Digital transport transformation: open data platforms and integration into the global transport system

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STRATEGIC SESSION 3
Digital transport and intelligent infrastructure: DIGITALIZATION, STANDARDIZATION & SCALING

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RZD DIGITAL TRANSFORMATION

DIGITAL PLATFORMS

DIGITAL SERVICES

TARGET KPI FOR 2025

FREIGHT TRANSPORTATION

RZD INTERNAL SERVICES

- SHARE OF ELECTRONIC TICKETS FOR LONG DISTANCE TRAINS – 70%

PASSENGER TRANSPORTATION

SERVICES FOR AUTHORITIES

- SHARE OF FREIGHT TRANSPORTATION SERVICES AND ACCOCIATED SERVICES AVAILABLE IN ELECTRONIC FORM – 75%

NON-RAIL TRANSPORT DIGITAL PLATFORMS

DIGITAL ECOSYSTEM OF THE TRANSPORT INDUSTRY
A digital platform is a set of tools built on modern digital technology that makes the customers interaction, data exchange and service provision easy.

The services, information, and solutions on the digital platform are the products that you as a customer will interact with and pay for.
ELECTRONIC TRADING PLATFORM “FREIGHT TRAFFIC”

DATA EXCHANGE OPTIONS

INTERNET

REQUEST FOR SERVICE
TARIFF
TRANSPORTATION + FREIGHT CAR + ADD. SERVICES

SERVICE PROVIDERS:
CARRIER + ...

APPLICATION-TO-APPLICATION INTERACTION
CLOUD SOLUTION

ELECTRONIC DOCUMENT EXCHANGE
USER-FRIENDLY INTERFACE
FUNCTIONAL EXTENTION OPPORTUNITY

REQUEST FOR SERVICE
BASIC TRANSPORTATION SERVICES
REQUEST FOR SERVICE
FREIGHT CAR + ADD. SERVICES

ELECTRONIC DOCUMENT EXCHANGE

“FREIGHT TRAFFIC”

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ELECTRONIC TRADING PLATFORM “FREIGHT TRAFFIC” ADVANTAGES

FLEXIBLE SETTLEMENT SYSTEM

NON-DISCRIMINATED ACCESS TO THE SERVICE FOR ALL MARKET PARTICIPANTS

DIGITAL TECHNOLOGIES: BLOCKCHAIN & SMARTCONTRACTS

TRANSPARENCY OF TARIFFS AND SERVICE PROVISION PROCESS

PREPARATION PHASE

SERVICE PROVISION

TRADITIONAL

DIGITAL

(1 - 3 days ~ 3 minutes)

2 - 15 days ~ 7 minutes

Next step

loading/unloading operations, export transportation via sea ports, warehouse services, multimodal services, financial services

ON-LINE SERVICE: TRANSPORTATION + CAR
THE PROJECT:

▪ SMART CONTRACT FOR TRANSPORTATION AND LOGISTIC OPERATIONS

PILOT AREA:

▪ October railway (territorial branch of RZD)

PARTICIPANTS:

▪ Consigner – LLC “Module”,
  Consignee – JSC «Sea Port St.Petersburg»,
  Carrier – JSCo “RZD”

RESULTS EXPECTED:

▪ Transparent transportation process
▪ Reduced time for documents preparation, Optimized document flow
▪ Automated calculation of penalties or extra services tariff
▪ Reduced time for claims settlement
FREIGHT TRANSPORTATION DIGITAL PLATFORM

RZD PILOT PROJECT

REQUEST FOR RAILWAY TRANSPORTATION

CONSIGNER

LLC "MODULE"

CARRIER
TRANSPORTATION STATUS DATA

Морской порт Санкт-Петербург
JSC «SEA PORT ST.PETERSBURG»

CONSIGNEE
GOODS RECEIVED DATA

TO-BE VISION:
SINGLE BLOCKCHAIN PLATFORM

GOODS RECEIVED DATA

CONSIGNER

RAILWAY TRANSPORTATION

GOODS INSURANCE

REQUEST FOR MULTIMODAL TRANSPORTATION

RAILTRANSPORTATION DATA/TRANSPORT CHANGE DATA

SEA TRANSPORTATION

GOODS TEMPORARY STORAGE DATA

WAREHOUSE

GOODS RECEIVED DATA

CONSIGNEE

SEA TRANSPORTATION

DATA/TRANSPORT CHANGE DATA

AUTOTRANSPORTATION

GOODS INSURANCE

REQUEST FOR MULTIMODAL TRANSPORTATION

RAILTRANSPORTATION DATA/TRANSPORT CHANGE DATA

SEA TRANSPORTATION

GOODS RECEIVED DATA

CONSIGNEE

SEA TRANSPORTATION

DATA/TRANSPORT CHANGE DATA

AUTOTRANSPORTATION

GOODS INSURANCE

REQUEST FOR MULTIMODAL TRANSPORTATION

RAILTRANSPORTATION DATA/TRANSPORT CHANGE DATA

SEA TRANSPORTATION

GOODS RECEIVED DATA

CONSIGNEE

SEA TRANSPORTATION

DATA/TRANSPORT CHANGE DATA

AUTOTRANSPORTATION
BLOCKCHAIN-BASED OPEN PLATFORM

STATE REGULATOR
DIGITAL PLATFORM

PLATFORM COMPONENTS

DIGITAL SERVICES

DIGITAL PLATFORMS OF RUSSIAN COUNTERPARTS

DIGITAL PLATFORMS OF FOREIGN COUNTERPARTS
“SMART LOCOMOTIVE”
- Self-diagnostic services
- Technical vision services
- Intelligent assistant services

DIGITAL DEPOT
- Staff training services based on digital models and augmented reality

LOCOMOTIVE DIGITAL MODEL
- Locomotive digital model for lifecycle management services

PREDICTIVE ANALITICAL MODEL
- Maintenance planning according to actual condition services

TRUSTED LOCOMOTIVE ENVIRONMENT
- Data exchange and interaction services for locomotive owners, producers, service companies, spare part suppliers, etc.

DIGITAL PLATFORM OF THE TRACTION ROLLING STOCK
DIGITAL ECOSYSTEM OF THE TRANSPORT INDUSTRY

**RZD APPROACH TO THE DIGITAL TRANSFORMATION: OPEN PLATFORMS ARE KEY FOR EASY INTEGRATION INTO THE GLOBAL TRANSPORT SYSTEM**

DIGITAL ECOSYSTEM OF THE TRANSPORT INDUSTRY MEANS:

- Set of technology solutions providing single interface and clear rules for easy data exchange and interaction
- Special application for data verification to ensure data and service quality in the trusted environment and manage effectively any discrepancy
- Open architecture to ensure easy connection of any new participant and interaction based on standard rules and protocols
- Effective financial model to cover operating costs
THANKS FOR ATTENTION!