



Fastrack
Australia

Regionalisation Urbanisation and High Speed Rail for Regional Cities

#6 The Rail Industry must step up to improve its services

INVESTING IN THE GROWTH
OF REGIONAL CITIES
CONNECTED BY HIGH SPEED
RAIL SERVICES WILL LIFT
AUSTRALIA'S ECONOMY
AND GET IT OUT OF
RECESSION FASTER

- 1 Regionalisation drives higher economic growth
- 2 High speed rail is essential for regional development
- 3 A national high speed network in Australia
- 4 Under federal government leadership and funding
- 5 Regional cities must manage their development
- 6 The Rail Industry must step up to improve its services

5

UNDER THE
LEADERSHIP AND
FUNDING OF THE
FEDERAL
GOVERNMENT

1

Regionalisation drives higher economic growth

Regional cities must plan and manage the development of their city

Develop a master plan

Station and precinct development

Establish a metro network

The Rail Industry must step up to improve its services

5

Regional cities must manage their development

6

The Rail Industry must step up to improve its services

THE RAIL INDUSTRY MUST STEP UP TO DRAMATICALLY IMPROVE ITS SERVICES

The rail industry must dramatically improve the range and efficiency of its services

- It needs to compete more strongly with car and air
- It needs to compete with trucks for road freight

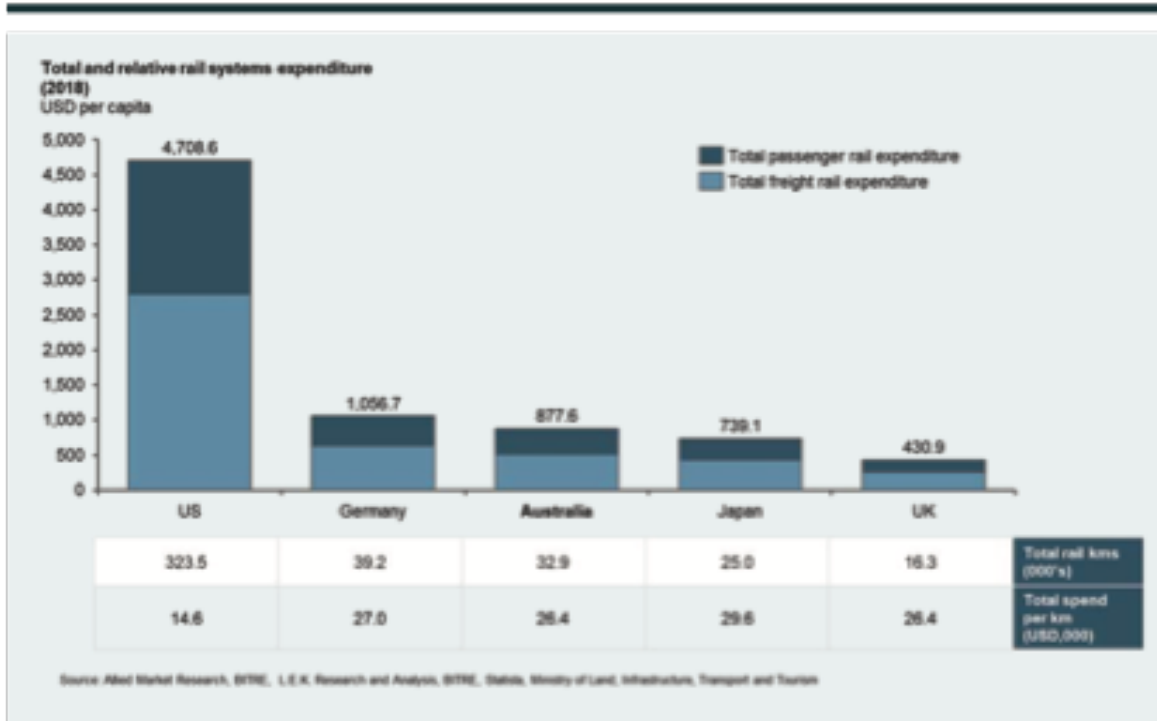
Doing so will create a globally competitive manufacturing industry

- Innovation is needed to become more efficient
- A steady pipeline sustains industry and open markets

Australia's rail network and expenditure is large by world standards

But there is no national agreement on the signalling, automation or smart rail standards needed for a modern railway system in the 21st century*

Figure 11: Absolute and relative expenditure on rail systems



- Australia's total rail expenditure is comparable to Germany and Japan, and double the UK
- The Australian network is comparable in size to Germany and Japan, and twice the size of the UK
- Australia's rail expenditure per kilometre is comparable to Germany, UK and Japan, and twice the expenditure of the USA

*Source: Australasian Rail Association (2020), Finding the fast track for innovation in the Australasian rail industry

It needs to compete more strongly against car and air travel

High speed rail will allow the industry to provide a wider range of services to support the expansion of travel markets that drive regional growth

Passenger Services

- Regional Intercity services operating between regional cities
- Capital City Express services running non-stop between Brisbane-Sydney-Melbourne
- Regional Services connecting regional towns using conventional rail between and beyond regional cities

Travel Markets

- Business Travellers – to/from regional city for business purposes (including irregular trips by remote workers)
- Daily Commuters – in and out of Sydney/Melbourne by regional workers
- Tourists – international and domestic tourists to regional areas
- Regional Trippers – travel to visit family and friends, for appointments, and attend special events

It needs to compete with trucks for road freight

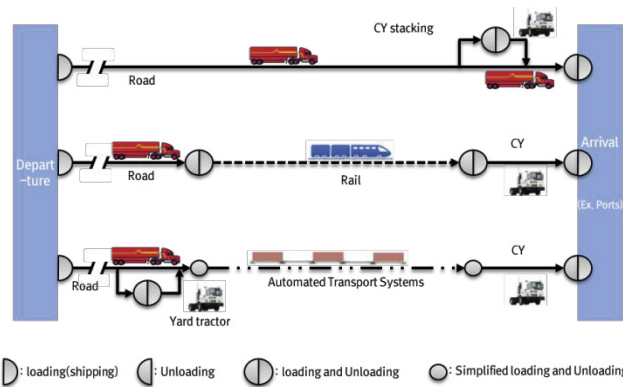


Fig. 1. A comparison of automated intermodal transport systems with existing logistics systems from the standpoint of the logistics process
Source: Korea Agency for Infrastructure Technology Advancement (2014)



New technology in Europe allows rapid transfer between road and rail, increasing overall efficiency for freight movement

New Intermodal terminals and rail upgrades in Australia could see a return to rail freight

Inland Rail is planned to increase rail's mode share for Melbourne-Brisbane freight to 62%

Overseas, new technologies allow whole trains to be loaded and unloaded in as little as 90 minutes

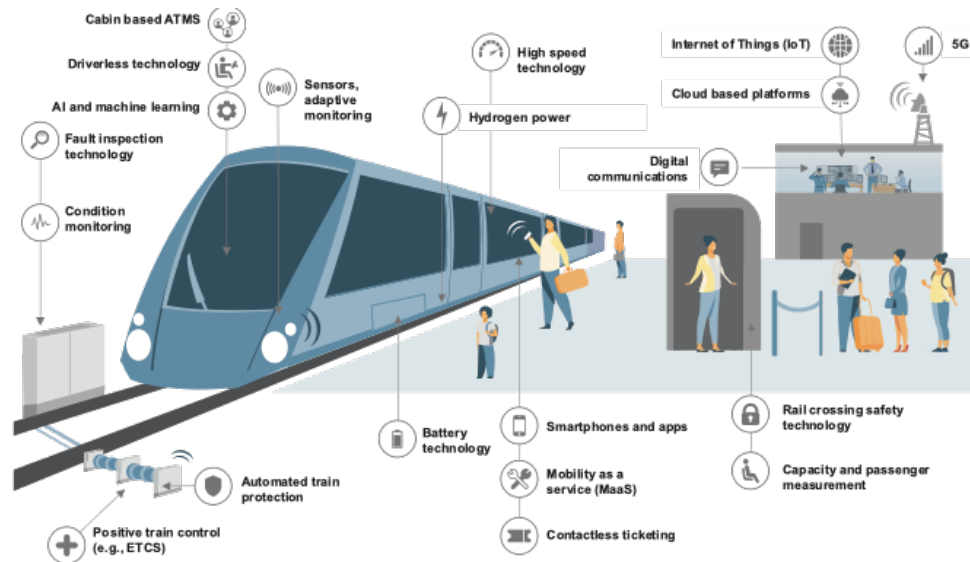
New high-powered electric locomotives can haul heavy trains at high speeds

Italy has introduced very high speed freight trains, with China to follow

High-speed freight trains can operate at night when passenger services are not operating

Innovation is required to improve the efficiency of the system

The need for lower cost productivity gains is the strongest case for Australian railways to invest in innovation*



The pace of innovation is quickening, with opportunities for rail including intelligent systems, automation, sensors, predictive maintenance, advanced asset monitoring, traction and train control technologies, and energy efficiency

Examples where new technology has delivered sizeable productivity improvements:

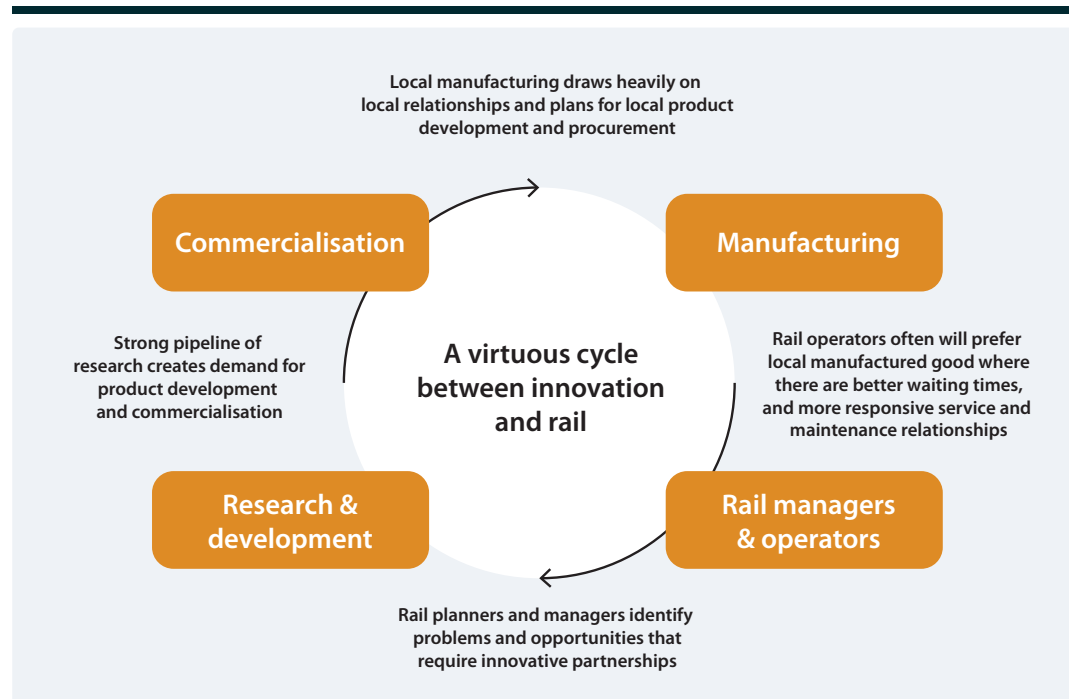
- Rail condition monitoring developed by the Monash Institute of Rail Technology, is now used by Hong Kong Metro since 2017
- Advanced Train Management System (ATMS), funded by the Australian Government, will deliver greater interoperability and standards harmonisation on the national freight rail network
- The world's first autonomous heavy haul long distance rail network developed by Rio Tinto with Hitachi Rail STS
- Sydney Metro expects to recover ~60c per dollar of operational spend by 2021 (c.f. Sydney Trains ~20c per dollar)
- Aurizon's operating costs have reduced by 33% since 2015, linked to the introduction of new technologies

*Source: Australasian Rail Association (2020), Finding the fast track for innovation in the Australasian rail industry

A steady pipeline will sustain local manufacturing and open global opportunities

Australia is embarking on its next major program of rail transformation – with \$155 billion of rail investment planned in the next 15 years *

Figure 4: Interrelationships between Australian Railways and the Rail Innovation System



Supports growth in local manufacturing

- A steady pipeline of investment sustains local manufacturing capability and its supply chain, and enables knowledge and skills to be transferred to new clients

Opens global market for Australian products

- Local manufacturers benefit from the commercialisation of local research. A major factor for advanced manufacturing is the 'feeder' system of local research and commercialisation

*Source: Australasian Rail Association (2020), Finding the fast track for innovation in the Australasian rail industry

SUMMARY

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STEP UP TO DRAMATICALLY
IMPROVE ITS SERVICES

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It needs to compete more strongly with car and air

It needs to compete with trucks for road freight

Doing so will create a globally competitive manufacturing industry

Innovation is needed to become more efficient

A steady pipeline sustains industry and open markets

LET US KNOW WHAT YOU
THINK



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