

Operations Control & Management Systems



Background

Over the next 15 years the Operating Strategy will transform how we operate the railway. It will:

- ▶ reduce the number of signalling locations from c.800 signal boxes to 12 Rail Operating Centres (ROCs)
- ▶ bring in new Traffic Management (TM) technology, and new processes and operational roles that best utilise the new system
- ▶ migrate electrical control from 13 locations into eight of the ROCs and introduce a standardised national Supervisory Control and Data Acquisition (SCADA) based system.

The Challenge

Increasing levels of demand are being placed on our infrastructure; at the same time, we are facing increasingly tough targets for train performance and financial efficiency. The Operating Strategy will see us:

- ▶ reduce our frontline operations workforce from 5,600 to potentially fewer than 1,500 and deliver significant savings in operating

costs (£250 million pa when fully implemented)

- ▶ deploy leading technology which helps our people reduce delays and quickly recover services after disruption
- ▶ introduce a single operational information system to provide real-time information to passenger and freight customers, particularly during times of disruption
- ▶ establish a new national SCADA system for electrical control, replacing 16 separate and aging systems with one modern system and a consistent approach to its operation.

The success of these technological changes requires us to change our frontline roles and processes and develop our people with new skills and competencies in order to get the best out of the new systems – significant organisational challenges in their own right.

How We Can Help

We have considerable experience in a number of different areas, including:

- ▶ business case development – using UK best practice to create detailed business cases for strategic projects, in a clear, articulate and compelling manner
- ▶ supplier engagement – looking at the best systems in the world and how they have been delivered, developing rigorous selection processes and entering into successful collaborative relationships
- ▶ project management – employing a structured approach for the development, design and implementation of our new operating centre buildings and associated signalling and control systems technology
- ▶ benefits realisation – identifying and tracking improvements across the network as the strategy progresses
- ▶ business change – applying proven programme management methods to integrate organisational and infrastructure change activities
- ▶ benchmarking of other administrations – assessing our Operating Strategy against relevant international programmes.



Initial work

To date, the programme has delivered a number of significant achievements and we've used the experience gained from these to refine and develop the onward programme further.

- ▶ development of the strategy for future network operations – assessment of options, international benchmarking, identification of benefits, establishing industry engagement and securing early stakeholder buy-in
- ▶ subsequent carefully planned and managed launch of the strategy; detailed development of the various strategic components and their initial implementation (ROC design, development of new operational roles and organisational structures, development of functional requirements for core systems)
- ▶ construction and commissioning of six new-build ROCs across the UK network, demonstrating the operational benefits envisaged by the Operating Strategy, and

providing a platform for developing the ROC concept further

- ▶ three TM prototypes successfully developed by suppliers for testing and evaluation prior to contract award for 'First Deployment'
- ▶ commissioning of two separate resignalling projects utilising modular signalling technology and incorporating Manually Controlled Barrier Crossing with Obstacle Detection (MCB-OD) level crossings, demonstrating both a low-cost signalling reconrol solution and improvements to level crossing safety through the use of new radar technology.

Current and ongoing programme

Focus now is on building upon earlier programme successes and, where possible, accelerating overall delivery of the Operating Strategy.

- ▶ six next generation, highly efficient and environmentally friendly ROCs being brought into service, alongside

a programme of updates and 'refresh' to the older ROCs

- ▶ delivery of two 'First Deployments' of TM – on the Wales and Anglia operating routes – operational by 2016
- ▶ planning for network-wide roll-out of TM systems across all ROCs, and integrating a strategic focus on maximising network performance from a control systems perspective, with roll-out of ETCS (European Train Control System) Level 2-based signalling infrastructure
- ▶ development and deployment of supporting technology, such as Automatic Route Setting plus (ARS+), and continued development of Modular Signalling systems, utilising lessons learned from earlier schemes
- ▶ engaging closely and successfully with our workforce on organisational change issues, and involving representatives and other frontline staff in the design and configuration of ROC and TM systems.