Taking asset management into the field

With assets distributed across more than 3,000 square kilometres, the Sunshine Coast Regional Council needed a tool that would enable work orders and inspections to be conducted out in the field. Integrating geographic information with the Maximo asset management system, EZMaxMobile has enabled council to devolve administrative processes to mobile crews and improve speed and efficiency of reporting processes.

The Sunshine Coast Regional Council serves a community of 316,000 people on Queensland's coast approximately 100km north of Brisbane. It is one of the fastest growing regions in Australia, with an increasing number of people choosing to call this area home.

Created through the amalgamation of the City of Caloundra and the Shires of Maroochy and Noosa in 2008, the Sunshine Coast Regional Council is responsible for a $5.5 billion asset base with over 4,000 kilometres of roads and 200 kilometres of coastline.

The Council uses IBM Maximo to manage and maintain assets. Maximo enables the 600 strong workforce involved in operating the council's infrastructure to identify activities, maintenance and cost of assets through work order management.

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>
> – Bryan O'Connor, Project Manager, Special Projects, Research and Innovation Division

The challenge of distance

Size and distance creates unique challenges for the council in its approach to monitoring, maintaining and valuing its asset base, which includes infrastructure such as roads, bridges, signs, footpaths, park facilities and playgrounds.

"When your asset is a recreational park that could cover any number of hectares, there will be hundreds of installations that need to be maintained, and uniquely identifying one particular park bench from any other in such a large area can be quite a challenge," says Bryan O'Connor, Project Manager in the Sunshine Coast Regional Council's Special Projects, Research and Innovation division.

"For us, this made the ability to integrate accurate geographic information within our asset management system a high priority."

The amalgamation of the three separate councils into one in 2008 was a time of significant change, but also an opportunity to review and improve common work processes.

Previously, inspection reports and defect notices were submitted manually, assessed in the office and resulting work orders dispatched to maintenance crews. Reducing this administrative overhead and maximising utilisation of maintenance crews out in the field were identified as strategic goals. The council envisioned a mobile solution with both Maximo and GIS capabilities that would ultimately replace a number of disparate systems and processes.

"Initially, we were looking for a tool that would facilitate work orders and inspections out in the field, transforming the 'back-to-base' nature of our work processes," says O'Connor.

A mobile solution for a mobile workforce

On the strength of their track record in the local government sector and positive recommendations from Redland City Council, Sunshine Coast Regional Council first engaged Maximo and GIS consulting specialists Clarita Solutions to complete a Maximo system upgrade. Since that initial project, Clarita Solutions have grown to become a trusted Maximo partner, working with the council on asset management issues through the amalgamation of council operations and foundation of a new water authority.

As a strategic partner and key stakeholder in the council's vision for transitioning asset management processes to the field, Clarita Project Manager Paul Lestani attended the 2011 IBM Pulse conference in Las Vegas with O'Connor.

Their goal was to identify and short list mobility solutions that met the following criteria:

- Support for bring your own device;
- Simple integration architecture;
- HTML5 standard compliance;
- Mapping capability; and
- Ability to work offline.

GIS capabilities set EZMaxMobile apart

EZMaxMobile provides any Apple, Android, Blackberry or Windows device with the ability to interact with IBM's Maximo application system in both real-time (connected) as well as offline (disconnected) modes. The ability to record GPS coordinates from a mobile device when creating a work order and uploading photo attachments is what set EZMaxMobile apart from alternative options for Sunshine Coast Regional Council.

"Integration with GIS was really the primary driver for us," said O'Connor. "With other mobile solutions we could identify which particular park bench, for example, from the asset register is in need of repair. But with EZMaxMobile we can pinpoint exactly where within a 14 hectare park that park bench is located when it comes time to deploy a work crew."

Sunshine Coast Regional Council decided to implement a pilot for introducing mobile asset management with Clarita Solutions.

To evaluate the solution O'Connor and his team selected a simple asset class of beach access points that already had mature processes and compliance reporting. The quarterly process involves physical inspection of signage, fencing, landscaping, stairs and erosion protection at each of the 322 public beach access points. Actual or potential defects are noted and issues ranked on a scale of 1 to 5. A foreman reviews the completed inspection work orders and analyses results before assigning and scheduling any follow-up actions.

"This was the first EZMaxMobile implementation anywhere in Australia," says Lestani, who oversaw project planning and implementation services.

"Field staff were using iPhone and iPad devices to access Maximo, where the process and business rules around beach access inspections were already fairly well defined," he says. "Integration points into Maximo are already defined in EZMaxMobile, so our work focussed on configuring the tool to operate within the council's environment and business processes."

"We also automated some of the most frequent observations from site inspections to streamline data entry from the field even further."

From the initial two pilot licences, Sunshine Coast Regional Council now have 95 active EZMaxMobile Mobile users across the organisation.

Keeping crews in the field longer, and management overheads down

"The pilot was not without its challenges," says O'Connor in reference to the massive organisational change that was going on at the time and its impact on culture and staff. "In an organisation the size of a regional council, asset management is by no means the only critical business system and a number of processes that impact on our work – public requests or inventory for example – are handled externally to Maximo."

"It is clear though that there are distinct and measureable returns as mobility is introduced across asset management processes," he says. "As we continue to consolidate processes and remove duplication across council systems, the returns will continue to grow."

"Before this pilot, the foreman had to manually review up to 200 pages of inspection reports. Now, with the automation of data entry and prioritisation out in the field, this report is about two A3 pages. Clearly this has a huge impact on the speed of decision making and scheduling follow-up actions."

Without the need to return to base to log reports and receive follow-up work orders, maintenance crews are in the field for longer, spending more time on maintenance tasks and less time travelling between the depot and work sites.

O'Connor forecasts continued growth for mobile asset management in council. He expects to double the number of EZMaxMobile users over the next 12-18 months as mobility is extended to support asset management in parks, gardens, roads, bridges and pathways.

Extending the range of functions possible over mobile devices is also being planned. "We're currently looking at extending the beach access point trial to enable follow-up tasks to be created on-site at the point of inspection."

Over time mobile solutions offer the potential to improve planning workloads and routing work orders for improved responsiveness and utilisation of field crews, for example identifying and deploying the nearest available crew when a work order requires immediate attention.

"The civil infrastructure we maintain is a huge factor in what makes this region an attractive place to live, work and play," says O'Connor. "Our organisation is not confined to a single site or facility which means our workforce must be mobile. This project has allowed us to combine geographic information with asset management processes when and where our crews need it – making us more efficient and contributing to the lifestyle that defines the Sunshine Coast community."

Why Clarita?

Clarita Solutions demonstrated strong experience in addressing the asset management challenges experienced by organisations with geographically dispersed assets. Their specialist GIS expertise was a perfect fit for this project.

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