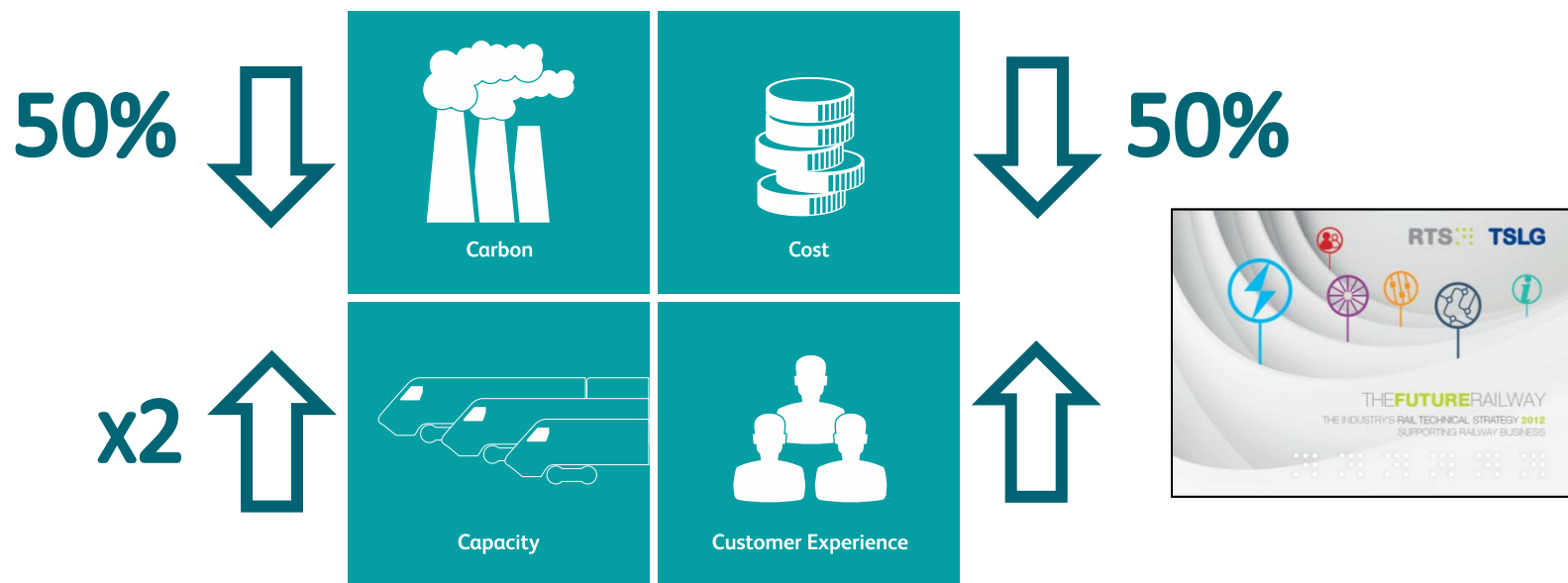




# European Engagement for RTS Delivery

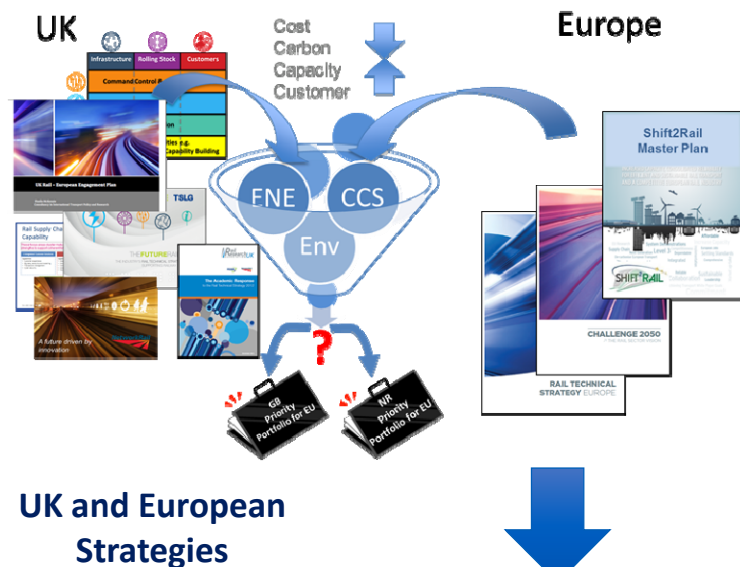
Guy Woodroffe  
**30 October 2015**

# The Rail Technical Strategy sets targets for the railway industry of 2040



Governed by the Technical Strategy Leadership Group established under RSSB

# RTS Portfolio Mapping to turn the strategy into a plan



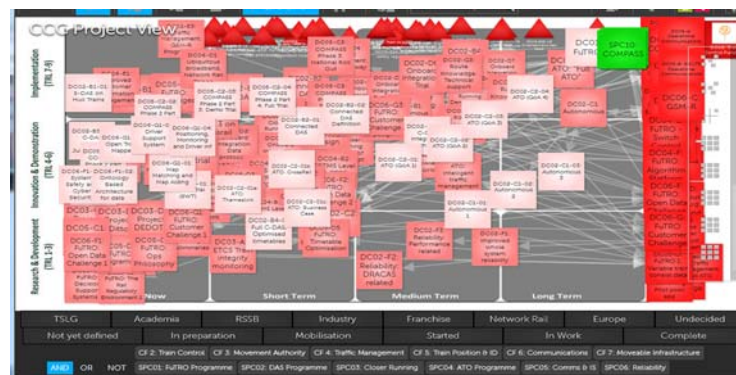
UK and European Strategies

Activity	Output	Outcomes	Benefits enabled by outcomes	Quantification of outcomes	Assumptions
<ul style="list-style-type: none"> <li> <b>C-DAS Program</b>                      Continued development, demonstration and delivery of cloud based and novel based driver assistance systems, development and demonstration of advanced control systems, technologies and training, research, approvals for ATCO control &amp; control.                 </li> <li> <b>Task 1.1.1.1 (T1.1.1)</b>                      This is the first of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.2 (T1.1.2)</b>                      This is the second of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.3 (T1.1.3)</b>                      This is the third of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.4 (T1.1.4)</b>                      This is the fourth of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.5 (T1.1.5)</b>                      This is the fifth of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.6 (T1.1.6)</b>                      This is the sixth of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.7 (T1.1.7)</b>                      This is the seventh of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.8 (T1.1.8)</b>                      This is the eighth of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.9 (T1.1.9)</b>                      This is the ninth of two tasks, which provides a core and cross functional...                 </li> <li> <b>Task 1.1.1.10 (T1.1.10)</b>                      This is the tenth of two tasks, which provides a core and cross functional...                 </li> </ul>	<ul style="list-style-type: none"> <li>C-DAS fitted to trains, initially as a trial fit, then as a production fit</li> <li>C-DAS base systems (downloaded and associated engineering products)</li> <li>C-DAS benefits quantified and published</li> <li>C-DAS training packages established and approved</li> <li>Full approval for programme with TMS</li> <li>C-DAS system requirements and standards established to allow ATCO, manufacturer &amp; engineer</li> <li>Full approval for support time table development</li> </ul>	<ul style="list-style-type: none"> <li>Better driver improved driver awareness and options to recover minor perturbations</li> <li>Better driver feedback - retained 'busy minute' events</li> <li>Better performance and route section times readily maintained</li> <li>Clearer and improved energy consumption, improved train timing</li> <li>Train feedback submitted to TMS and 'synthetic' system of program</li> <li>Modular approach opens for ATCO, manufacturer &amp; engineer</li> <li>Improved time table, better on time along whole journey</li> </ul>	<ul style="list-style-type: none"> <li>Driver flexibility, drivers able to cope with on route perturbations</li> <li>Reducing energy costs to TFC and reduced peak load to infrastructure</li> <li>INCREASE 'ON-BOARD' arrival of performance points, REDUCED, REDUCED, REDUCED</li> <li>INCREASED CUSTOMER satisfaction - more on-time trains</li> <li>improved safety, smoother journeys</li> <li>improving improved TM algorithms</li> <li>KEY BCS IMPROVED ATD</li> </ul>	<ul style="list-style-type: none"> <li>Improved driver abilities, flexibility and training reduce driver costs by 1% (£20M per year)</li> <li>Energy saved through ATCO (estimated 0.5% of ATCO energy bill (£50M / year))</li> <li>Improved punctuality reduces time contribution (costs by 5% (£4M))</li> <li>Improved safety, smoother journeys</li> <li>improving improved TM algorithms</li> <li>Increased capacity through improved on-time delivery and contribution to sustainable operation, increase capacity by 1% (£20M)</li> </ul>	<ul style="list-style-type: none"> <li>Improved driver abilities, flexibility and training reduce driver costs by 1% (£20M per year)</li> <li>Energy saved through ATCO (estimated 0.5% of ATCO energy bill (£50M / year))</li> <li>Improved punctuality reduces time contribution (costs by 5% (£4M))</li> <li>Improved safety, smoother journeys</li> <li>improving improved TM algorithms</li> <li>Increased capacity through improved on-time delivery and contribution to sustainable operation, increase capacity by 1% (£20M)</li> </ul>

Note direct benefits only

Significant Programme Benefits Map

Portfolio Map



## Increasing capacity / reliability

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Predictable and Optimised Braking



FuTRO



COMPASS



Remote condition monitoring

## European Engagement for RTS delivery

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- Aligning the agendas - Rail Technical Strategy Europe
- Funding opportunities
  - Shift2Rail JU
  - Horizon 2020 programme
  - Other collaborations

The background features a central blue horizontal band containing the text "Thank you". Above and below this band are two rows of three colored rectangular blocks each. The top row consists of a light green block, a dark teal block, and a bright green block. The bottom row consists of a dark blue block, a very dark navy blue block, and a dark forest green block.

Thank you