Network Rail’s digital transformation supported by innovative mobile solution

Client name: Network Rail
Location: London, Great Britain
Industry: Transportation
2010: Picture a railway maintenance worker slogging through the rain, writing down a work order on a soggy piece of paper and then trudging to the train depot to hand over his paperwork for the depot administrator to manually upload into the back-office system.

2015: Picture the same railway worker tapping an app on his iPad, entering a work order and then seamlessly submitting it electronically through an efficient, all-digital system.

Using new technology and an innovative approach, DXC Technology supported Network Rail’s groundbreaking transformation from paper-based operations to a mobile-enabled digital workforce, making life much easier for its frontline employees. Now, more than 13,000 railway maintenance workers and engineers use iOS devices such as iPads and iPhones to perform their daily tasks, resulting in higher reporting accuracy and increased public safety.

Citizens in Great Britain rely on rail transportation more than ever as the country’s population grows and London continues to thrive as a global economic hub. Network Rail owns, operates and maintains Britain’s expansive railway infrastructure, which includes 20,000 miles of track and 40,000 bridges and tunnels. With passenger numbers predicted to grow by 30% over the next 20 years, Network Rail faced an enormous challenge: expand capacity, improve performance, increase reliability and deliver a safer railway — while cutting costs.

Information at your fingertips

Maintenance workers serve as the lifeblood of large railway operations, keeping tabs on the physical assets that need repair and have the potential to cause danger. The Offering Rail Better Information Services (ORBIS) digital transformation program was created to improve Network Rail’s processes for the acquisition, storage and usage of asset information. Expanding on a relationship with Network Rail that began in 2007, DXC became the lead technology partner for ORBIS, helping to lay out its vision and serving as systems integrator.

The main thrust of the project was to digitize work order management by delivering information directly to employees’ devices. A key component of ORBIS is the first app rolled out for the program, called My Work, which DXC adapted from a mobile solution developed for the utilities industry.

Mobile solution

My Work allows users to review, update, cancel and move work orders stored in the system to keep work up to date and avoid duplication. The app also lets users access a work bank to view information such as the condition history of an asset. This enables them to make more informed decisions on repair work and carry out predictive maintenance before an asset fails.
The My Work app is radically transforming how engineering teams access and use data on Network Rail’s vast infrastructure asset base. As recently as a few years ago, maintenance workers entered work orders through an inefficient paper-based system. Now, they enter data via an unlocked iPad or iPhone that they are free to use for personal tasks as well.

Network Rail maintenance engineer Andy Searle says, “My Work gives accurate, to-the-point information on work orders. It tells me straightaway what we have to do and where we need to go.” My Work can be accessed at any time in any conditions, a feature that has been especially useful for nighttime maintenance personnel, who previously had to fill out paperwork in the dark.

**Instant impact**

After the My Work solution was deployed, results were immediate. Track section manager Nick Carter says, “Once we started using My Work, our operation became entirely paperless within three weeks. As soon as people saw their work orders clearly on their devices and realized how simple it was to use, they immediately recognized the benefits.”

With the My Work solution, more than 100,000 transactions are processed each week. Within 7 months after rollout in July 2014, the solution processed 1 million work orders, taking some 500 boxes of paper out of the process, resulting in an estimated 40% reduction in administration requirements. By mid-2015, 3 million work orders had been processed. Carter says, “The app has reduced my workload by one-third. I can plan both my teams’ and my own work more efficiently and clearly see where we are on work orders throughout the day.”

DXC worked closely with end users to scope out the functionality of My Work. Network Rail maintenance personnel participated in design and delivery from day one through delivery of the finished product, and they were closely involved in testing. Focus groups and consultation meetings ensured maintenance personnel had a voice in developing the solution. This meant that people who would be using the application were part of the solution, which ensured that the development was driven by a “pull” from the business rather than a “push” from the program.

Spearheading the project for DXC was lead solution architect Andrew Bradley, who built relationships with the various stakeholders and spent time in the train depots with maintenance engineers. Bradley says, “People often talk about ‘doing mobile,’ but very few people get past the proof-of-concept stage, and even fewer people deliver solutions on the scale of this project.”

The more accurate delivery of information and improved decision-making capability are producing benefits such as increased public safety. For example, more complete information on track conditions mitigates the risk of asset failure, preventing accidents. Less paperwork, reduced travel times to and from worksites and more effective use of data are resulting in more efficient use of end users’ time, as well as lower costs. And now, maintenance workers can enter their work orders with the touch of a screen.