



Infrastructure Financing and Regulation

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At the beginning of the 1990s the German Railways were broke

Initial situation of the German Railways at the beginning of the 1990s



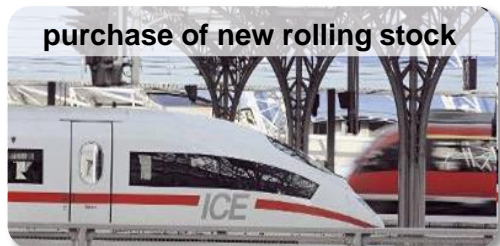
- **Loss-making operation** and **low employee productivity**
- **Decreasing intermodal market share**
- **Investment backlog** in the case of new-build and upgrading projects, maintenance and rolling stock
- **Increasing public financing requirement**

The investment activities after the rail reform are three times as high as before

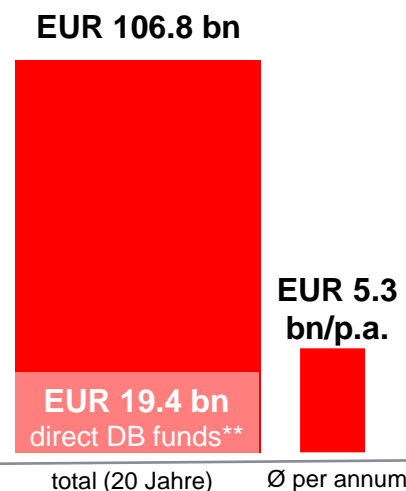
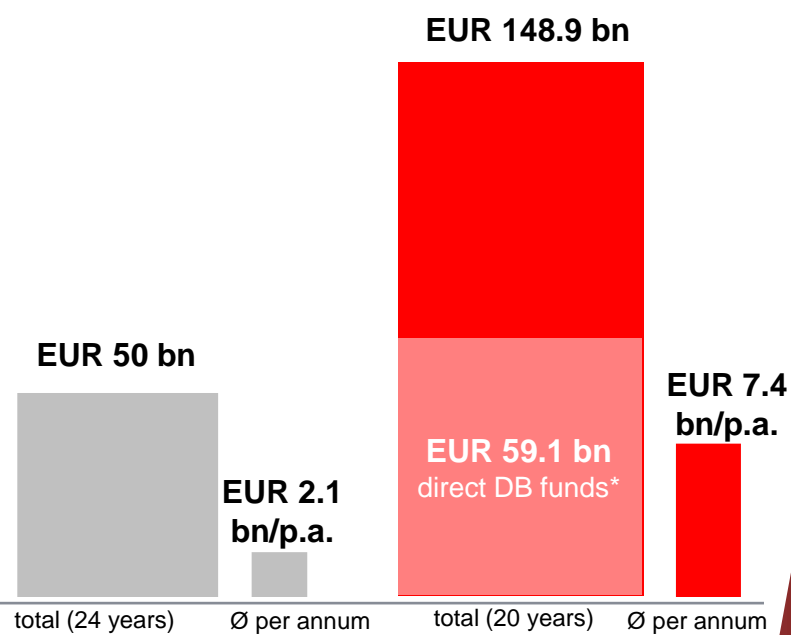
Comparison of investment activities of German Bundesbahn and DB AG

Before rail reform: German Bundesbahn (1970 - 1993)

After rail reform: DB AG (1994 - 2013)



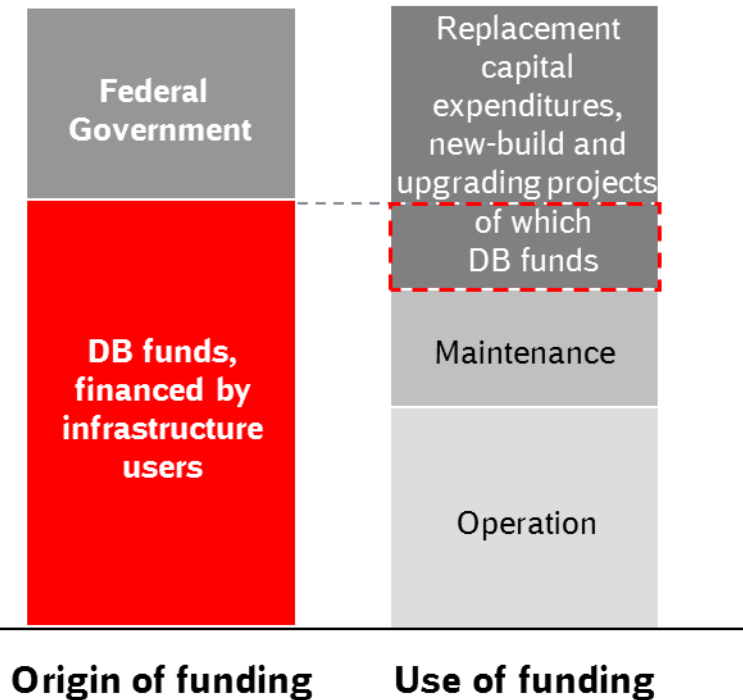
Infrastructure investment activities DB AG (1994 - 2013)



*gross investments minus investment grants from third parties and accrual of federal loans with no interest

** Additionally redemption of federal loans and return payment of construction cost grants by DB in the amount of EUR 12.8 bn

The financing system launched as part of the rail reform of 1993/94 encourages co-funding of infrastructure by the users



- **Federal railways** are organised as **business enterprises** under private law (Article 87e German Constitution).
- **Federal government** is responsible for **financing investment in infrastructure**.¹⁾
- **DB** is responsible for financing **operations and maintenance** with **funds from users** (infrastructure charges).
- **DB co-finances a share of investments** from its “**own funds**” (= private capital, almost EUR 1 billion per year)
- **Investments funded by DB** have to be earned back

1) The EU and the German federal states also provide grants for new-build and upgrading projects on a minor scale.

“A Service Level and Financing Agreement” (multiannual contract) for replacement investments has been effective since 2009

Investments in existing infrastructure (replacement investments)

Federal budget

EUR 2.75 bn
(in 2013 and 2014)

Own financial resources of DB AG

min **EUR 0.5 bn**

Agreement between DB AG and German federal government about service level and financing of German railways network

Investments in new infrastructure (new-build and upgrading projects)

**Federal budget
Federal state budgets
EU grants**

avg. **EUR 2.0 bn***

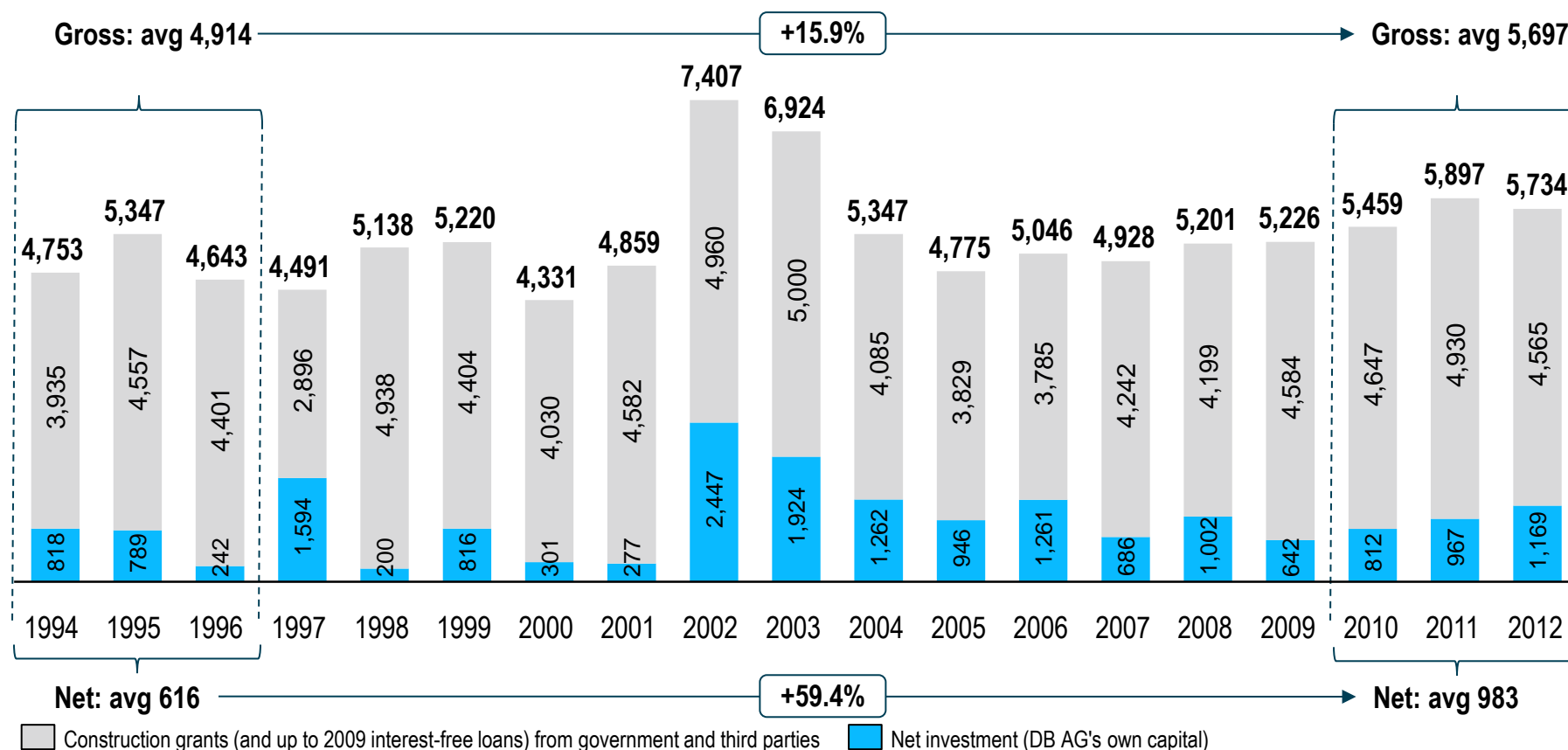
Own financial resources of DB AG (only if they are in business interest)

avg. **EUR 0.2 bn***

* varying from year to year

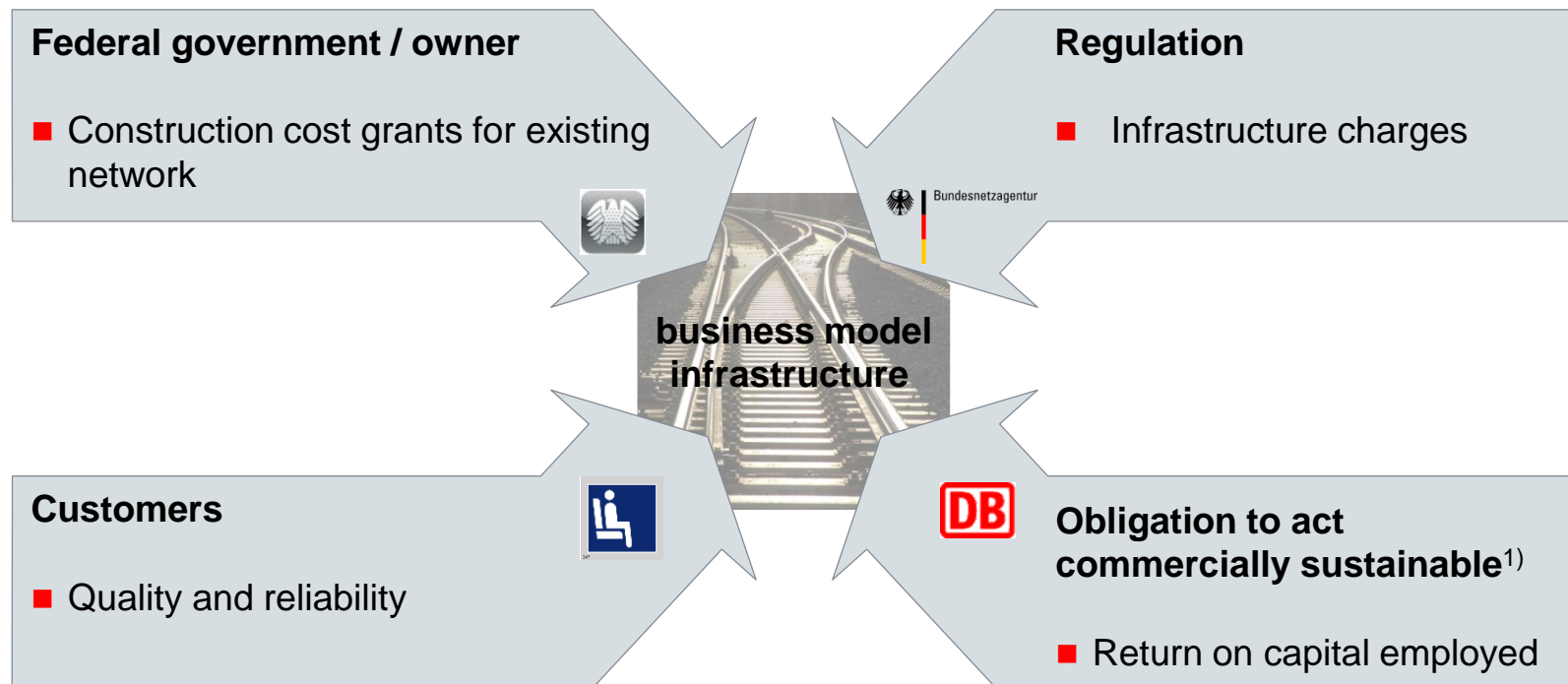
Investments in DB's infrastructure since 1994: Net investment rose more strongly than gross investment

Investments in DB's infrastructure [in EUR million]¹⁾



1) Total corresponds to gross investment; in five-year comparisons 1994-99 and 2007-12 gross investment rose by +10.6% and net investment by +26.0%

Forces that influence the business model of infrastructure – tension between different demands and legal requirements



1) Federal railways are organised as business enterprises under private law (Article 87e German Constitution)

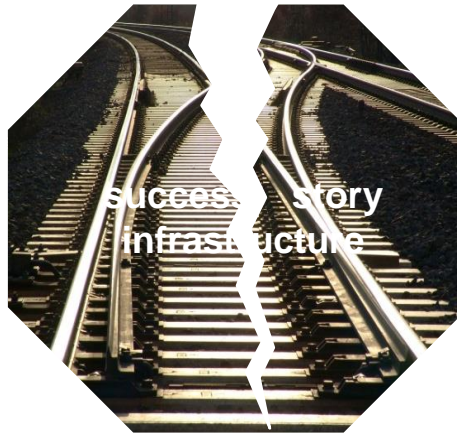
Two main challenges for the business model “infrastructure”

A — Financing of existing network

- **Increased funding for replacement investment and maintenance is necessary** to ensure adequate quality of infrastructure

Reasons:

- **No sufficient funding in the past**
- Despite higher maintenance expenditures especially many bridges and positioners recently have **exceeded the end of their life cycle**



B — Capacity shortages

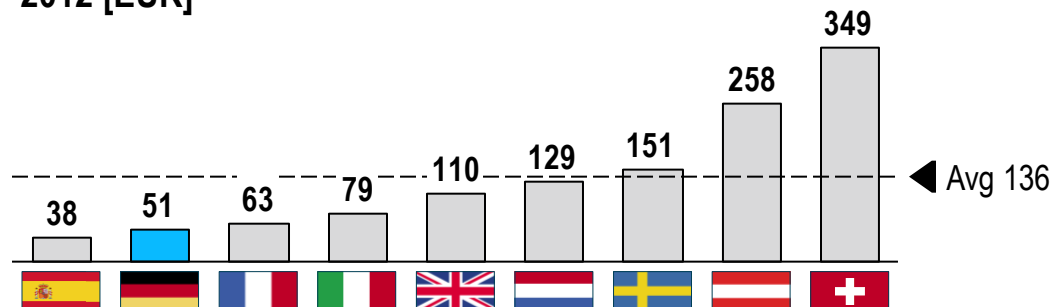
- Removal of all bottlenecks up to the year 2030 requires **additional funds compared to the status quo**

Reasons:

- **Network utilisation has increased significantly** in the last years
- In the coming years a **constant increase of traffic is expected**, particularly on main routes (mainly freight transport)

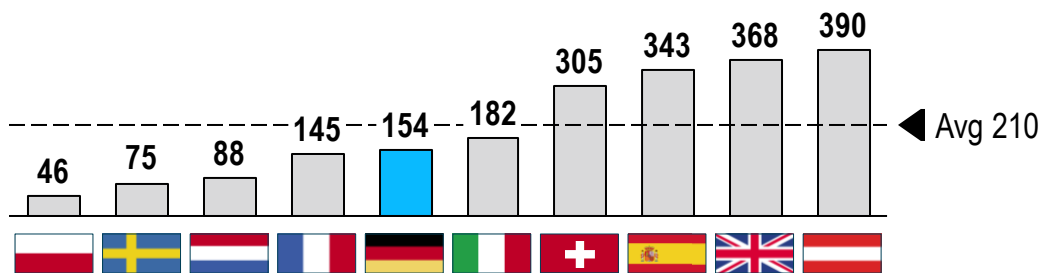
Compared with other European countries, there is less investment in rail infrastructure in Germany

Per-capita government investment in rail infrastructure in 2012 [EUR]



- > Transparent regulation of financing of existing network with Performance and Financing Agreement (LuFV) between government and DB AG
- > International comparison raises question of whether government should do more to fulfil duty to look after infrastructure
- > Example with much press coverage: investment backlog for bridges – deficits in a quarter of all overpasses identified by Federal Railway Authority (EBA) in late 2012

Investment per track km in 2011 [EUR '000]¹⁾



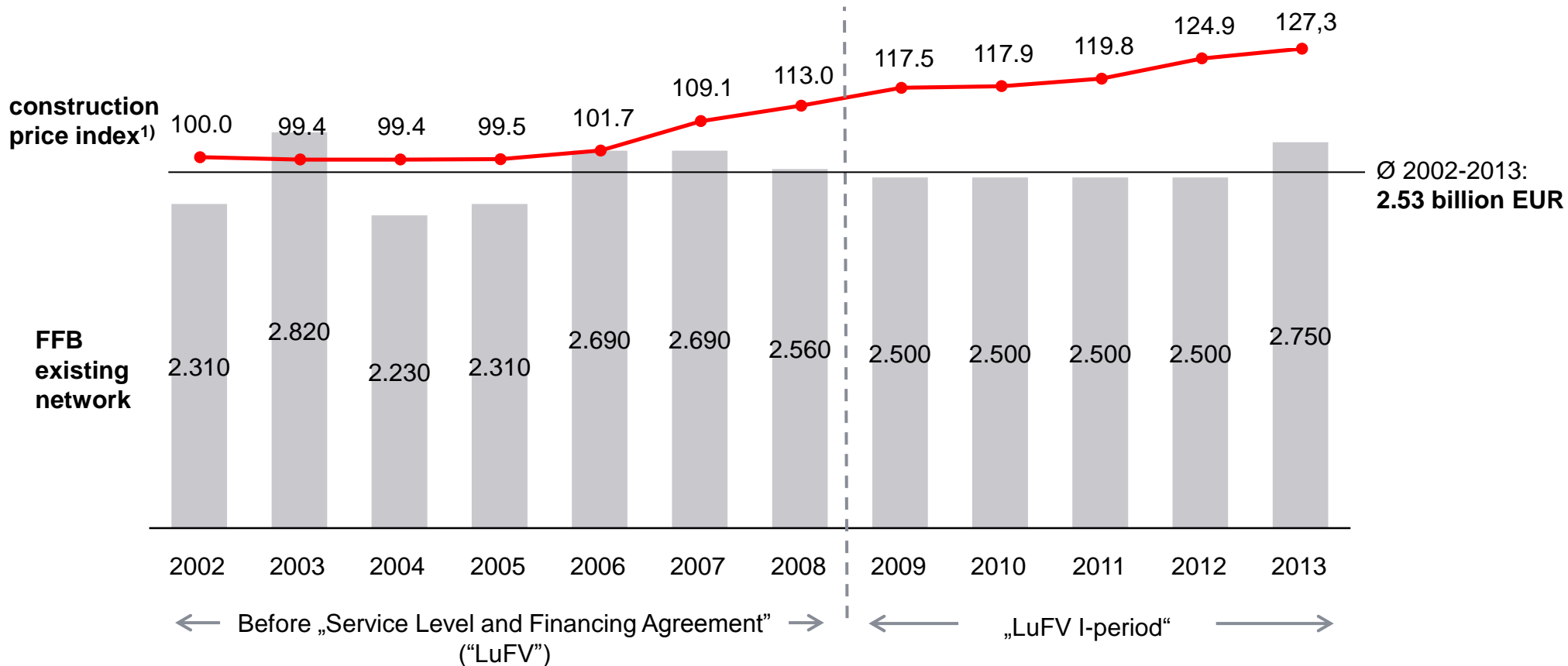
"Dilapidated bridges present Deutsche Bahn with a problem worth billions."
Handelsblatt, December 2012

"Germany's bridges on brink of collapse."
Die Welt, June 2013

1) Investment figures for Spain and Netherlands refer to 2010
 Source: Reuters (5 December 2012); [Handelsblatt Online](#); [Die Welt Online](#); Pro-Rail Alliance; Performance and Financing Agreement; data from various infrastructure operators

The federal funding for the existing network was in the past few years nominally stable at EUR 2.5 billion p.a.

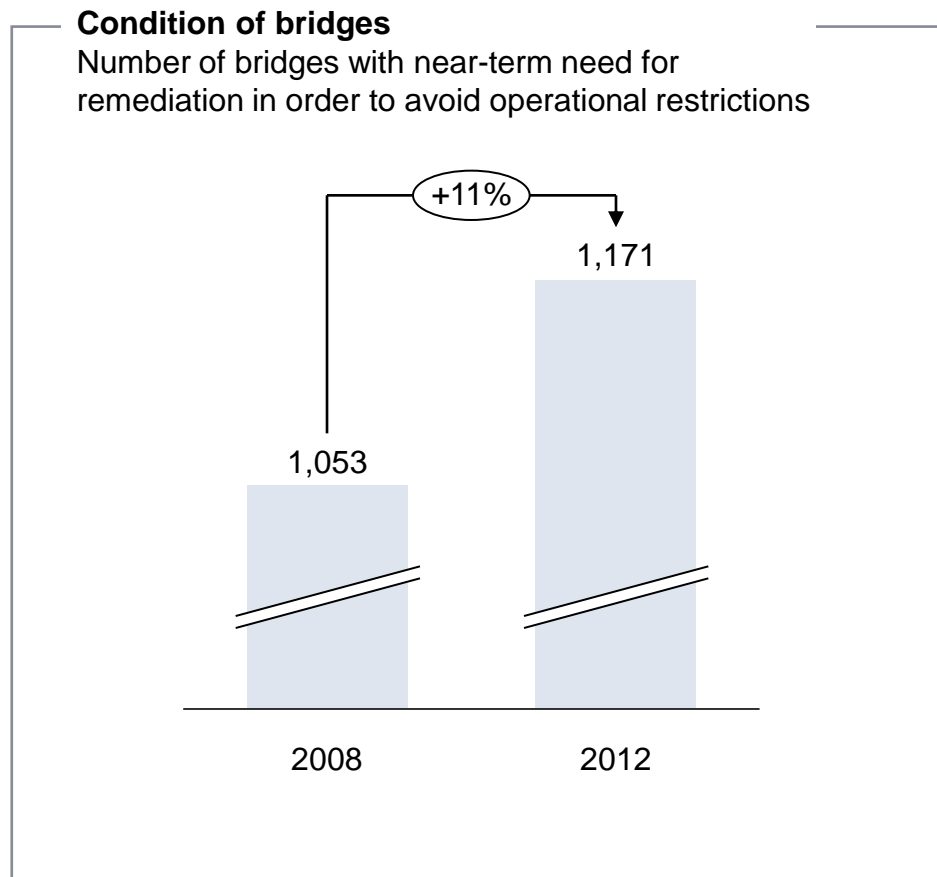
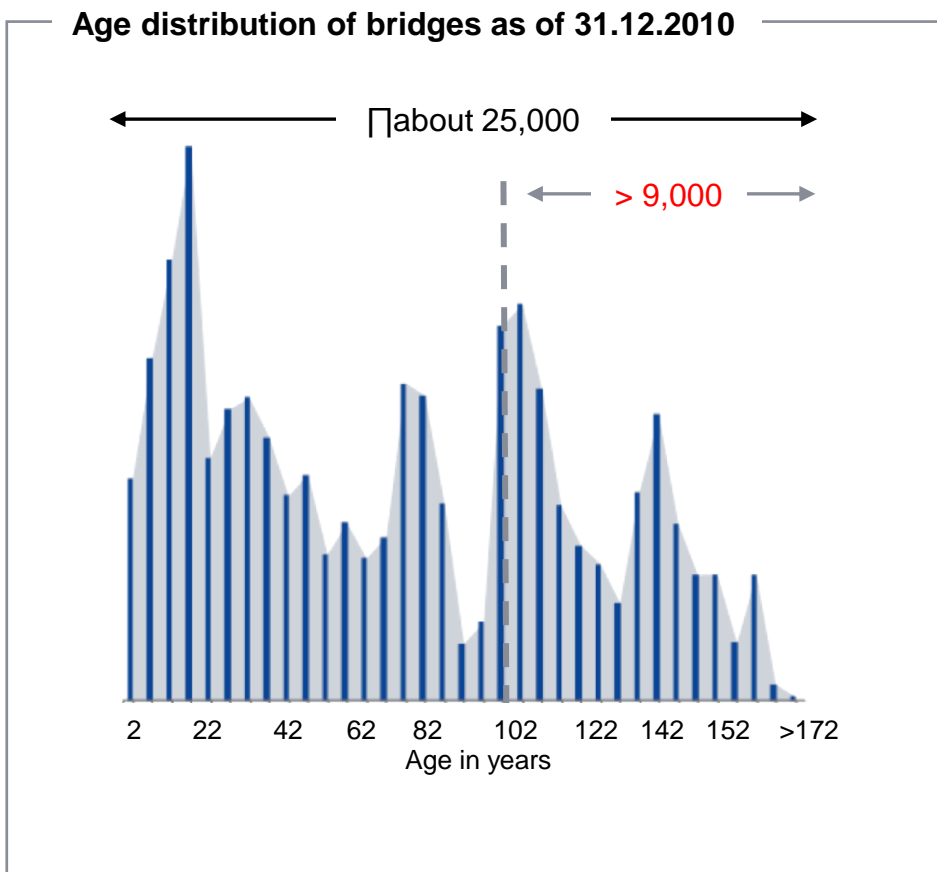
Funds from Federal Budget (FFB) for existing network 2002 to 2013
million EUR



1) Source: Federal Statistical Office

The age distribution of bridges is one of the reasons for the need of increased funding for replacement investment

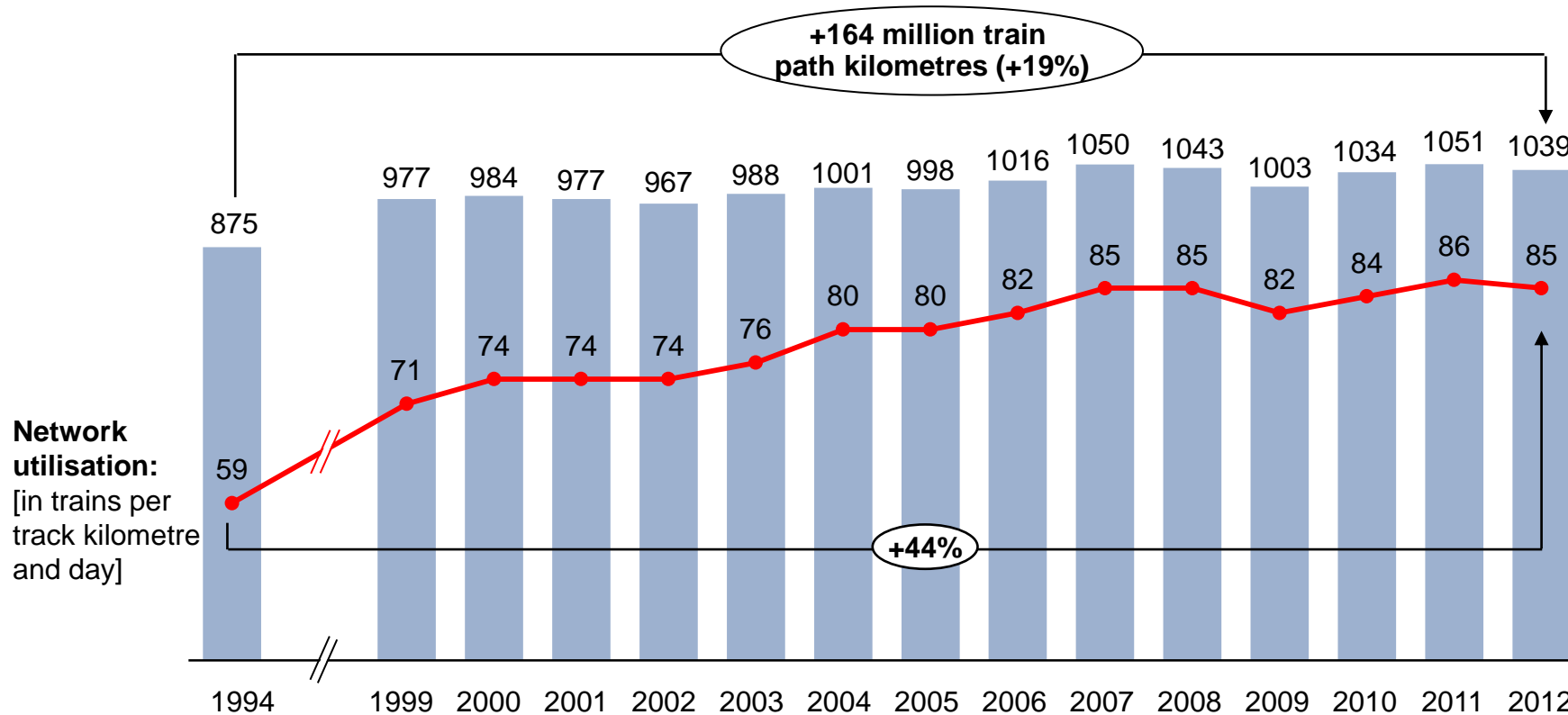
Age distribution and condition of bridges



Source: Infrastrukturzustandsbericht (IZB)

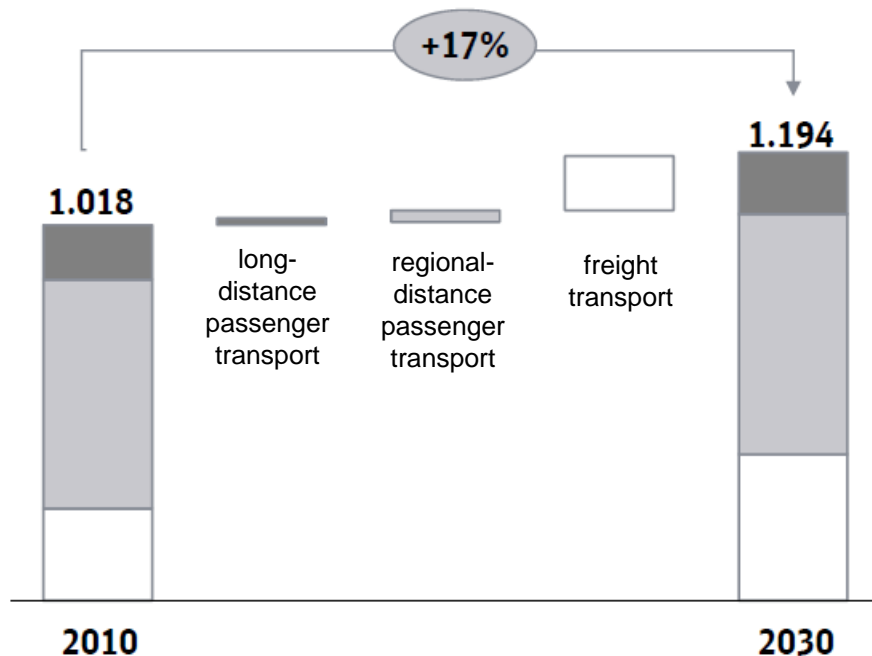
Operating performance and network utilisation have increased significantly since 1994

DB's network: operating performance und network utilisation
(million train path kilometres p.a.)

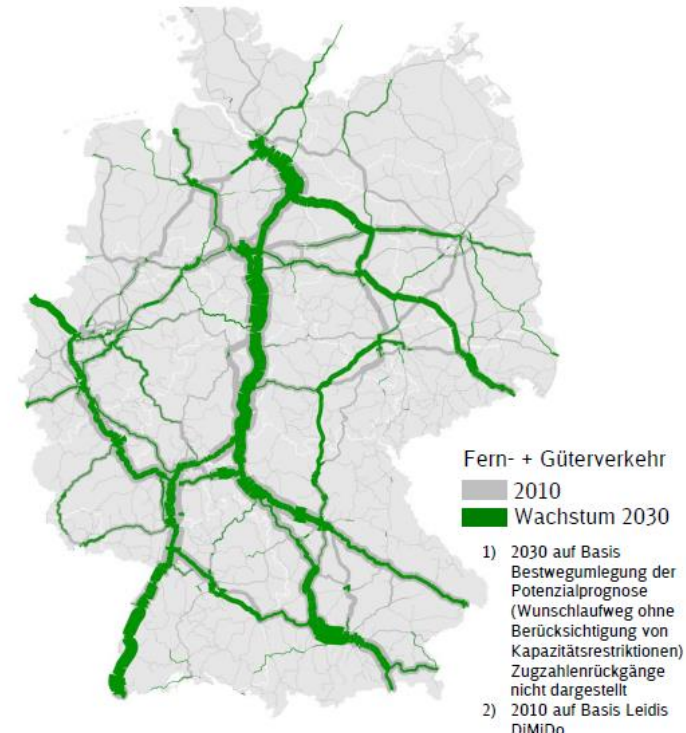


The expected increase of operating performance will lead to capacity constraints especially on main routes

Forecast operating performance
(million train path kilometres)



More trains 2030 vs. 2010



long- distance passenger transport
und freight transport



Two federal commissions confirmed recently that an increased funding for infrastructure investment is required

Problem: Infrastructure is underfunded



- Existing traffic infrastructure in Germany is highly **underfunded**: two federal commissions (the Daehre Commission and the Bodewig Commission) **confirmed recently an annual backlog of EUR 1.2 bn for DB's network**
- **New-build and upgrading projects** are also underfunded
- **Investment grants cannot be transferred across fiscal periods.** This leads to a **lack of planning reliability.**

Possible solutions

- Recommendations of Daehre Commission and Bodewig Commission:
 - **Preservation** of existing infrastructure must **come first**
 - **Federal funds** have to be **increased**
 - Ability of **transferring investment grants** across fiscal periods
 - Inclusion of DB's **dividend payment** for infrastructure financing
 - Target-oriented new-build and upgrading projects (**removal of bottlenecks**)

Conclusions

- The **preservation** and most effective use of the existing railway infrastructure by reducing the investment backlog **must come first**. Therefore **increased funding for replacement investments is necessary**.
- Significant transport **capacity constraints caused by bottlenecks are expected** within the coming years. To remove these bottlenecks **additional funds for new-build and upgrading projects compared to the status quo are required**.
- **European infrastructure policy should also apply these principles**.