

# KiwiRail gets assets on track



The state owned rail network has a huge asset register to keep track of so validating data is an ongoing challenge. A new approach to field data capture is making a big difference...

**K**iwiRail's asset base is amongst the largest in New Zealand. With literally millions of fixed and mobile assets – including 4000 kms of track, 6 million sleepers, 1787 bridges, 150 tunnels and 12,000 culverts as well as signalling and communications infrastructure – KiwiRail's investment in assets is significant.

KiwiRail is in the midst of a major programme to improve the speed, safety and reliability of their entire network. It will be implementing an enterprise asset management solution based on Maximo. But before KiwiRail can fully implement the enterprise application, it needs to ensure that its asset register is

complete, accurate and up-to-date.

The KiwiRail asset team has now embarked on a multi-year programme of inspecting and validating the organisation's field assets. To help capture asset data quickly and easily, they have partnered with Mobico to provide mobile data capture units – a fleet of Motorola mobile computers – and an innovative new enterprise data capture solution, developed by Mobico, called MOBICAP.

"Our asset base falls under three major types," says Andrew Dewhurst, Project Manager with KiwiRail. "They are Tracks, Structures and STTE (Signals, Telecoms, Traction and Electrical). Over the

last three years we have been validating our Tracks and Structure data and those registers are in good shape. In fact, much of that data is in digital format that can be migrated into the Maximo platform. However, we have a significant back-log of around 100 field-based STTE asset types that are not in a digital format. While we have as-built plans for all of them, they have not been validated in the field. So one of our main priorities, to help us bring our STTE asset data up-to-date, was to embark on a programme to physically inspect each asset, record key attributes and update our records."

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ANDREW DEWHURST, Project Manager - KiwiRail

## The selection process

The first task on this project was to select the most effective data capture units. "We issued a detailed RFP that specified exactly what our goals were and the types of assets we would be capturing," says Robert Hill, Business Analyst at KiwiRail. "We had developed a basic data capture application so that we could compare the various units proposed by the RFP respondents. We conducted a vigorous benchmarking exercise. We short-listed eight different data capture units to test and loaded our software onto them. We then trialled them in the field using four teams of three people each...each team evaluated at least three of the units under a variety of scenarios and conditions. We wanted to be sure that once we made the purchase decision, it would be the right one."

As a result of the testing, KiwiRail selected the Motorola MC75A as the most appropriate mobile computing field capture device for the project and Mobico as their preferred supplier.

"Once we had selected the hardware and preferred supplier, we focussed our attention on an enterprise data capture application," continues Hill. "The software we had employed during the pilot was only a basic application and was inappropriate for the project itself. We investigated a sample of enterprise asset capture solutions on the market and none really addressed our particular requirements."

Many of these data capture programmes were difficult to customise. Each one of the hundred or so STTE assets had up to 70 individual attributes including location (in x,y coordinates), asset numbers, nested conditions (if condition = result, jump to 'else'), age, numeric and alpha-numeric and other data fields. In addition, KiwiRail wanted to capture photographic images, free-form text and, ideally, sketches.

## Developing the data schema

"We had already started the data capture programme using paper-based forms," continues Hill, "so we had already developed our data schema to a high degree. But loading that schema to the commercial applications was presenting a challenge. So we spoke with Aldas Palubinskas of Mobico and he informed us that they were very close to finalising their own enterprise data application solution which they were calling MOBICAP. The advantage of MOBICAP for us is that we could simply specify the schema in Microsoft Excel and either KiwiRail or Mobico could then directly upload it to the Motorola units."

"We had been developing MOBICAP," explains Palubinskas, "simply because we recognised a gap in the market. We have 20+ years of experience in the mobile data capture market and knew what enterprises needed: a quick way to collect data in terms and language familiar to the customer – on rugged devices with an interface that would be intuitive for field staff to operate. KiwiRail, our first enterprise client for the tool, gave us the incentive we needed to finalise the solution and bring it to market."

## Progress 'on track'

"We've been very happy with MOBICAP, Mobico and the Motorola MC75s," says Hill. "Currently we are about half way through the initial data capture project and it is progressing on schedule and to budget. The failure rate for the Motorola units has been next to nothing and Mobico has been extremely helpful in tweaking the system as our requirements have evolved. We had a fairly detailed schema and the team at Mobico were able to accommodate all of our attributes."

An accurate, up-to-date and complete asset register is an absolute requirement for KiwiRail before they can fully deploy the Maximo solution. "The service we have received from Mobico has been fantastic" says Dewhurst. "This is a major project for us and key to our continued improvement. MOBICAP represents excellent value-for money. There have been no 'hidden costs' during the project and we anticipate a successful conclusion to this particular project."

## CASE STUDY//

KiwiRail

## AT A GLANCE//

### INDUSTRY

- Transportation/Utilities/ Government

### BUSINESS OBJECTIVE

- To capture / validate field assets and their attributes.

### SOLUTION

- Motorola MC75A Mobile Computers
- MOBICAP Mobile Data Capture Application
- Mobico support and service

### BUSINESS BENEFITS

- Trouble-free mobile data capture
- Costs kept to a minimum
- Flexibility to change as requirements evolve

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