Command, Control & Signalling (CCS) Migration for Digital Railway
Data Enabled CCS (DECCS)
Project Implementation Challenge

- Rolling Stock Identification
- Rolling Stock Design
- Rolling Stock Installation
- Infrastructure Scheme Design ETCS Level 2/3
- Infrastructure Installation ETCS Level 2/3
- Scheme Development
- Options Development
- Infrastructure Scheme Design ETCS Level 2 Overlay
- Infrastructure Installation ETCS Level 2 Overlay

All Drivers Trained

Year 1 2 3 4 5 6 7 8
Programme Implementation Challenge

Many parallel activities in a resource constrained industry

We have to reduce development, design and installation times to deliver a 10 year programme
System Challenge

- Development Challenge
  - Predictable improvement to end users needs
- Design Challenge
  - Automated design with little bespoke engineering
  - Automated assurance
- Installation Challenge
  - System configuration mainly in data systems
  - Minimal trackside equipment installed to defined rules
Current Digital Railway view
Current technology constraints

Calculated Braking Distance

Each signalling scheme is bespoke to layout, train capabilities and issues such as signal sighting.
Opportunity from ‘Distance to Go’ ATP Systems
Scheme application opportunities from ‘Distance to Go’ ATP Systems

No compromise on outputs and full functionality
No Option Selection
No Network Change
Is this not more complex?

Limited Number of Modular Design Templates allow consistent rules to be applied to every site configuration.
Limited Infrastructure Fitment

Axle Counter Train Detection
ETCS Level 3 Train Detection
ROC Area Schedule

Driver Training

- Rolling Stock Identification
- Rolling Stock Design
- Rolling Stock Installation

- Infrastructure Scheme Design ETCS Level 2/3
- Infrastructure Installation ETCS Level 2/3

Multiple driver training areas (ETCS Level 2 Overlay) for each ROC

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|      |   |   |   |   |   |   | ROC Area Schedule Node | All Drivers Trained | Digital Railway logo

Multiple driver training areas (ETCS Level 2 Overlay) for each ROC
Outline National Migration Strategy

- ETCS Level 2 overlay developed under DR Phase 2 Programme critical in migration plan

- Rolling Stock selection and ‘first in class’ design are on critical path in CP5 for first ROC areas to be considered

- Development of ETCS Level 2/3 and automated design and assurance activities are critical in CP5
Discussion

- Roll Out Strategy constrained by Business Change and Critical Resources
- System Design needs to recognise not only the final business benefits but the ability to realise these benefits earlier than existing processes