



“We’ve identified how to deliver projects more effectively at lower costs with minimal service disruption, which translates into benefits for all our stakeholders.”

Stuart Calvert
Head of Early Contractor Engagement
Digital Railway Programme
Network Rail

Digital Railway introduced the ECI programme to exploit the best expertise across its supply chain. Fujitsu helped define six of the nine ECI workstreams.

At a glance

Country: United Kingdom

Industry: Transport

Founded: 2002

Website: digitalrailway.co.uk
networkrail.co.uk

Challenge

The UK's rail network is vast, complex and difficult to maintain. Network Rail, the body responsible for the infrastructure wanted to take a new approach to reduce costs, enhance productivity and improve the passenger experience. The Digital Railway programme, an industry-wide initiative led by Network Rail, looks at digital innovation to unlock capacity and maximise performance within the network.

Solution

It created the Early Contractor Involvement (ECI) programme, which invites suppliers to collaborate and solve problems via nine workstreams. Fujitsu contributed directly to six of these workstreams, focusing solution ideas on delivery of business outcomes.

Benefit

- Passengers will enjoy better service availability, improved quality, accurate timetables and less disruption
- The Government will see better employee productivity, reduced cost and acceleration of digital transformation
- It will deliver high level skills investment and create export opportunities for the supply industry

Customer

Network Rail is the owner and infrastructure manager of most of the rail network in England, Scotland and Wales. That's 20,000 miles of track, 40,000 bridges and viaducts and thousands of tunnels, signals, level crossings and points. It also manages rail timetabling and 18 of the largest stations in England, Scotland and Wales. Network Rail is a public company answerable to the Department for Transport with no shareholders, and reinvests its income in the railways.

Products and Services

■ Fujitsu Business Consultancy

Digitally transforming the UK's rail infrastructure

Maintaining the railway's physical infrastructure is an expensive job so Network Rail is always keen to explore how it can maximise capacity and performance. That's why it has introduced the Early Contractor Involvement (ECI) programme, which sits at the heart of the Digital Railway programme and the transformation of Britain's rail network.

"There are significant benefits in adopting digital technology in areas such as train control, traffic management and timetabling," explains Stuart Calvert, Head of Early Contractor Engagement, Digital Railway Programme, Network Rail. "We want to find out how we can use digital information to improve how we physically do the work and reduce ongoing disruption."

The ECI approach ensures that Network Rail can exploit the best knowledge and expertise across its supply chain. By introducing non-traditional companies, such as Fujitsu, the company has access to the best know-how in the field.

"We wanted to challenge assumptions across a broad spectrum of traditional and non-traditional suppliers. Conventionally, we would identify issues that needed to be addressed, design a project outcome and begin," adds Calvert. "Now, with this ECI approach, we are focusing on high level issues, such as cost, performance and passenger information. It's a paradigm shift from reactive to proactive problem solving."

As well as Fujitsu, the Digital Railway Programme also invited BT, BAE Systems, McLaren, O2, Panasonic, Kapsch, ADComms, Cisco, Babcock and Majenta PLM to participate in this dynamic new initiative. The challenge is in collaborating effectively across nine distinct workstreams, each of which focuses on a key industry challenge.

Focus on business outcomes

The nine ECI workstreams cover reducing possessions during maintenance; simplifying product acceptance; attracting investment in telecoms assets; streamlining on-train digital systems; predict and prevent innovation; innovation management; effective timetabling; modernising mobile communications; and using digital solutions to improve passenger experience.

Fujitsu contributes directly to six of these workstreams, collaborating and co-creating solution ideas with the other ECI suppliers. Using Fujitsu's proprietary benefits realisation methodology, Results Chain™, the Business Consultants focussed each workstream on delivery of business outcomes, illustrating line of sight between investment and contribution to delivery of Network Rail's strategic business objectives.

The consultants also contribute thought leadership around managing human capital development, highlighting the importance of people change and skills training in digitally enabled transformation programmes.

"The findings from the workstreams inform how we contract or carry out practical tasks and functions," continues Calvert. "We also use many of the findings to engage the supply chain in strategic planning and effective thought leadership."

"One common theme that emerged from the project was the importance of data and how best to manage, collate and analyse it," says Calvert. "It also showed that people – not just technology – need to be at the heart of digital transformation."

Better reliability, lower costs, improved service

The Digital Railway Programme expects the ECI programme to create tangible benefits for three distinct groups. For passengers, it promises better service availability, improved quality, and smart apps, among others. For the taxpayer and government, it expects to see better employee productivity, reduced cost and acceleration of digital transformation. Finally, for the supply industry, it will deliver high level skills investment and export opportunities.

"We've identified how to deliver projects more effectively at lower costs without service disruption, which translates into benefits for all our stakeholders," comments Calvert. "For example, by engaging in a different way, we encourage investment in technology, which in turn provides work for the supply chain. From a passenger perspective, they will see faster digital deployment, better information and a more reliable service."

"We realised a core theme is having quality data at source. Using simulations, we can make it simpler to plan and increase resilience," remarks Calvert. "This shortens the process and the time required, transforming timetable management into a strategic planning process."

ECI represents the first step of the larger Digital Railway Programme and has already formed a foundation on which new initiatives and workstreams can be built. Fujitsu and the other ECI suppliers will again be closely involved in helping to design and develop new digital solutions for the modern railway.

"The lessons we learn from ECI can be applied to any major civil project, such as HS2, Crossrail 2 or even Smart Cities," concludes Calvert. "It is absolutely key to our economy and the next revolution in the railway industry."

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