IfM Education and Consultancy Services

UNIVERSITY OF CAMBRIDGE

briefing

Mapping The Future of The Australian Rail Supply Network

IfM Education and Consultancy Services has helped to map out the next 30 years of the Australian rail industry following the great success of the Automotive Australia 2020 Roadmap undertaken in 2009. Working in collaboration with The Australian National University (led by ANU Edge), the CRC for Rail Innovation and Strategic Connections Group, IfM ECS has helped to create a roadmap to support an effective and efficient rail supply network well into the 21st Century.

IfM ECS, a world leader in roadmapping practice, were commissioned a second time, following the success of the earlier Automotive Australia 2020 Roadmap. Australian Government appointed Rail Supplier Advocate Bruce Griffiths initiated the railway project, based on first-hand experience from participating in the automotive roadmap and having witnessed how beneficial it was to both the industry and his own automotive company. A team of Commonwealth government, state governments and industry supporters were gathered to fund and drive the project forwards.

Roadmapping is used by a wide range of organisations and industry sectors to facilitate communication, collaboration and shared decision-making. It attempts to answer three key questions: Where are we now? Where do we want to be? How can we get there?

Identifying the Need for a Strategic Roadmap

The Australian rail industry is currently facing many challenges both externally, such as increased globalisation and the rise of manufacturing in China, and internally, such as competition from road and air transport, a skills shortage and growing customer demand. Key stakeholders including government, suppliers and industry associations have commissioned the development of a strategic roadmap for the Australian rail supply sector – On Track to 2040 to address the effectiveness, efficiency and quality across the network.

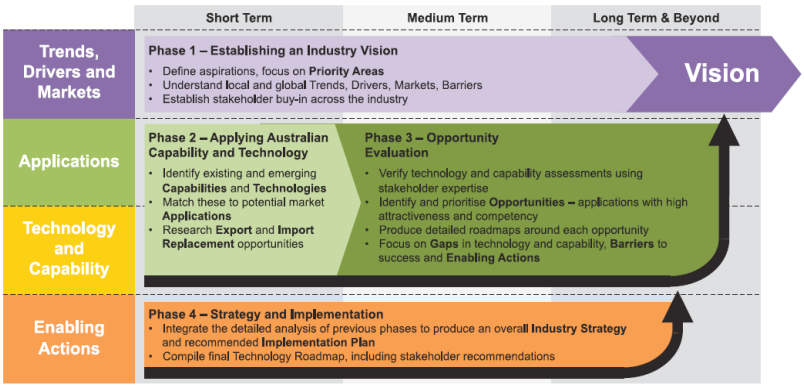

Figure 1 – Roadmapping as applied to the Australian rail supply sector.

Australia's rail industry extends from signalling, communications and track to rail components and building and maintaining rolling stock.

Announcing the Roadmap, Minister for Manufacturing Senator the Hon Kim Carr said it was important government understood the rail industry's technology and manufacturing capabilities so it could identify development opportunities and ensure the industry continued to contribute significantly to the national economy.

The Findings to Date

The On Track to 2040 process has revealed three key priority areas, Monitoring & Management, Power & Propulsion and Materials & Manufacturing. Industry stakeholders have identified each priority, against criteria measuring attractiveness and fit, with capability. A series of three workshops will take place during February 2012, when technological leaders, researchers and developers will delve deeply into the technologies needed for all of the opportunities.

The Monitoring & Management workshop will explore a number of topics including sensors and monitoring equipment, data management and analysis, asset and operations management, software solutions and systems integration, signalling and control and safety and surveillance.

The Power & Propulsion workshop topics will explore engines and traction systems, fuel use management, energy efficiency, regeneration and storage, alternative fuel technologies, emissions reduction technology, braking systems and energy transmission.

Materials & Manufacturing will look at advanced materials for environmental sustainability, high performance and cost reductions, manufacturing systems and processes, lightweighting solutions, advanced manufacturing design and techniques and optimised short run manufacturing.

A roadmap (shown in Figure 1) is built up in layers. Trends and Drivers represent the external influences under which the industry operates, and comprise the background context influencing market demand. Applications satisfy these demands and, where they fit with competitive advantages of Australian capability and technology, represent Opportunities for the industry. Enabling Actions can address gaps in Technology or Capability, and barriers to uptake by the market. These actions can be taken up on the part of the industry itself, or through external support

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