

German Delegation | Barcelona | 18. April 2024

# Railway technology and rail transport in Germany

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German Railway Industry Association (VDB)

# The German Railway Industry Association



MEMBER COMPANIES

**~ 220**



EMPLOYEES

**+ 54.000**



TURNOVER

**14,4 bn. EUR p.a.**

# The German Railway Industry Association





# Solutions of the German Railway Industry



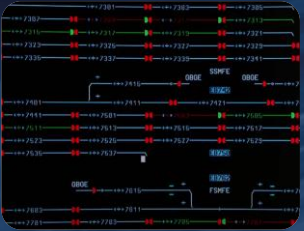
## Rolling Stock

High-speed, regional & urban transport  
Freight transport



## Railway Infrastructure

Track systems, rail-fastening systems, crossing, sleepers, high-speed points



## Operations Control-, Communication- and Information technology

Electronic interlockings, signal systems, train protections, control and communication systems, rail automation systems, information systems and devices



# Ambitious Climate Goals



Double **passenger numbers** in Germany by 2030



Double **high speed rail** traffic in Europe by 2030



Market share rail **freight** transportation by 2030

- EU: **30 percent**
- Germany: **25 percent**

How do **we** get there?

# What do passengers expect?

**Most important reasons for modal choice of frequent public transport users (in percent)**





N = 1.647



Source: McKinsey Future of Mobility



# Relation innovative offers & increase in modal share

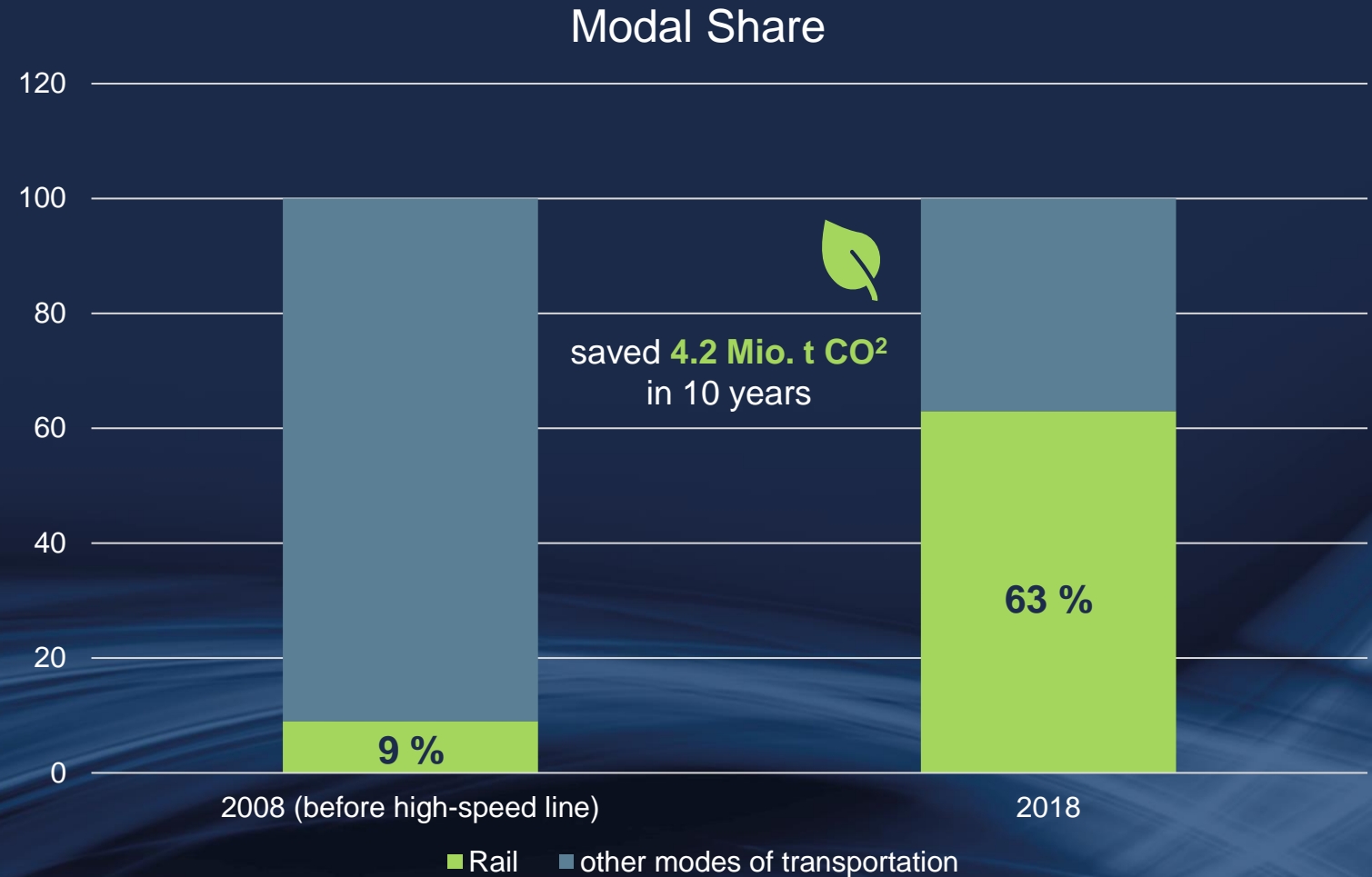
	Tram Karlsruhe	Highspeed Berlin - Munich	Highspeed Paris - Brussels	Public Transportation Vienna
				
<b>Measure</b>	Connection city centre and suburbs since 1970ies	New highspeed connection Berlin-Munich (2017), travel time - <b>2,5 Stunden</b>	New highspeed connection	<b>400 Mio. EUR</b> investment in cheaper public transport ticket (365 EUR p.a.)
	▼	▼	▼	▼
<b>Impact</b>	<ul style="list-style-type: none"> <li>Passenger numbers have risen by <b>50 %</b> between 1996 and 2016</li> </ul>	<ul style="list-style-type: none"> <li>Modal share rose from 23% to <b>45%</b></li> <li>Saving up to <b>188.000 t CO2</b></li> </ul>	<ul style="list-style-type: none"> <li>Passenger numbers <b>doubled</b> for 50% of the train rides</li> <li>Share of passenger cars has decreased by <b>&gt; 20%</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Share of public transport has increased by <b>10%</b> in the last 25 years</li> <li>2019: <b>38%</b> local transport and only 29% for cars</li> </ul>



# Relation innovative offers & increase in modal share



BARCELONA - MADRID



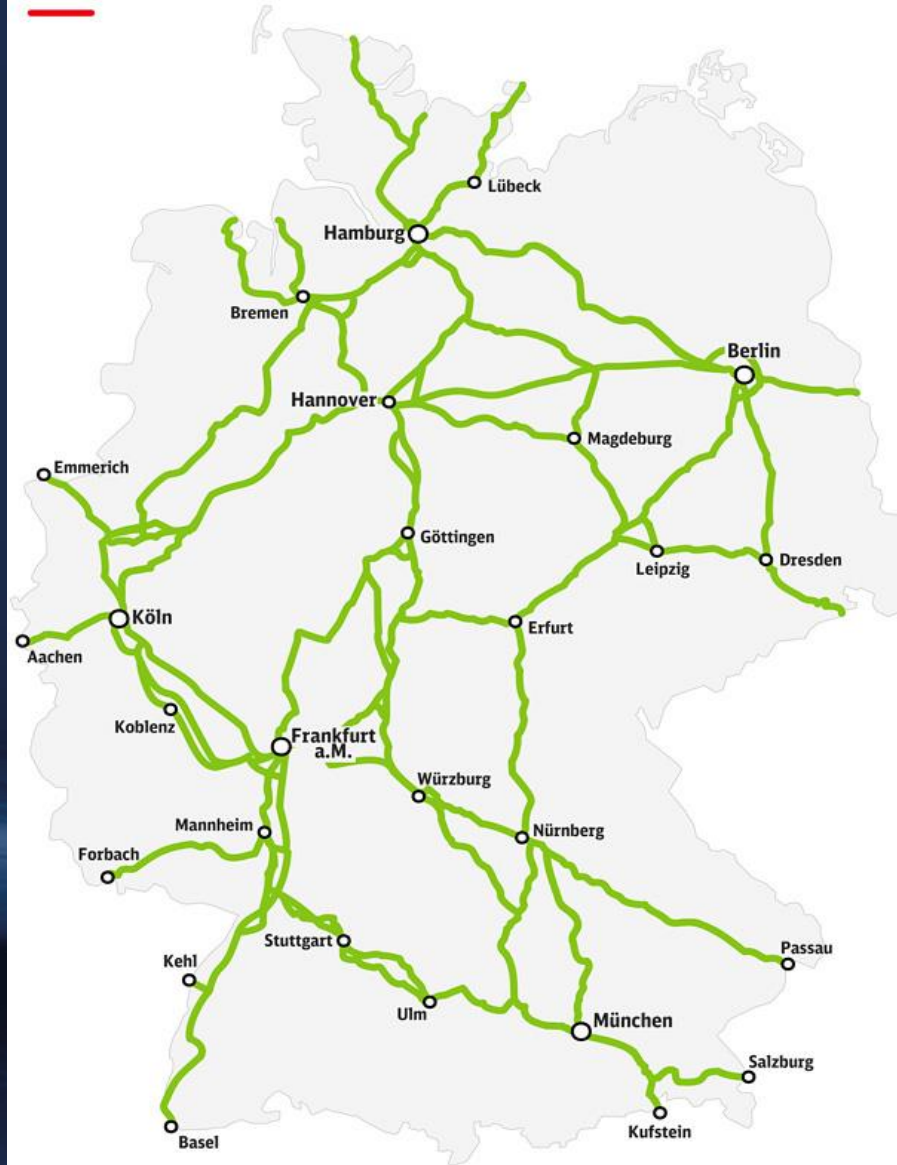
# 1 Infrastructure

# General Refurbishment

- 1) rehabilitation of the highly congested network to a **high-performance network** (9,000 km)
- 2) clearing **investment backlog** to upgrade railway network
- 3) **capacity-increasing measures** (additional transfer points, switches and denser signalling) for more stability and better train service
- 4) **digitalisation** of the rail network with the Germany-wide ETCS-rollout
- 5) targeted **expansion and new construction** of lines to eliminate bottlenecks (“Deutschlandtakt”)
- 6) large-scale **modernisation of stations** throughout Germany

## Das Hochleistungsnetz der DB im Jahr 2030

Leistungsfähige Strecken für pünktliche Züge



# Electrification

Network electrification in %





# Electrification

**DIE BAHNINDUSTRIE.**

VDB VERBAND DER BAHNINDUSTRIE IN DEUTSCHLAND E.V.



**FUEL CELL /  
HYDROGEN**



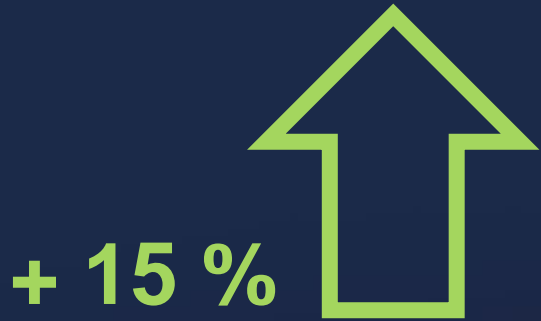
**BATTERY**



**HYBRID/  
DUAL POWER**

## 2 Rolling Stock

# European Train Control System (ETCS)



INCREASED CAPACITY



SHORTER TRAVEL TIME



HIGHER AVAILABILITY

# Automatic Train Operation (ATO)

**99 %**

PUNCTUALITY



PASSENGERS



ENERGY EFFECIENCY



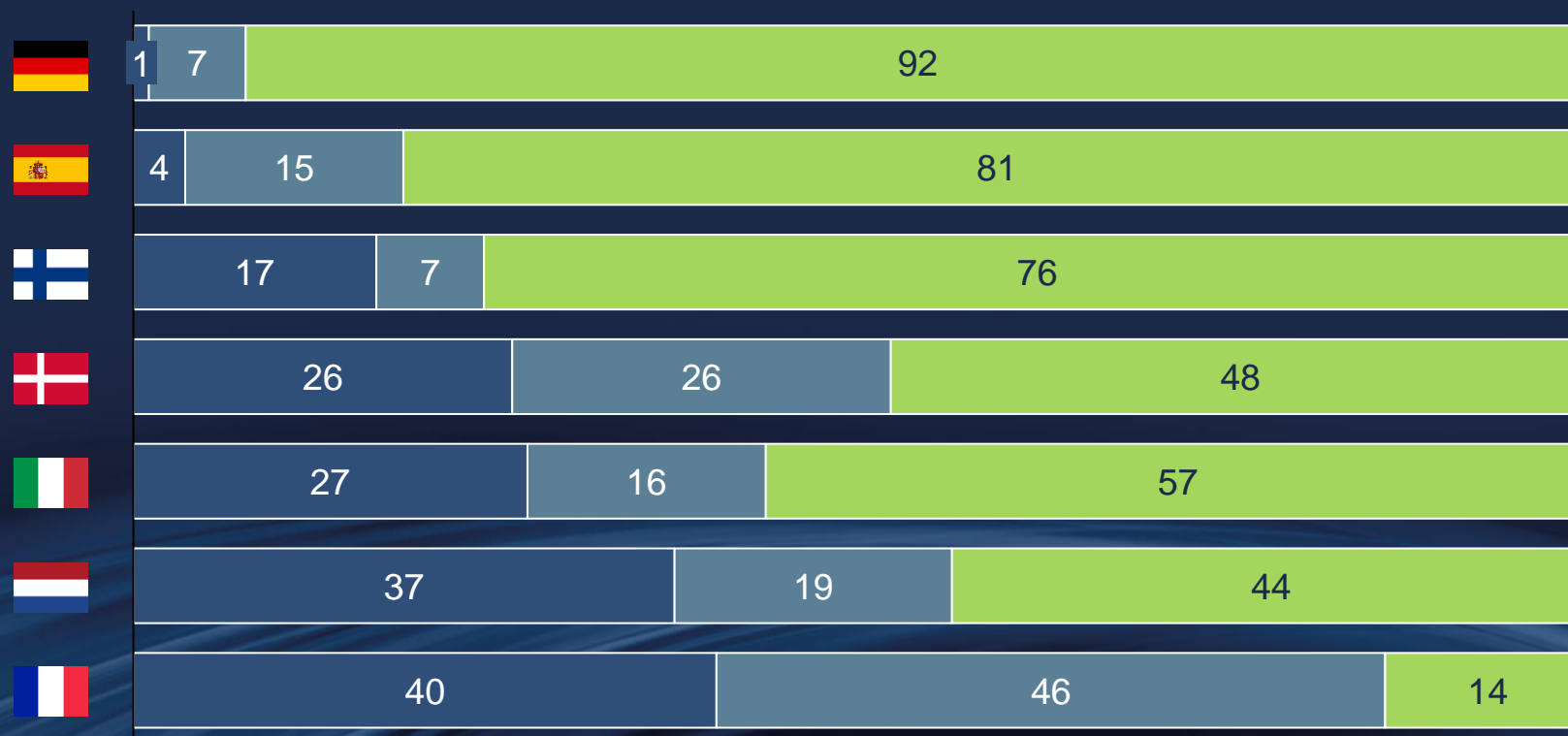
# 3 Public Procurement

# Public Procurement Today

## Distribution of tenders in the rail sector according to price weighting in the evaluation

Price weighting, in percent

0-49 50-99 100



Quelle: McKinsey | Tenders Electronic Daily

VDB | Barcelona | 18.04.2024

# MEAT: **M**ost **E**conomically **A**dventageous **T**ender



Life-cycle-costs and sustainability



Quality in implementation and operation



Functionality & technological innovation



Design

An aerial view of a high-speed train traveling through a dense forest. The train is white and sleek, moving along a track that cuts through the green trees. The perspective is from above, looking down at the train as it recedes into the distance.

**THE FUTURE OF MOBILITY**

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**STARTS WITH US.**



# Mobility. Reinvented.

 [www.bahnindustrie.info](http://www.bahnindustrie.info)