

Key Point Summary Presentation

prepared January 2011



The Second Rail Industry Research Strategy (RIRS2)



1. Executive Summary

- Research is a key part of the process of developing the technologies that can reduce the cost of the railway and improve the competitiveness of the industry.
- Strengthening research leadership is essential for driving fundamental improvements in the way research is organised in the rail industry.

Executive Summary Table

Management Areas of Focus	Enabling Actions	Lead	Specific Objectives
Strategic Direction	EA1 – Leadership and Making the Case	DfT	<p>1.1 Establish research leadership/championing role (individual with support or empowered group).</p> <p>1.2 Obtain industry-wide and Government agreement on including a role for RD&D within the next High-Level Output Strategy (HLOS) for Control Period 5 (CP5).</p> <p>1.3 Develop a portfolio approach based on technology route maps.</p> <p>1.4 Consider how the RTS applies to High Speed Rail, and where needed develop specific additional research approaches.</p>
Knowledge	EA2 – Knowledge Management	RSSB	<p>2.1 Improve foresighting – a clear understanding of what knowledge is needed for what purpose.</p> <p>2.2 Make the outputs from current and legacy R&D projects more widely available across the rail industry.</p>
	EA3 – Collaborative Working	RSSB	3.1 Develop collaborations with UK research funders.
	EA4 – Engaging with European Research	NR	<p>4.1 Develop a more pro-active strategic approach to European-funded programmes.</p> <p>4.2 Explore opportunities for more bi-lateral collaboration within Europe (e.g. with France and/or Germany).</p>
	EA5 – Technology Transfer from Other Industries	RIA	<p>5.1 Raise awareness within the rail industry of benefits of applying technologies from other sectors.</p> <p>5.2 Participate in the new Knowledge Transfer Network for transport.</p>
Route to Market	EA6 – Enhance Industry Capacity for Innovation	TSAG	6.1 Specific activities are being developed by TSAG as a follow-on to the report on Enabling Innovation.
	EA7 – Reducing Risks for Introducing Innovations	TSAG	7.1 Specific activities are being developed by TSAG as a follow-on to the report on Enabling Innovation.

Table ES1 - Enabling Actions and Specific Objectives

2. Introduction and Background

- Our ambition for this second Rail Industry Research Strategy is to build on the first Research Strategy and gain an industry-wide consensus on the actions to be taken to improve the effectiveness of investment in rail research.

How we Developed RIRS2

Representatives from across the rail industry participated in a series of facilitated workshops to discuss key issues.

- The rail industry organisations represented at the workshops were:

The Rail Industry Association	Rail Research UK
The Association of Train Operating Companies	RSSB
Rolling Stock Companies	Office of the Rail Regulator
London Underground	Department for Transport
Passenger Focus	Network Rail

- The workshops were facilitated by TRL (the Transport Research Laboratory) under contract to DfT.

3. Purpose, Assumptions and Challenges

- The GB rail industry is a difficult environment for research and innovation. The purpose of RIRS2 is to help the rail industry identify and deliver the research and technology that can help bring down costs and do “more for less”.

Purpose of RIRS2

The purpose of RIRS2 was to:

- Identify the really key issues for rail research, particularly those issues where the rail industry needs to work together.
- Present what we have agreed to do about these key issues.
- Help make the case for rail research.

Purpose of RIRS2

As a result, the rail industry will have a clearly articulated set of priorities and initiatives for investment in research that will deliver the step changes in:

- reducing cost.
- increasing capacity.
- reducing carbon, and
- meeting the needs of customers.

(Cost, Capacity, Carbon and Customers are collectively known as the 4C's)

The strategy will help the rail industry identify and deliver solutions where technology and research can help bring down costs.

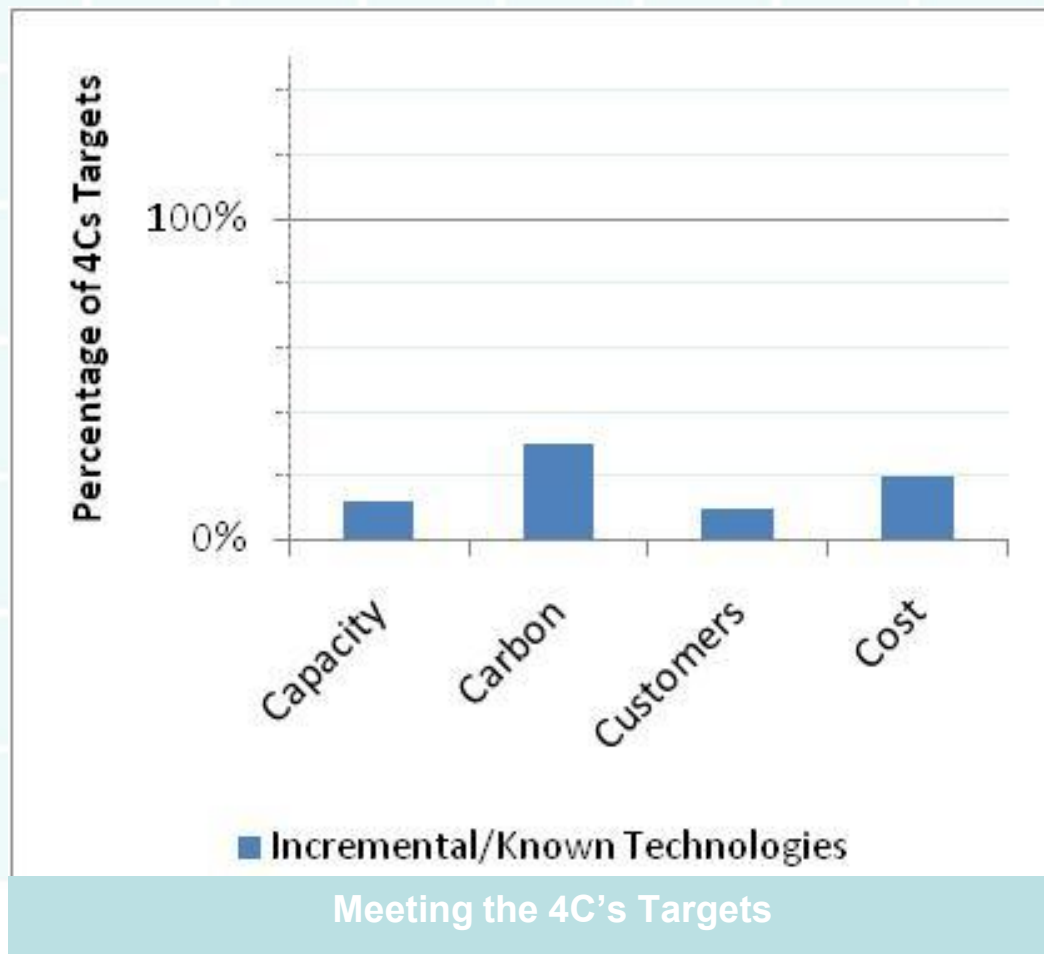


4. The Case for Rail Research

- Research is essential for meeting the 4C's challenges and enabling the railway to play a full part in meeting the UK's future transport needs.

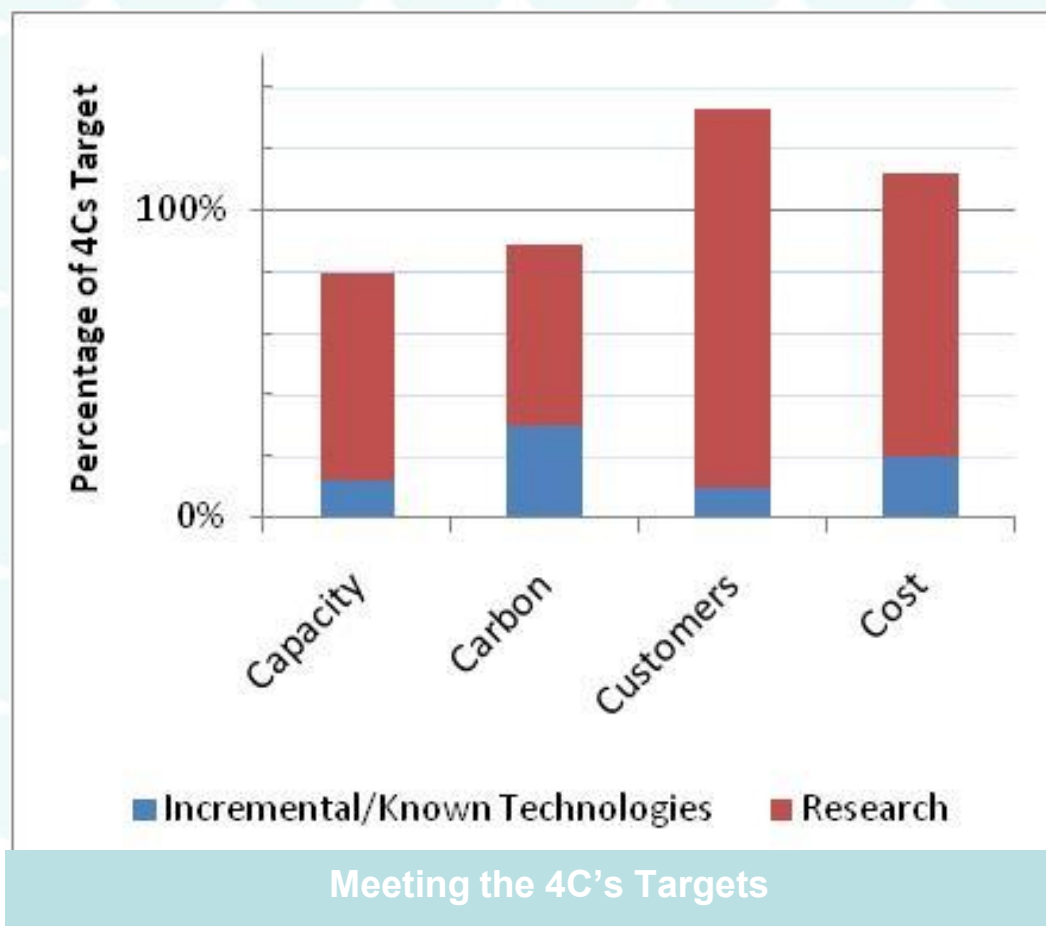
Making the Case – Top Down: Meeting the 4C's Targets

- Known and incremental technologies fall well short of the 4C's targets.



Making the Case – Top Down: Meeting the 4C's Targets (cont)

- Research to develop known technologies goes a long way towards meeting the targets.
- But for Capacity and Carbon a significant gap remains.



Making the Case – Bottom-up: Benefits of Investment in Research


A DfT Evaluation of the Impacts of Completed Rail Research showed that rail research projects generally had good outcomes:

- For 81% of projects, utilisation of outputs was either strong or medium.
- For 71% of projects, the implementation of outputs was either in short-term or the medium-term.



Making the Case – Bottom-up: Benefits of Investment in Research (cont)

Based on case studies, a number of points that promoted successful projects were identified, these included:

- Develop a benefits-driven business case.
 - Involve all the right stakeholders.
 - Appoint project champions.
 - Develop an implementation strategy.
 - Plan for knowledge retention and transfer.
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5. Strategic Direction for Rail Research

- Strengthening research leadership is essential for driving fundamental improvements in the way research is organised in the rail industry.



Strategic Focus of RIRS2

The vision for the research landscape is based upon maximising value for money and ensuring that the results of research are fully implemented. Key ways of achieving this are:

- Different parts of the rail industry working together on research and implementation.
 - Smaller innovative technology companies working alongside established industry players.
 - Funding organisations working together to maximise the use of limited funds.
 - The application of solutions and technologies developed in other sectors.
 - More internal collaborations.
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6. Areas of Focus and Implementation Plan

- Three Management Areas of Focus have been identified. “Strategic Direction” is a new Area of Focus, whilst “Knowledge” and “Route to Market” build on actions already underway as part of RIRS1.



Technical Areas of Focus

The steering group recognised that a considerable amount of work had already been done to prioritise research themes. For example, eight long-term themes for change had been identified for the Rail Technical Strategy (RTS).


It was also noted that the RTS themes are being reviewed and TSAG are undertaking an industry-wide consultation process.

TSAG have also identified key technological interventions that are seen as having the potential for 'changing the game' for the rail industry.



Technical Areas of Focus

The steering group therefore concluded that it was unnecessary to undertake a detailed review of technical areas of focus. However, the Group did affirm the following principles:

- The 4C's remain the basis for deciding on technical areas of focus.
 - The RTS long-term themes for change still provide a good basis for specifying the technical areas of focus for future research.
 - Reducing the costs of the railway is the key priority for the industry and the need for research to develop the technologies that achieve this goal is the over-riding aim.
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Technical Areas of Focus

Areas Highlighted as Part of RIRS2:

- Low carbon and energy.
- High speed rail.
- Better tools for making decisions on investment in rail.
- Whole system performance.
- Personal and rail system security security.

Management Areas of Focus and Enabling Actions

Strategic Direction:

- Leadership and Ownership.
- Making the Case.

Knowledge:

- Knowledge Management.
- Collaborative Working.
- Engaging with European Research.
- Technology Transfer from Other Industries.

Route to Market:

- Enhancing industry capacity for innovation.
 - Reducing the risks of introducing innovations.
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6. Governance and Risk Management

- The RIRS2 Steering Group recommended that TSAG is the appropriate body to provide the governance and oversight of the implementation of the strategy.

Full Report available via the TRL website at:

http://www.trl.co.uk/transport_consultancy/rail/the_second_rail_industry_research_strategy_rirs2/

Please feedback your views...

