


The Future of Rail


Understanding the challenges and future opportunities in rail


Created by: Frost & Sullivan and Hitachi Australia

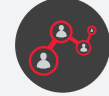
6 Key Drivers


 Investments in high-speed rail

 Economic growth

 Freight sector expansion

 Green credentials of the rail sector

 Rise of mass transit and integrated mobility

 Population growth and rapid urbanisation

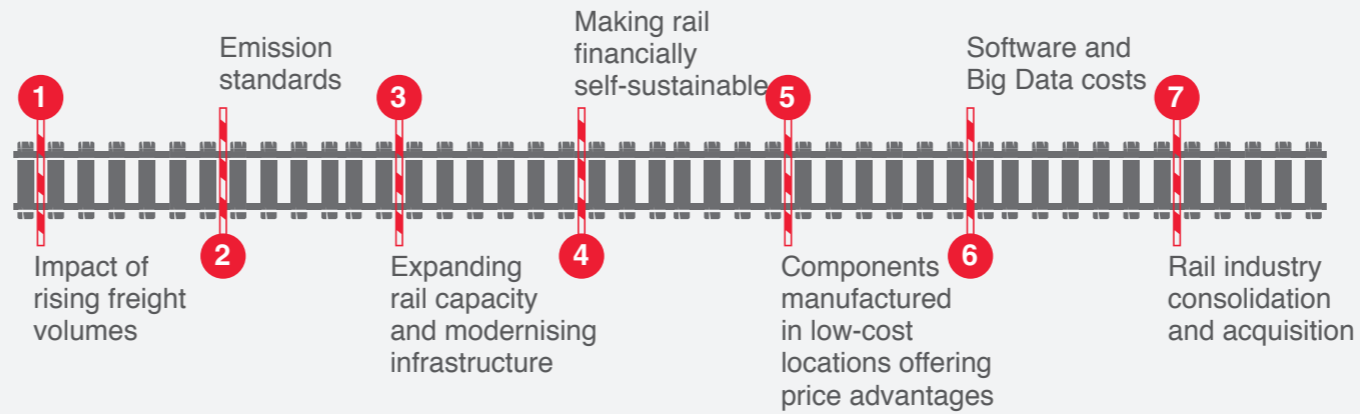
 **525**
cars

One passenger train takes 525 cars off the road



By 2025, rail is forecast to be the fastest growing transport mode in terms of investments globally

Top-of-mind Issues for the Rail Sector



Hitachi Trains-as-a-Service Intercity Express Programme in the UK

Challenge

Replace older intercity trains on the East Coast and Great Western Main Lines

Solution

- 122 trains (866 cars)
- Includes bi-mode sets for non-electrified routes
- Advanced train control system
- New depots for fleet maintenance
- Maintenance of the fleet for 27.5 years
- Collaborative interior design process

Benefits

652
seats per train

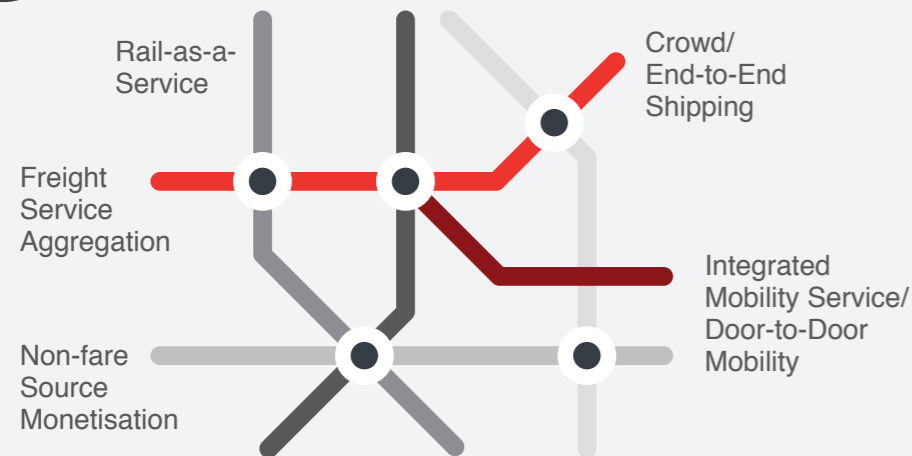
3
metre
longer carriages

22
minutes
reduced journey time from London to Edinburgh

20%
more seat capacity


56%
savings in track damage


5 New Business Models in Rail




6 Disruptive Technologies Shaping Rail


 **Big Data**
Rail companies digitising platforms to offer products and services leveraging big data

 **Predictive Analytics**
Predictive maintenance and forecasting to maximise equipment life, ensure peak efficiency, predict potential service disruptions, and reduce maintenance costs. Analytics to also cover pricing, customer behaviour, marketing mix, finance and risk variables

 **Artificial Intelligence**
Machine-learning algorithms to calculate speeds, helping to reduce emissions and improve fuel efficiency

 **Mobility Platforms**
B2B platforms and B2C apps integrating multiple mobility services to enable seamless intermodal transport

 **Internet on Trains**
Satellite and LTE for broadband Internet access in high-speed rail

 **Fleet Telematics**
Analysis and documentation of long-term rolling stock performance