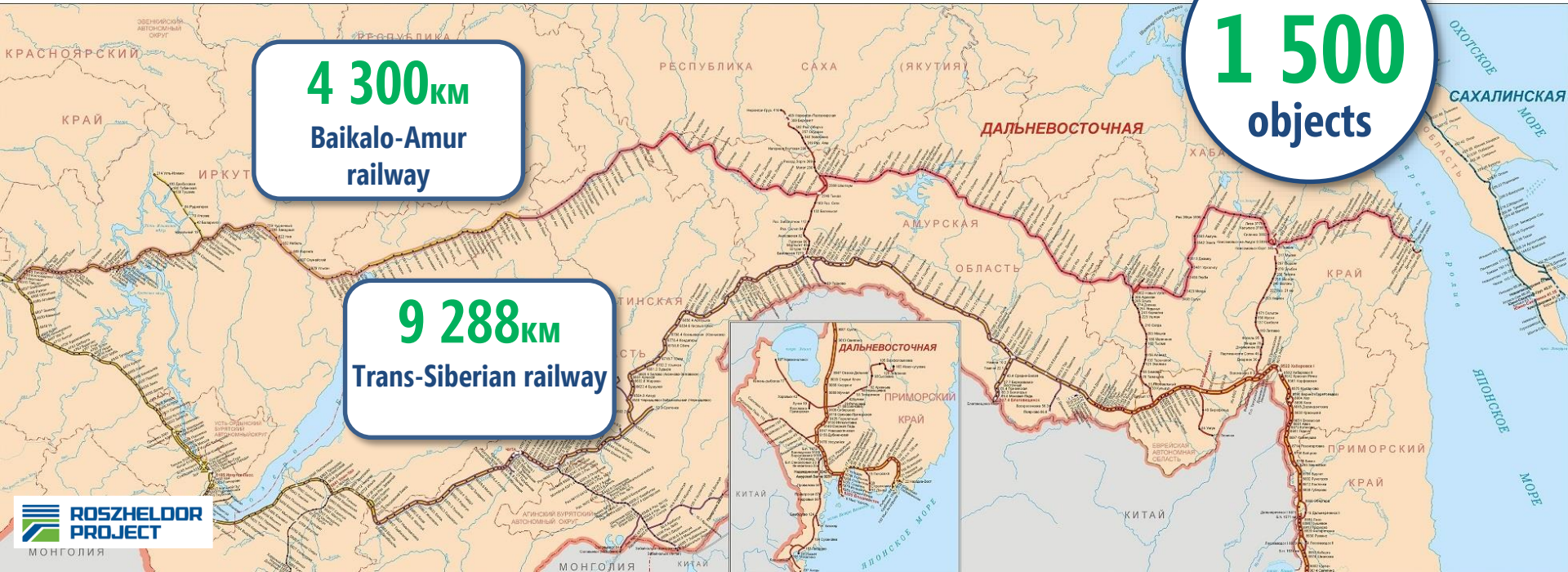
25 MAJOR PROJECTS

Modernization of the JSC “RZD” Eastern Polygon railway infrastructure



26 MAJOR PROJECTS

Modernization of the JSC “RZD” Eastern Polygon railway infrastructure

>120
objects of construction and reconstruction of stations

>70
objects of construction and reconstruction of rail junctions

2
objects of construction and reconstruction of third tracks

>85
objects of construction and reconstruction of second tracks

>790km
of railway lines electrified

>75
double-track inserts

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РОСЖЕЛДОР ПРОЕКТ

1520 ГРУППА КОМПАНИЙ