



MINISTRY OF TRANSPORT OF THE RK

# SMART MOBILITY IN KAZAKHSTAN

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Digital transformation of roads

The Philippines, 2026



# KAZAKHSTAN IN THE TRANSPORT SYSTEM OF EURASIA



9

rank in the world

territory



2.7

million km<sup>2</sup>

area



95

thousand km

total network



25

thousand km

republican networks



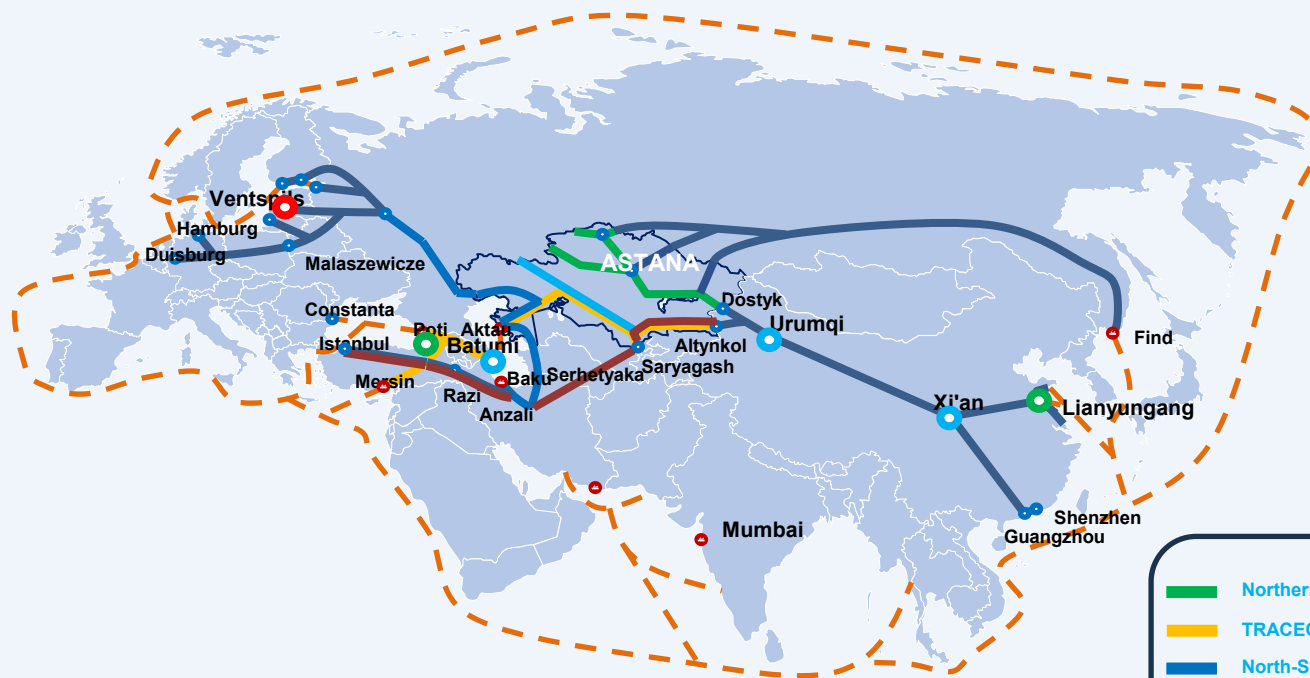
70

thousand km

local networks

## Intelligent transport systems are a key sector modernization element

- infrastructure digitalization
- smart logistics
- transport safety
- trade and transit efficiency





# ROAD PROJECT GEOPORTAL

A SINGLE DIGITAL PLATFORM



## CONSTRUCTION AND MAINTENANCE

- real time work monitoring
- control of volumes , deadlines and statuses
- projects by instruction of the President of the RK



## ENGINEERING DATA

- culvert pipes
- technical characteristics of facilities
- digital data base for maintenance



## MANAGEMENT CONTROL

- transparency of project implementation
- prompt decision making
- monitoring by region and type of works

TRANSPARENCY

SPEED

QUALITY

CONTROL



## SMART MONITORING OF ROAD EQUIPMENT



**1.5+**

thousand units

special vehicles/equipment



**24/7**

online

monitoring



**GPS**

fuel / works

data

**DATA**

CONTROL

### TRAFFIC MONITORING

- displaying equipment in the geoportal
- control of routes and maintenance areas
- timely commencement of services

### WORK CONTROL

- types and volumes of work
- efficiency of road maintenance
- production activity record-keeping

### FUEL CONTROL

- consumption accounting and analysis
- identification of unauthorized draining
- decreasing operational losses



## TRAFFIC INTENSITY IN TOLL SECTIONS



5

thousand km

toll roads



26

sections

tolled



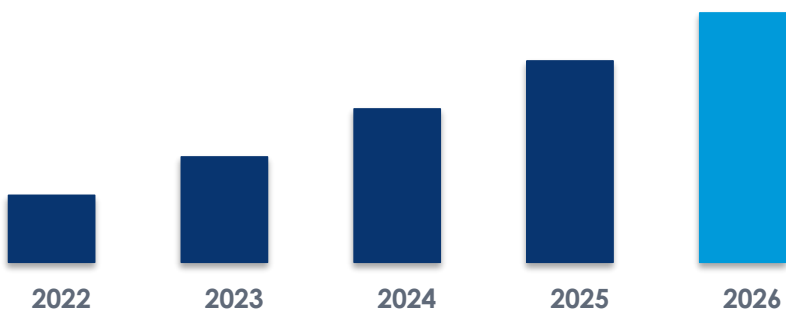
18–20%

annually

growth

ITS

### TRAFFIC INTENSITY ANALYTICS



### SYSTEM CAPABILITIES

- classification of transport funds
- analysis by day, hour and section
- identification of busy routes
- identification of high-income sections



## FREIGHT TRANSPORT CONTROL AND SECURITY

### SMART CARGO: COMPREHENSIVE CONTROL OF FREIGHT TRANSPORT

**1** drivers' work and rest regime

**2** route and false transit monitoring

**3** control of excess loads and road condition

**4** digital registry of carriers, vehicles and drivers

**5** comparison of actual shipments versus declarations

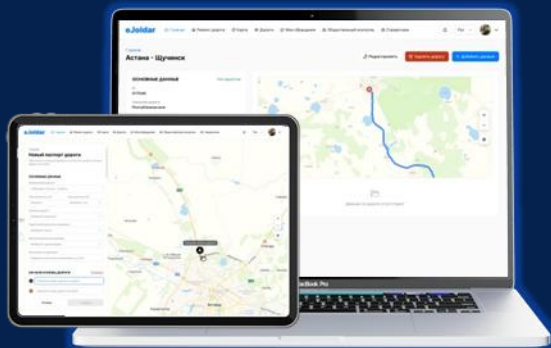
**6** prompt response to incidents

**Control of cargo flows reduces risks, increases market transparency and protects road infrastructure.**

# E-JOLDAR: DIGITAL PASSPORTS AND DIGITAL ROAD TWINS

## DIGITAL TWIN

current model of roads based on data



### 1. ROAD PASSPORT

centralized records of parameters

### 2. DIAGNOSTICS

network status data

### 3. DESIGN

integration of design solutions

### 4. CONSTRUCTION

monitoring during implementation

### 5. MAINTENANCE

operation and maintenance

### 6. UNIFIED SYSTEM

full life cycle

## KEY CHALLENGES AND NEEDS



### CHALLENGES

- 1 Systemic integration**  
Integration of state information systems and interoperability of data
- 2 Regulation and safety**  
updating the regulatory framework, cybersecurity
- 3 Human resources**  
training of ITS and data-driven management specialists



### NEEDS / CAREC

- ✓ **Practical solutions**  
unified standards, pilot projects, experience sharing
- ✓ **International effect**  
smart corridors, regional connectivity
- ✓ **Training**  
joint programs and competency development



# KAZAKHSTAN IS ESTABLISHING A MODERN DIGITAL TRANSPORT ECOSYSTEM



## SAFETY

decrease risks and prompt response



## TRANSPARENCY

monitoring projects, equipment and cargo flows



## SUSTAINABILITY

good road conditions and efficient resource management

Kazakhstan is open to further cooperation under the CAREC to develop intellectual mobility, digital corridors and unified approaches to transport systems integration.

**Thank you for your attention!**