

The Future of Rail

Understanding the challenges and future opportunities in rail

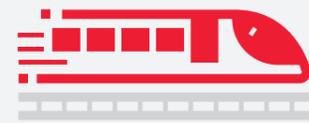
Created by: Frost & Sullivan and Hitachi Australia

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

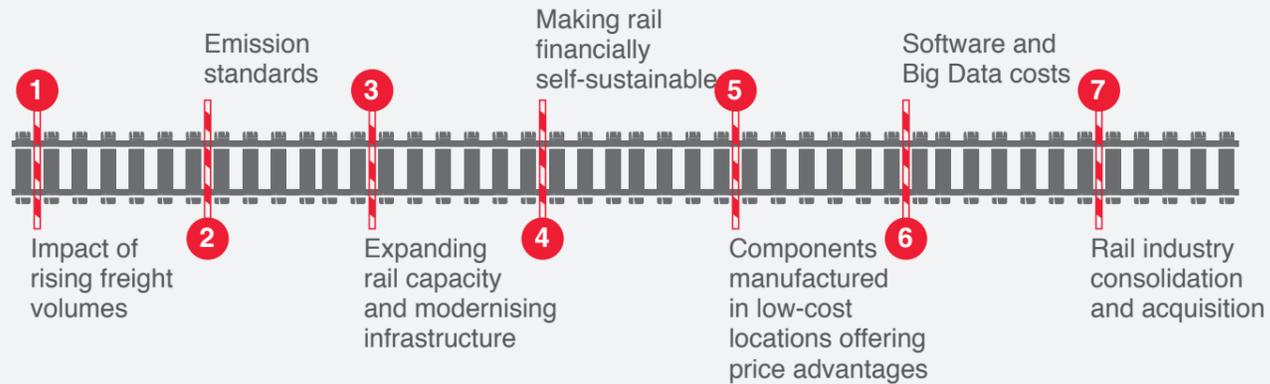


One passenger train takes 525 cars off the road



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

5 New Business Models in Rail



Source: UIC International Union of Railways; Hitachi; Frost & Sullivan



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