

# Pidevas liikumises



EESTI RAUDTEE



## BORDER STATIONS

WITH RUSSIA

Narva-Ivangorod • Koidula-Pechory

WITH LATVIA

Valga-Valka

Total capacity within 24 hours 56 train pairs

Both border stations and call stations have 1500 metre station rails, providing good conditions for processing even very heavy and long freight trains.

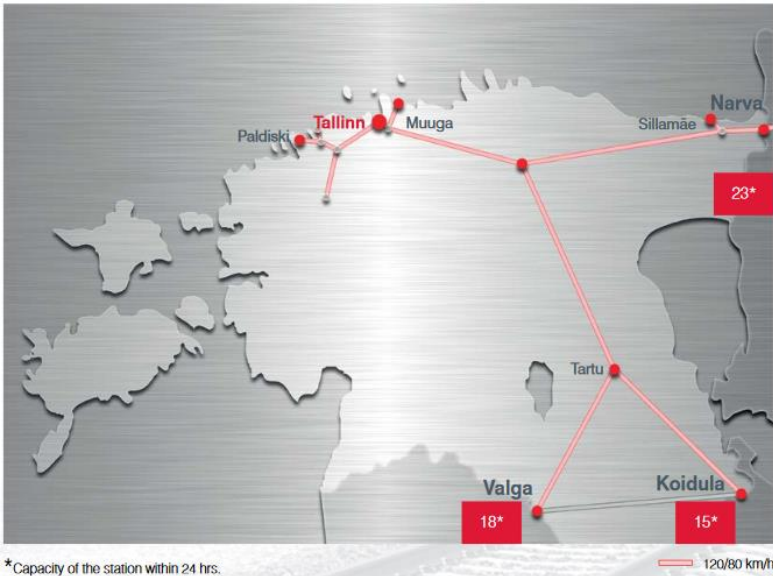
### ■ Border station ■ Trains accepted

Valga	5200 tonnes or 57 standard units
Koidula	5200 tonnes or 57 standard units On special agreement up to 6000 tonnes or 69 units
Narva	5600 tonnes or 57 standard units On special agreement up to 7000 tonnes or 71 units

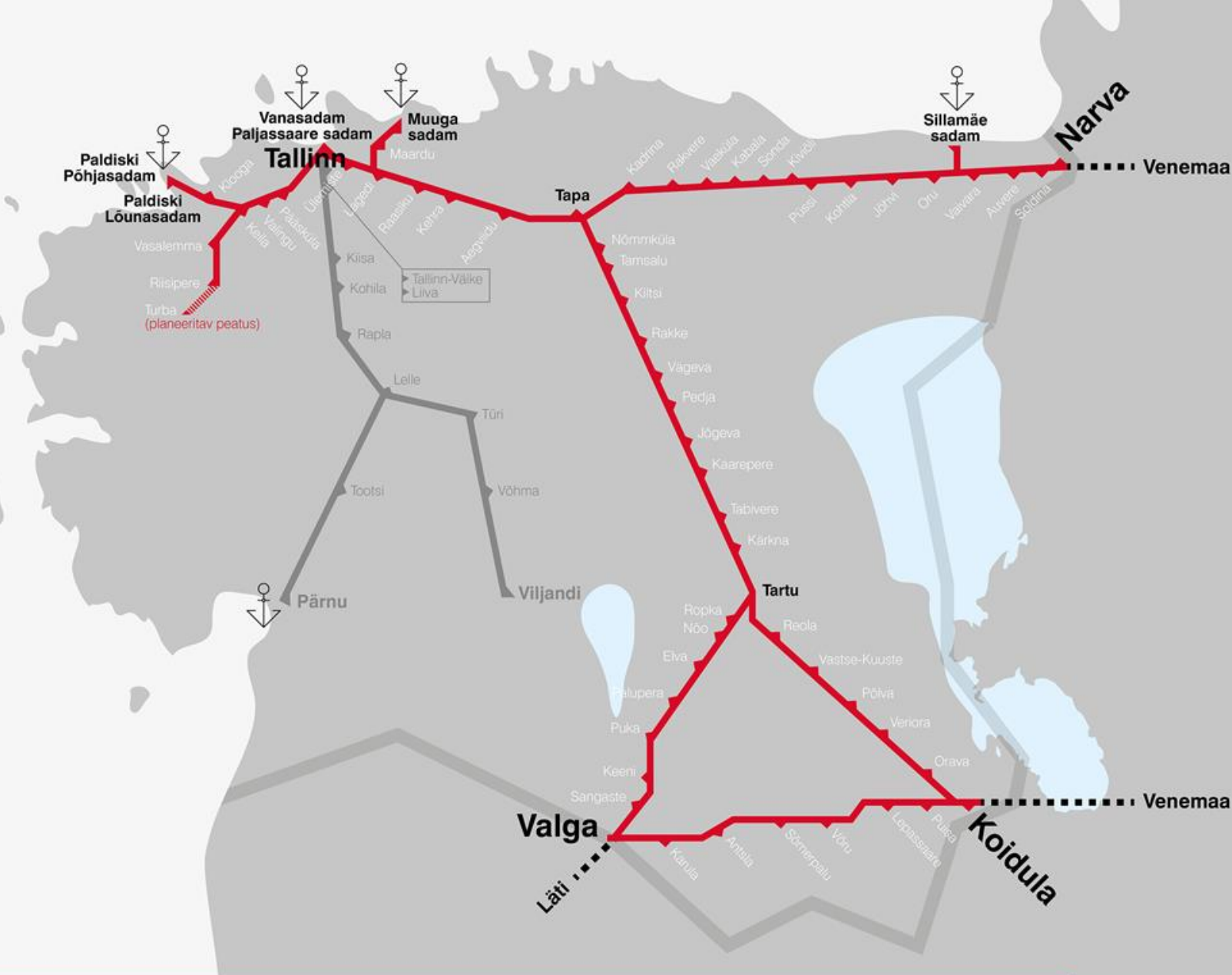


Track gauge	1520/1524 mm
Overall length of railways	1219 km
Including double-track railways	94 km
Number of switches	1190 pcs
Length of electrified railways	132 km
Number of passenger platforms	129 in use
Number of stations	61
Number of border stations	3
Capacity	56 train pairs per 24 hours





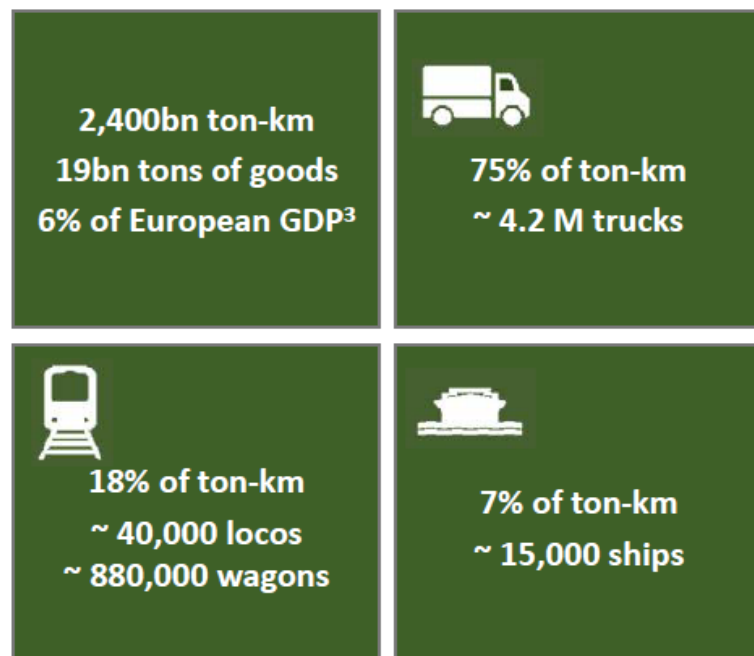
\*Capacity of the station within 24 hrs.



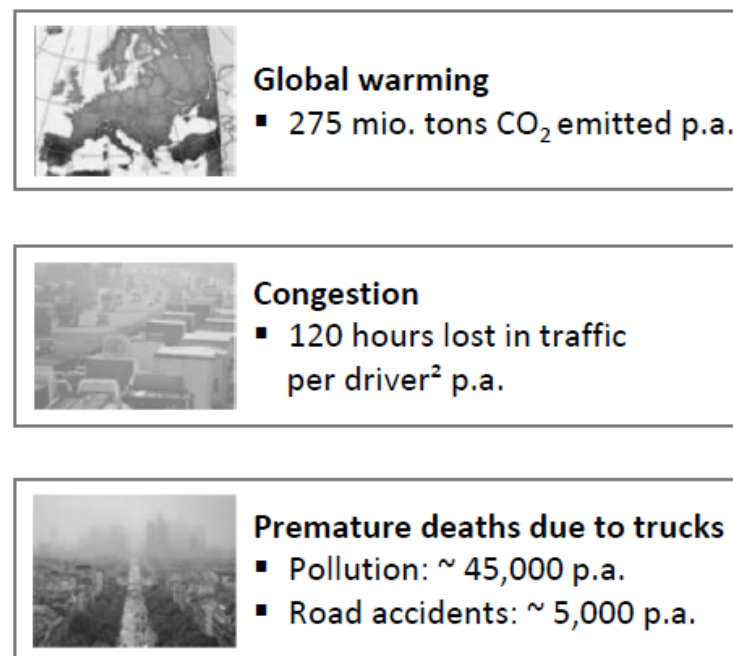
# European land freight transport is an important economic sector with massive impact on environment and society

*European<sup>1</sup> land freight transport facts and impact, 2015*

## Freight Transport key facts



## Impact on environment and society



<sup>1</sup> EU 28 + CH, N

<sup>2</sup> Lost time in traffic and planning time, average FRA, GBR, GER

<sup>3</sup> Whole logistics sector

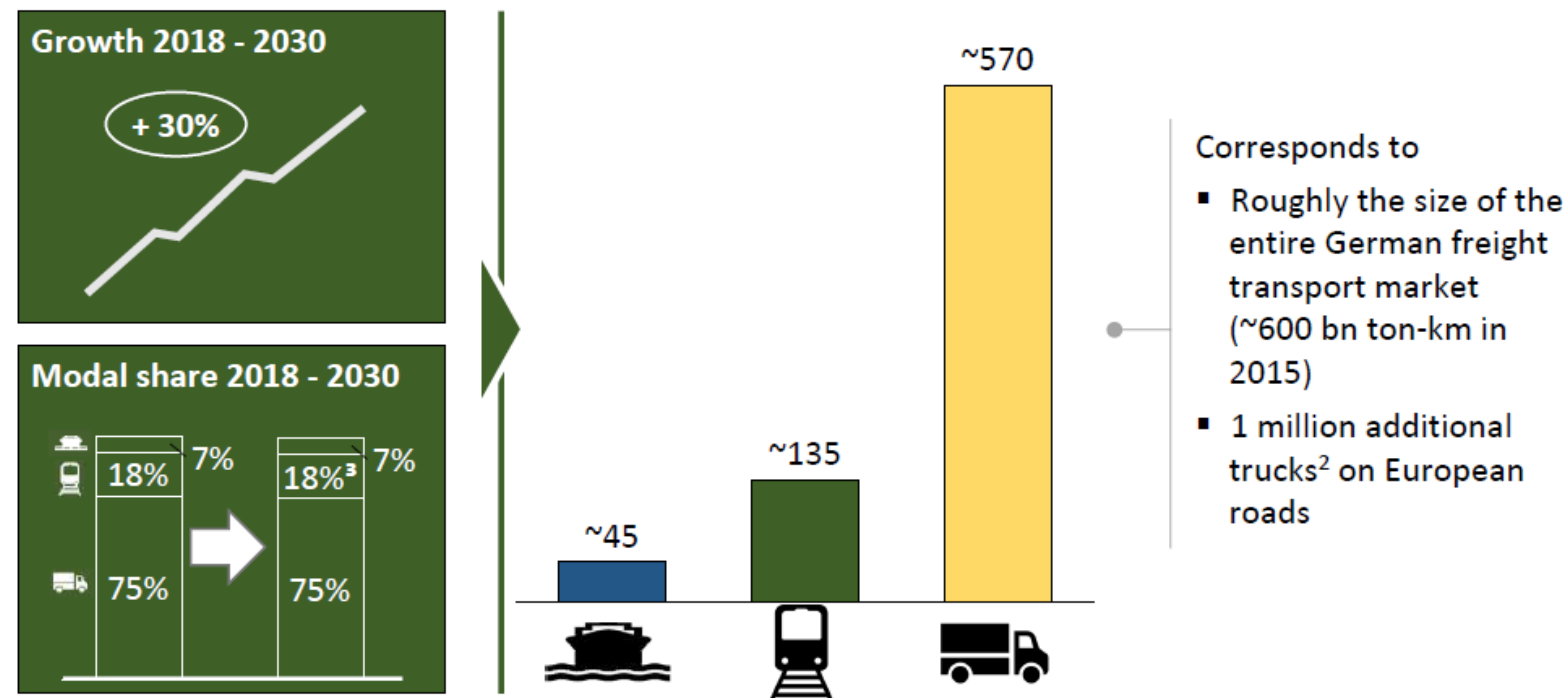
Source: Eurostat, Fraunhofer IIS, EEA, EU commission, INRIX

# Additional 570bn ton-km will be transported on road in 2030 assuming constant modal shares

## *Additional freight transport 2030 vs. 2018*

in bn ton-km; EU 28 + CH, N; excluding pipeline, sea and air<sup>1</sup>

### Optimistic base scenario



<sup>1</sup> Not in focus, market size ~ 1,250bn ton-km in 2015

<sup>2</sup> Estimated range of 600,000 - 1,400,000 trucks

<sup>3</sup> Stagnation of rail modal share (since 2004) continues

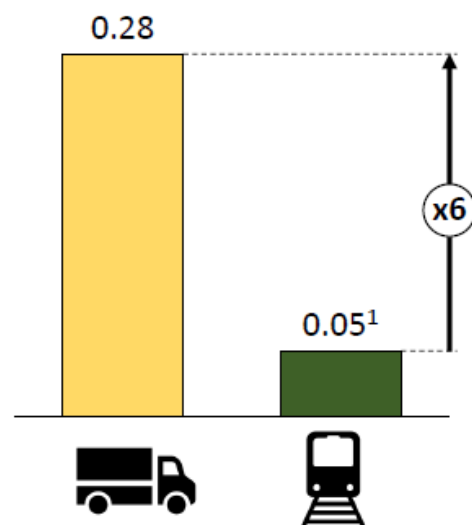
Source: Eurostat, OECD

Rail has a 6x lower specific energy consumption than road due to physical advantages such as wheel-on-rail and electrification

### *Comparison of energy efficiency*

in KWh / ton-km specific energy input, 2017

#### Rail 6x better than road ...



#### ... and further improving



Reduction of specific energy consumption  
-21% (2006-2020, tbd)



Modernisation/  
electrification of fleet



Recovery of  
breaking energy



Driver Training for  
efficient energy  
consumption



Driving assistance  
system<sup>2</sup>



Improved traffic  
management

<sup>1</sup> Drivers: lower friction of steel-on-steel vs. rubber-on-road, high level of electrification

<sup>2</sup> E.g., LEADER: Locomotive Engineer Assist Display and Event Recorder [co-financed by EU]

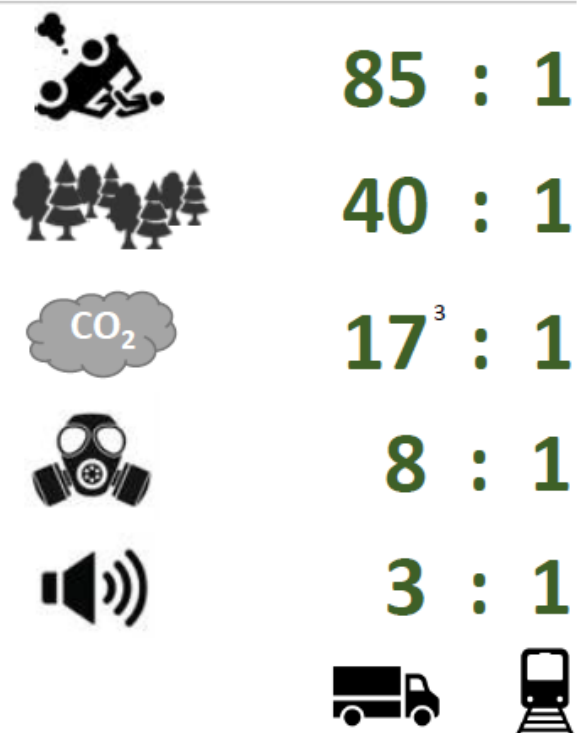
Source: Austrian Umweltbundesamt (2017), RUs

# This translates into by far lower external costs than road

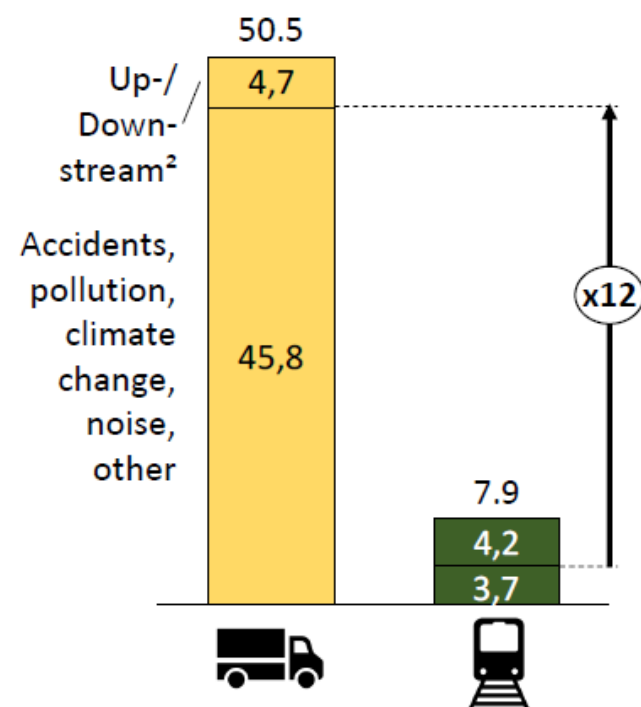
## Comparison of external costs<sup>1</sup>

in EUR/1,000 ton-km, 2012

### Selected external cost categories



### Total



<sup>1</sup> Noise, Climate Change, Pollution, accidents, other excluding congestion based on EU + CH, N

<sup>2</sup> Impact of prior/later steps on value chain, e.g. supply of fuel

<sup>3</sup> Figure based on source. Other more recent sources (e.g. German Umweltbundesamt 2018) use ratios of approx. 6:1

Source: eRRac, CE Delft 2012, Fraunhofer, INFRas

# Cost of infrastructure expansion for transport growth on rail much smaller than on road

*Free capacity for additional growth*

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- 1 vehicle every 3 seconds per lane
- Congestion/lack of space in urban/industrial areas

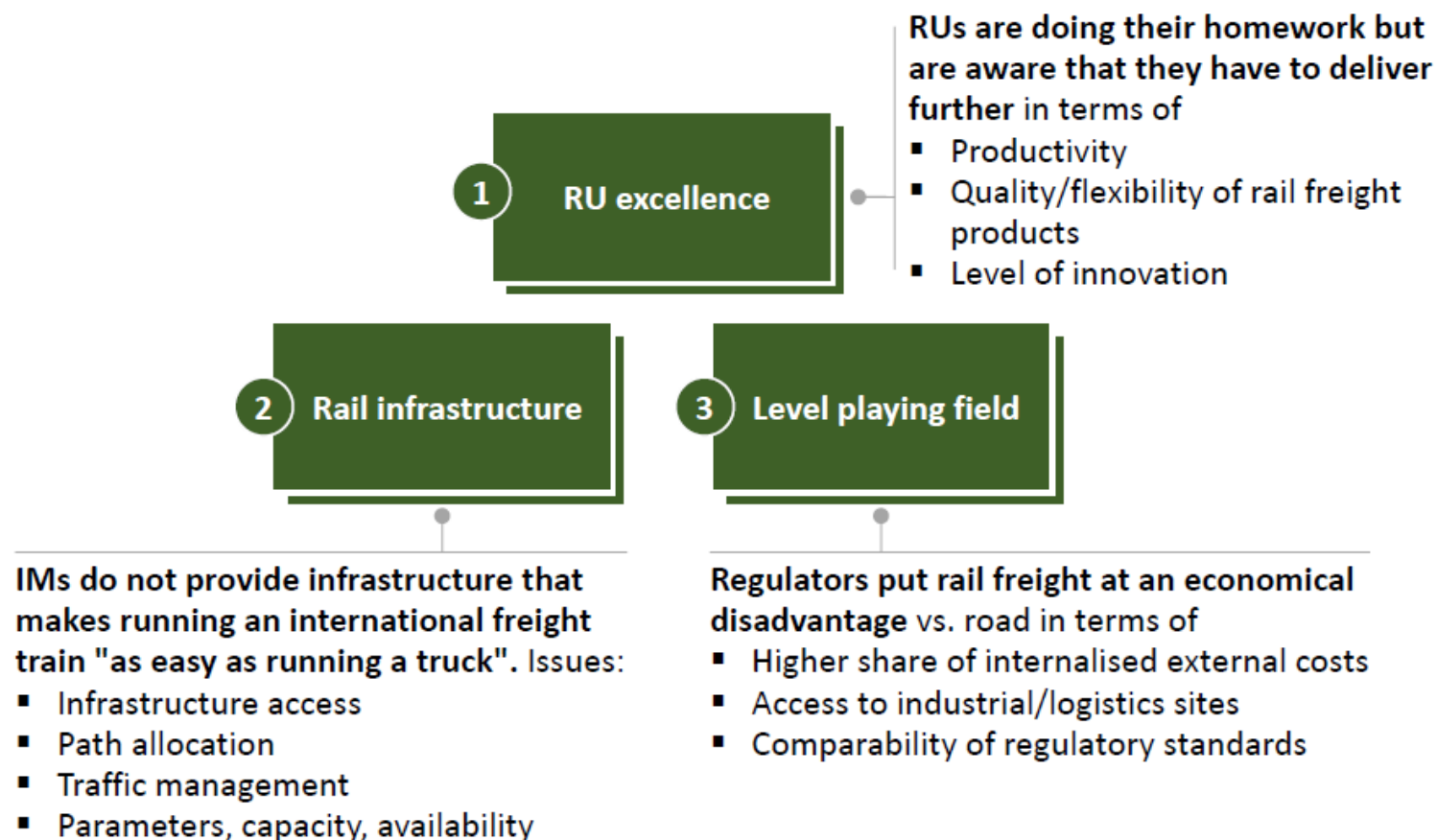


- 1 Train every 4 minutes
- Hardly any additional tracks needed given the use of modern signalling systems

# Modal shift is currently prevented by issues in 3 fields

## *Challenges for modal shift*

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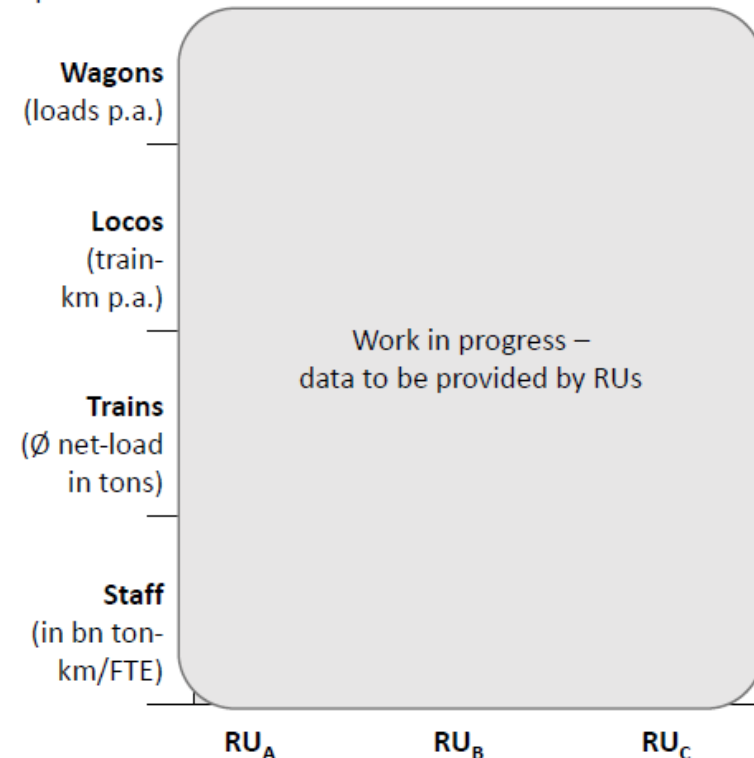


# Transformation successes and enhanced demand have lead to improved profitability levels of RUs

## 1A. RU productivity improvements and financial performance

### Productivity improvements of selected major RUs

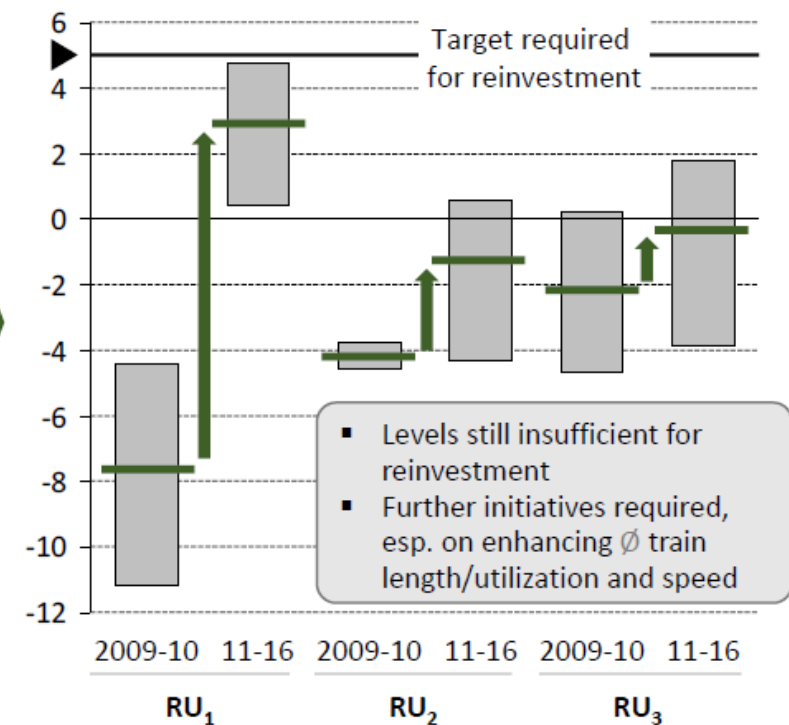
in percent



1 Estimated time of arrival  
Source: RU, RU financial reports

### EBIT-margin of selected major RUs

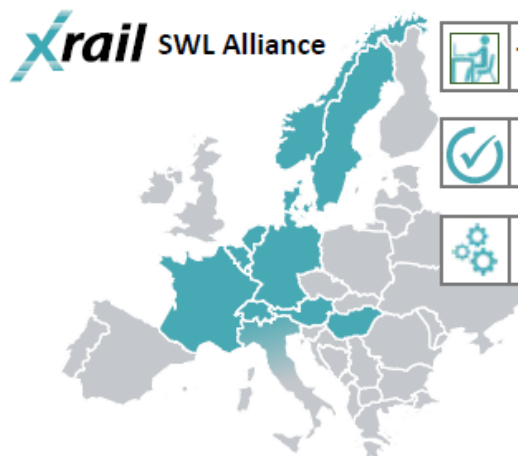
in percent



# RUs need to intensify work on quality, flexibility and ease of use of rail/multimodal solutions to convince more customers

## 1B. Development of attractive rail/multimodal solutions

**Xrail** SWL Alliance



Transport information



Transport reliability



Seamless offer



Value proposition



Partnership



Seamless offer



### Supply Chain Door-to-Door offer

- Contract tailored to the customers' requirements
- Management of complete supply chain with multiple stakeholders
- Highest requirements on quality and reliability
- Deployment of high tech monitoring and control systems

### Customer specific direct train shuttle networks



Transport time



Transport reliability



- 160 km/h postal trains
- Customer dedicated network
- Modal shift from air



Source: Xrail, RUs

### Multimodal solutions



Ease of use

#### Railports



#### Innovative transhipments



#### Customer specific innovations



#### Accompanied intermodal



# RUs need to strengthen innovation and enhance speed of digitalization/deployment of available technology

## 1C. Digitisation/technical innovation in rail freight

EXAMPLES

### Automation (Driving, coupling)



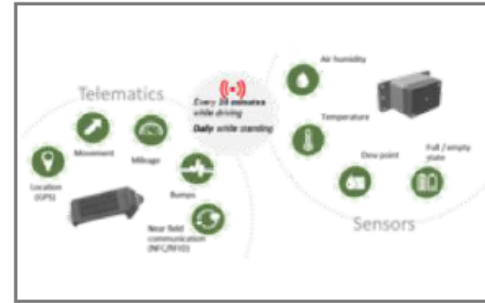
#### Customer benefits

- + Higher reliability (e.g., no change of drivers)
- + Reduced cost of labour-intensive and safety-relevant activities

#### RU benefits

- + More economical operation of feeder networks

### Telematics/Wagon Intelligence



- + Innovative services/products for customers (e.g., monitoring of goods)

- + Optimised transport management/ fleet availability

- + Optimized maintenance and operational processes (e.g., remote brake test)

### Electronic Customer Portals



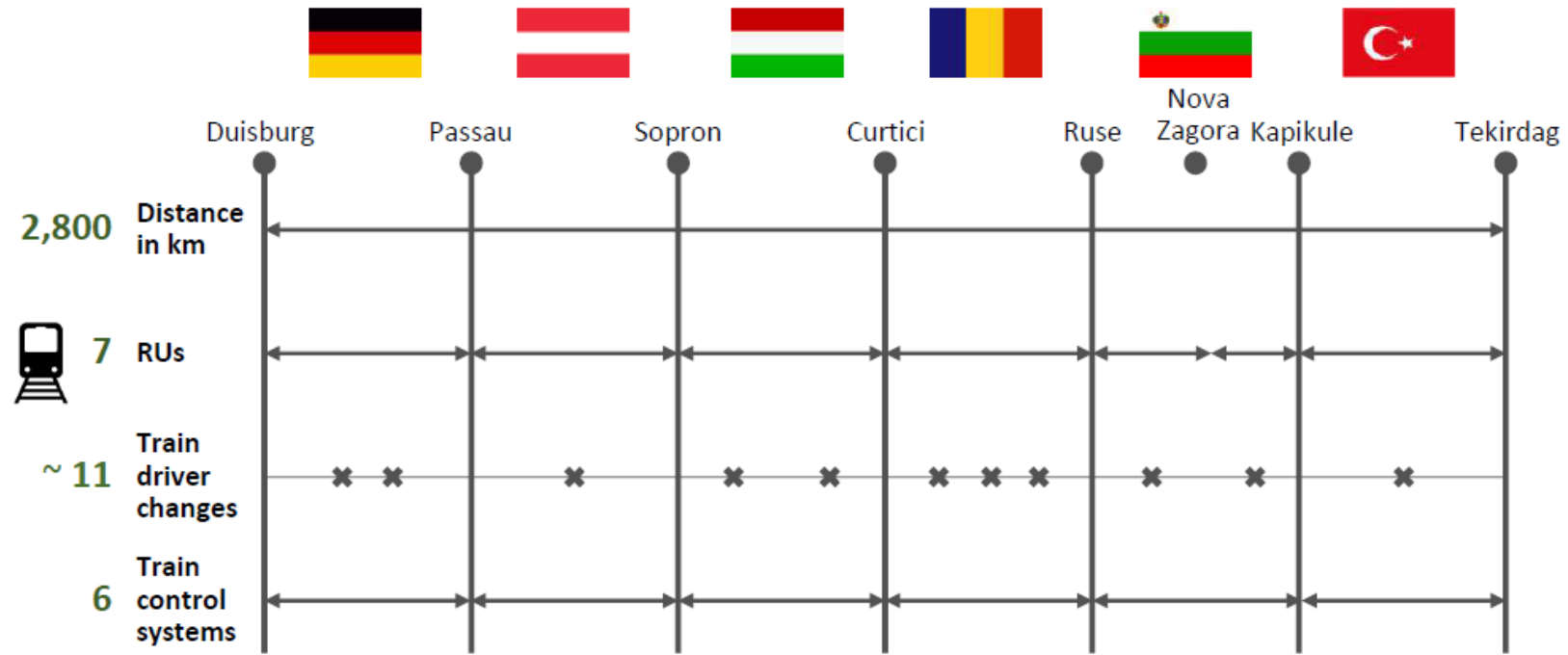
- + Bundling of e-services (e.g., empty wagon order, booking, track & trace/alerts, data analysis)

- + Enhanced ease of use of rail freight

- + Reduced cost in order management

Hence, RUs need to manage tremendous and costly complexity to fulfil customer demands

## 2. Complexity of rail freight vs. road operations



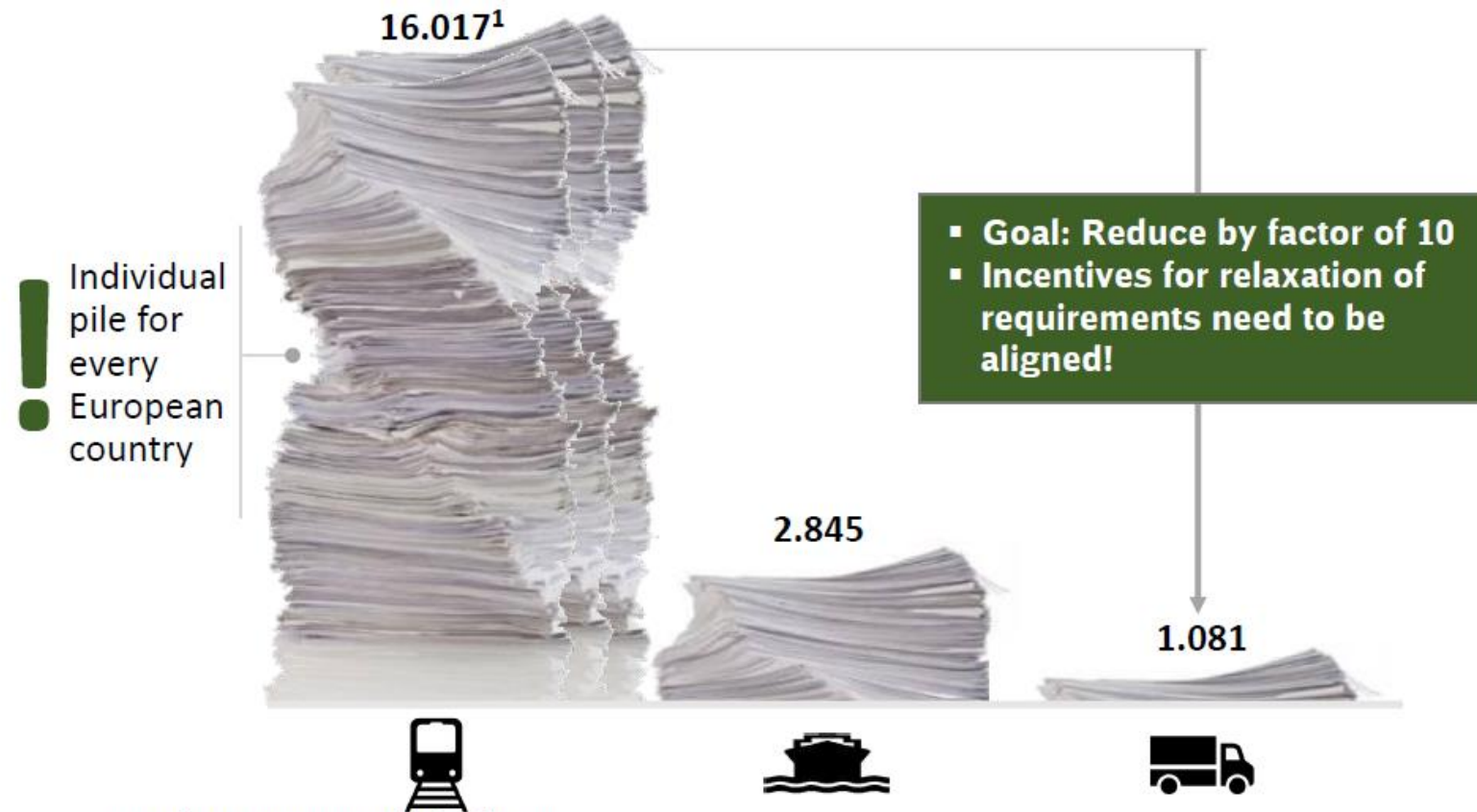
End-to-end, any driver, on any EU truck, under mandatory driving times and rest periods

Source: Rail Cargo Group

Requirements/regulations for operating freight trains incur high costs and should be simplified/reduced by a factor of 10

*3B. Relevant rules/ regulations to operate on transport infrastructure*

in number of pages, Germany



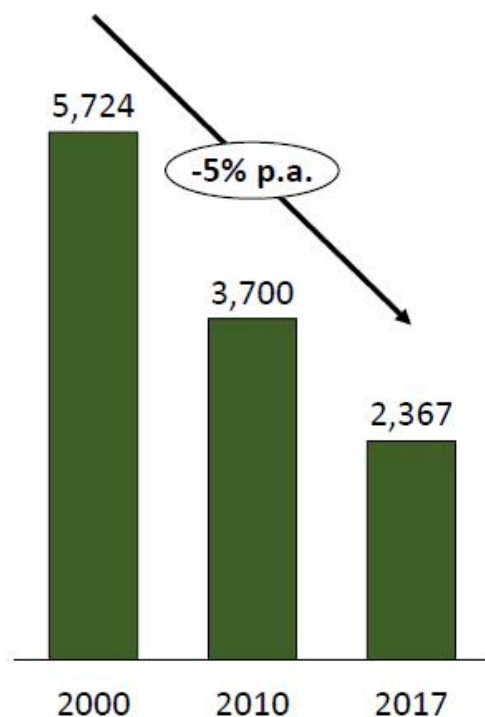
1 Network statement, operation rules, laws, etc.  
Source: DB Netz

# Incentives to expand track networks towards new logistics/ industrial areas should be provided

## 3C. Expansion of track network

### Rail sidings strongly reduced

Number of rail sidings (GER)



Source: DB investor relations; RCG

- X-docking 1 rail wagon incurs cost of 100 – 150 EUR
- Pays for 100 – 150 km of road transport!

### New logistics centres/industrial areas not equipped with rail sidings



# A mental shift is needed to reach "30 by 2030"

## *Mental shift*

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