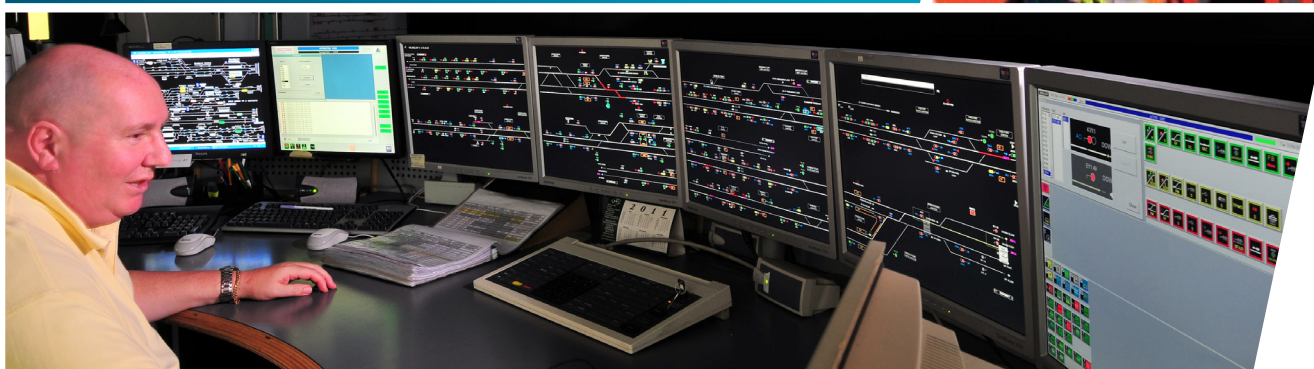**NetworkRail**

Remote Condition Monitoring (RCM)

Background

Intelligent Infrastructure is Network Rail's transformation programme for remote condition monitoring of rail infrastructure. Using a strategic approach to technology, information management and business process to deliver benefits in performance and long term asset management

To date we have more than 12,000 assets live on the Intelligent Infrastructure system (points, track circuits, signal power supplies). The benefits so far have been 153,000 delay minutes avoided saving c£4.66m, with benefits expected to rise to c£14m per annum

Looking forward:

▶ a further 23,000 assets to be added to the intelligent infrastructure systems covering track circuits and points heating fitments

▶ address the gap to target benefits delivery through a programme of business change covering people, process, technology and sharing of best practice across routes

▶ remote condition monitoring to be rolled out across other assets

▶ total annual benefits rising to £14m from 2014 onwards.

The Challenge

As infrastructure owners efficient and timely maintenance interventions are essential to ensure trains operate to the published timetable without delays or interruptions to service.

The challenge therefore is being able to monitor key assets with real time information that will support:

▶ right time interventions

▶ changes in the existing maintenance regimes

▶ re-design of an asset.

How We Can Help

We have a team of technically competent individuals who can advise you on remote condition monitoring, both at an asset level and for the whole railway system.

Based on this expereince we are able to provide impartial advice and help your organisation by:

▶ developing a intelligent infrastructure strategy for your business

▶ developing a business case & benefits model

▶ develop a procurement strategy for the cost effective introduction of a scalable solution

▶ develop business processes and an implementation programme to introduce safely into the business

▶ offer asset specific advice.

For more information please visit www.networkrailconsulting.com

Strategy

Traditionally, application of remote condition monitoring on rail infrastructure has been an expensive and tactical exercise. Benefits have been difficult to sustain and even harder to measure.

The Intelligent Infrastructure strategy addresses these failings and enables the infrastructure manager to develop a business driven solution that is scalable and sustainable.

Technology

Wherever possible a 'plug and play' approach has been taken by employing standardised interfaces and protocols.

This reduces the complexity of the system and enables scalability – the ability to increase the volume of assets and add to the types of assets that are monitored.

This allows the system to grow in line with operational needs without requiring wholesale reengineering, thus reducing expenditure, development time and risk to quality of service.

Information Management

A key success criteria for the system is the translation of data into information. The complexity of railway infrastructure results in significant quantities of data which we are able to process in quasi-real time to provide manageable and value added information to system users

Business Process

The system provides early warning of incipient failure of critical assets with supporting information.

Control and technical staff use this information to make informed decisions on remedial action – immediate intervention, continued monitoring or scheduling of longer term maintenance.

The importance of the process should not be underestimated. Business process re-engineering coupled with effective change management strategies is absolutely essential in a successful deployment. This is particularly the case in the rail industry where geography, numbers of people and organisation structures tend to be large and complex.