PLANS FOR THE DEVELOPMENT OF TERMINAL LOGISTICS CENTERS AND “DRY PORTS” ON THE RUSSIAN RAIL NETWORK

DEPUTY HEAD OF THE CENTRAL DIRECTORATE FOR MANAGEMENT OF THE TERMINAL AND WAREHOUSE COMPLEX (FOR DEVELOPMENT) JSC RZD

MR NIKOLAY KIRILLOV
THE CENTRAL DIRECTORATE FOR TERMINAL AND WAREHOUSE COMPLEX (CM) OF OJSC «RUSSIAN RAILWAYS» IS THE LARGEST TERMINAL AND WAREHOUSE OPERATOR IN EUROPE

FEDERAL SCOPE OF ACTIVITY

over 662 freight yards on the entire Russian railway network

CM today is:

- №1 according to the handled volumes of cargo in Russia
- №2 according to the volume of container work
- 5,300 facilities with a total area of 7.9 million m²
- 13 temporary storage warehouses
- 24 points for washing and universal processing of rolling stock and containers
- 1,748 units of loading and unloading equipment
- 289 vehicles
CM SCOPE OF WORK

CM OFFERS TERMINAL AND WAREHOUSE SERVICES THROUGH THE ENTIRE RUSSIAN RAILWAYS NETWORK

- FROM KALININGRAD TO VLADIVOSTOK
- CM is present in 78 of 85 subjects of the Russian Federation
- Warehouse capacities are located in large cities and regions, including those with poorly developed transport infrastructure
- **161 container terminals of the JSC “RZD”**
- **52 terminals** JSC “RZD” provides services on the composition of container trains
CARGO PROCESSED

- Crushed stone
- Coal
- Containers
- Heavy loads
- Metals
- Pipes
- Oversized cargo
- Cars
- Round timber
- Lumber
- Unitized cargo
- Big bags
- Contrailers
CM SERVICES

- Loading and unloading cargo from trucks, platforms, containers, including tank containers at the CM terminal
- Storage and warehouse handling
- Cleaning and washing cars and containers (including tank containers)
- Loading and unloading cargo from trucks, platforms, containers, including tank containers at the CM terminal
- Delivery and export of goods by trucks
- Temporary storage services for customs clearance cargoes
- Storage of refrigerated containers with network connection
Breakdown of CM cargo handling by the cities

CM share, %

82% CM terminals are situated in the cities with population less than 500 thousand people
Basing on the results of the survey conducted in 2020 among the clients and the company staff as well as according to study of the global experience the Methodology for classifying public areas of railway stations into categories was developed and approved, providing for the following categories:

- Railway border crossing point (RBCP);
- Transport and Logistics Center (TLC);
- Freight terminal (FT);
- Cargo area (CA);
- Disinfection and washing station, point for washing (cleaning) and preparing wagons (DWS, PWP).
Projects for the development of the network of transport and logistics centers of JSCo RZD as part of "North-South" International Transport Corridors, corridors in the Azov-Black Sea and Eastern directions.
Formation of the backbone network of the Transport Logistic Center (TLC) of the Russian Federation

30 transport and logistics centers in total

18 under operation

+8.6 mln TEU/year

total capacity of commissioned cargo multimodal transport and logistics centers

PORT POWER

EASTERN DIRECTION
23.6 mln tons/1,888 thou. TEU

SOUTH DIRECTION
16 mln tons/1,280 thou. TEU
<table>
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<tr>
<th>№</th>
<th>Region</th>
<th>Population, thousands</th>
<th>Value added by processed products and services, 2018, trn. rub.</th>
<th>Turnover in wholesale trade, 2018, trn. rub.</th>
<th>Multi-modal transport unit, trn. rub.</th>
<th>Inter-regional transport corridors</th>
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Ministry of Transport of the Russian Federation identified 10 priority regions with total population of 56 mil people to create the TLC backbone network.

The needs of other 90.7 mln Russian people will be covered by the RZD freight terminals.
Diagram of a network of hub multimodal transport and logistics centers implemented by Fininvest Group of Companies

11 multimodal transport and logistics centers
5.7 mln TEU/year terminal facilities in the regions of presence
Bely Rast Transport and Logistics Center

For JSCo RZD – comfortable access for cargo owners to infrastructure.

>500 clients in 2022 organized railway transportation of goods through the Bely Rast Transport and Logistics Center. Non-discriminatory access allows to create a competitive price railway transportation; 9 train operators are partners of the

For the Holding – a reference terminal at the MTU,

largest non-port region in terms of container turnover; intersection point of transport corridors.

Share of OTLK-ERA and Russian Railways BA trains at the TLC in 2022 — 45%;

Together with Russian Railways Logistics, participation in the Moskvich Project,
together with FGK, testing piggyback shipments.

40% of the TLC cargo turnover in communication with the PRC. TLC clients from China — 1 manufacturer of special equipment (non-container delivery by rail) (Zumlion), 6 car manufacturers (Chery, Geely, Great Wall (including the Haval plant in the Russian Federation), Changan, Dongfeng, FAW).

9 logistics platforms from different regions of China.

Solving government problems.

- Objectives of the TLC departmental project;
- Investment Cooperation Project of the Russian-Chinese Intergovernmental Commission.

Cooperation between the People’s Republic of China — standards that are clear to customers of the People’s Republic of China and contribute to the trade turnover development

2017

list of project participants formed with the inclusion of the Liaoning Port Group of Companies, in accordance with the memorandum signed in Beijing in September 2015.

2018

Sources of project financing identified, financial partner — Promsvyazbank PJSC

2020

Start of export-import cargo processing

2022

Project was implemented to increase the processing capacity of the container terminal

CURRENT STATUS

TARGET STATE OF PC 2

Target cargo flow 300 * thou. TEU/year

Target cargo flow 500 * thou. TEU/year; development of additional services.
Projects on the development of infrastructure of the railway border crossing points on the RZD network with ESCAP countries

**2021 — 1st stage of the railway border crossing development and wagon reloading point**

**2024-2025 — construction of the 2nd stage and wagon reloading point**

- **2022** — 1st stage of the railway border crossing development and wagon reloading point
- **2024-2025** — construction of the 2nd stage and wagon reloading point

- **2028** Finalization of the construction of the reloading facility of the border crossing point

- **2024** Finalization of the construction of the reloading facility

- **2024** Finalization of the construction of the reloading facility

- **2023** New border crossing point opened

- **2028** Finalization of the construction of the reloading facility of the border crossing point

- **2024** Finalization of the construction of the reloading facility

- **2024** Finalization of the construction of the reloading facility

- **2024** Finalization of the construction of the reloading facility

**Derbent**

**Махалино**

**Naushki**

**Nizhnelensinsk**

**Zabajkalsk**

**Grodekovo**
"dry ports" are proposed to be included in the International Agreement.
Master plan of the Artem Hub Multimodal Transport and Logistics Center (Dry Port) in the Primorsky Territory, implemented by Fininvest Group of Companies

| 417 | Area, ha |
| 1 mln | Processing capacity, TEU/year |
| 16 | Number of dead end tracks in the accumulation and sorting park |
| 10 | Number of loading/unloading fronts 1050 m long |
| 8 | Number of receiving and departure tracks with a length of 1050 m |
| 2024 | Start of operations |
| 2027 | Completion of construction |
Common technology of work of the Vladivostok sea ports with RZD freight terminals

Vladivostok Commercial Sea Port and TLC and freight terminals working with it using the common technology.

Seaport  30-40 runs per shift  RZD terminal  Train
Master plan of the Southern Port (Dry Port) Multimodal Transport and Logistics Center in the city of Moscow, implemented by JSCo RZD

16.2 Area, ha

560 thou. Processing capacity, TEU/year

71 Conventional length of processed freight trains

2024 Start of operations

2027 Completion of construction
Implementation of the project to establish the South Port TLC (Dry Port) in Moscow

- Construction of the container storage territory
- Administration building with training center
- Clients' office in TLC
- Garage and repair and maintenance yard for the TLC equipment
Creation of the network of client offices of the JSC “RZD” based on the “single window” principle
Creation of the network of client offices of the JSC “RZD” based on the “single window” principle.
New technologies: automated control system for the terminal and warehouse complex of JSCo RZD (ASU TCK)

**ASU TCK today is:**

- **DIGITAL LOGISTICS PLATFORM OF RUSSIAN PRODUCTION**
- **DIGITAL TWIN OF CARGO TERMINAL**
- **AUTOMATED CONTAINER YARD MANAGEMENT SYSTEM WITH GRAPHIC VISUALIZATION OF YARDS**
- **MOBILE WORKSTATION OF A CARGO TERMINAL EMPLOYEE**
- **ELECTRONIC DOCUMENT FLOW AND CENTRALIZED REGISTRATION OF COMMODITY AND TRANSPORT DOCUMENTS**
- **SOFTWARE AND HARDWARE COMPLEXES OCR**
- **INTELLIGENT SECURITY SYSTEMS IN PRODUCTION**

662 freight terminals of JSCo RZD throughout the Russian rail network

Integrated and interacts with other automated control systems of JSCo RZD

In 2024, it is planned to develop the digital ecosystem of JSCo RZD in the TWC ACS in terms of interaction with the Federal Customs Service of the Russian Federation for multimodal export and import transportation.
Based on the results of the development of the ESCAP digital platform for identifying dry ports, the issue of the possibility of integrating systems to ensure the relevance of information during international transport will be considered.
New technologies: target scheme for the removal of containers from the Far East seaports using gondola cars

48 thousand containers shipped for H1 2023 in gondola cars

TECHNOLOGY SYSTEM

- ELECTROUGLI TLC/NORTH-WEST/SOUTH
- URALS Traits TLC/OMSKY TLC/SIBERIAN TLC/KUZBASS TLC
- ARTEM TLC
- REAR TERMINALS OF NAKHODKA

ROUTE FOR TRANSPORTING CONTAINERS IN GONDOLA CARS
ROUTE FOR TRANSPORTING CONTAINERS ON FITTING PLATFORMS
RETURN ROUTE FOR EMPTY GONDOLA CARS
ROUTE FOR TRANSPORTING COAL IN GONDOLA CARS

EFFECTS

- Accelerating the removal of containers from the Far East seaports
- Increase in cargo turnover at port terminals
- Increasing the freight traffic flow on JSCo RZD network

As a result of the implementation of the process scheme for organizing trains using gondola cars, the scope of container removal from the Far East seaports will be 25 container trains/day.
New technologies: service for transporting small consignments of goods in a container using 5 and 10 foot medium-tonnage modules

- Loading of the module with fork lifter
- Special adapter for the transportation of modules
New technology: transshipment of the containers from one wagon to another using direct option without breaking up container trans at the transit container terminal stations

- Additional tracks
- Receipt and departure routes
- Tracks for locomotives and wagons requiring repair
- Main track
- Section isolator
- Track free of contact line
- Container hump yard (additional)
- Main container storage field

**Scheme of the Container Terminal Station**

**LEGEND**

1. Additional tracks
2. Receipt and departure routes
3. Tracks for locomotives and wagons requiring repair
4. Main track
5. Section isolator
6. Track free of contact line
7. Container hump yard (additional)
8. Main container storage field
The main tools for joint training of personnel by higher educational institutions and JSC Russian Railways

- Assigning the heads of JSC Russian Railways to university departments
- Selection and referral of the best schoolchildren to targeted training
- Joint development of a training program with the university
- Thematic lectures and speeches by the leaders of JSC Russian Railways. Excursions to the cargo terminal
- Teaching at the university by managers of JSC Russian Railways
- Industrial practice at cargo terminals with professional orientation for the student
- Formation of the thesis topic, supervision of the thesis practice and review of the work
- The State Examination Commission is headed by the one of the top managers of JSC Russian Railways
- Selection of the best graduates based on the results of their diploma and their employment
- The main tools for joint training of personnel by higher educational institutions and JSC Russian Railways
The transition from universalization to specialization of specialist training

Taking into account the needs of the terminal and logistics complex, trends in its development and transformation, I believe that the professional training of a specialist in the field of transport and logistics business, in addition to basic knowledge, should be carried out in 3 main specializations:

1. Specialist in the field of commercial and marketing work, logistics, service and customer service
2. Specialist in the field of operation, maintenance and development of terminal and logistics complex infrastructure
3. Specialist in the field of organization and optimization of operational work, production and business processes, automation, digitalization and robotization of processes
Specialist in the field of Marketing, logistics, service and customer service

1. Customer focus.
2. Methods and psychology of working with clients.
3. Marketing, tools for selling services and works, creating new transport and logistics products that are in demand among the client.
4. Logistics.
5. Economics, tariff setting.
6. Transport law (Russian and international).
7. International and Russian experience in the implementation of transport and logistics products.
8. Brand and corporate identity of the company.
Specialist in the field of operation, maintenance and development of terminal and logistics complex infrastructure

1. Norms and rules for the operation and maintenance of infrastructure facilities and equipment of the terminal and logistics complex.
2. Norms and rules for the development and construction of infrastructure facilities.
3. Norms and rules of labor protection, fire and industrial safety, traffic safety, ecology.
4. Organization of investment activities, technical, technological and economic assessments of investment projects.
5. Russian and world experience in creating and operating infrastructure facilities of the terminal and logistics complex.
Specialist in the field of optimization of operational work, production and business models, automation, digitalization and robotization of processes

1. Effective organization of operational work of the terminal and logistics complex.
2. Technology of operation of terminal and logistics complex units, methods and tools for its optimization.
5. Effective work organization.
6. World and Russian experience in issues within the competence of the specialist.
8. Proficiency in modern tools for data collection, analytics and processing.
9. Proficiency in robotics and production process automation tools.