Pilot study for a resources sector collaborative remote operations centre completed

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Showcasing a pilot study carried out at OZ Minerals' Prominent Hill Mine for a collaborative remote operations centre. (Courtesy of OZ Minerals; photo 414227)

An eight-month study for a collaborative remote operations centre (ROC) for the minerals and energy sectors in South Australia has been successfully completed and has set the foundation for an information and communications technology (ICT) innovation platform for remote applications for the South Australian resources sector.

The aim of the project was to investigate the feasibility of a collaborative, open platform ROC that could contribute to productivity improvement, cost reduction, workplace safety and an innovation ecosystem for the minerals and energy sectors in South Australia. Development of the target information technology architecture for a ROC collaborative software platform is the first of six outcomes. This platform will provide the initial design of a programming interface to enable future innovative ICT applications for the minerals and energy sectors to be easily developed with a specific focus on increasing productivity.

The project team was led by IPACS Power (a South Australian ICT/defence small to medium sized enterprise) with the support of the University of South Australia, OZ Minerals and the Department of State Development.

The ROC project was the first ICT Roadmap for Minerals and Energy Resources Project to be funded through the Mining and Petroleum Services Centre of Excellence, an initiative of the South Australian Government that supports the development of capabilities in local supply chains to provide high value added products and services to the resources sector nationally and globally.

The project received funding of $383 000 in January 2014 and built directly on the ICT Roadmap's CSIRO report *Scenarios for ICT in minerals and energy in 2025* (published 2013) where a collaborative ROC was identified as a key future opportunity for South Australia.

The ROC project used wireless data transmission via the 3G mobile phone network to securely transmit data from vibration sensors and a video camera on a conveyor drive in the ore crushing circuit at OZ Minerals' Prominent Hill Mine in the far north of South Australia to a ROC in Adelaide with the aim of measuring vibration frequencies in the equipment over long periods of time. Changes in frequency can be an accurate measure of a change in the equipment, indicating a fault or an impending failure.

The project team innovatively reengineered the way the router (that collects the vibration data at the crusher) connected to the nearest 3G mobile tower (receiver), providing a high quality, continuous

data stream from a remote location to the ROC in Adelaide. Over a six-month data collection period, mobile transmission failed on several occasions resulting in no data stream for up to four days at a time. When mobile transmission resumed, all the vibration data stored by the on-site server was accurately forwarded to the ROC in Adelaide and no vibration data was lost throughout the project period.

OZ Minerals not only provided access to its crushing equipment for vibration analysis but helped the project team understand the important operational, commercial and cultural requirements of a mining company in Australia. In addition to in-kind support, the company contributed capital to develop the demonstration pilot at their Adelaide office.

During the project, the team realised it was important to establish a 'test and trial' ROC at the University of South Australia for ongoing research and teaching, and as a future innovation hub for new remote applications in Adelaide. The university welcomed this development and has now committed to the establishment of a 'test and trial' ROC in the School of Information Technology and Mathematical Sciences. A number of global ICT companies have committed to providing hardware and analytics software to the 'test and trial' ROC for the purpose of showcasing their products to mining and petroleum companies and providing a venue for education, training and research in remote operations. It is anticipated that the number of these partner relationships will increase over time. The university has also examined the ICT skills needed by future ROC employees.

A major feature of this ROC project has been to work towards the foundation for an open platform with open standards for small and medium enterprise ICT companies to engage with mid-tier mining companies.

The longer term aim of the ROC project is to increase the number of globally competitive South Australian ICT companies that deliver high value, best practice solutions to the global resources sector using the collaborative ROC platform.

A report on the study findings was released in October 2014 and is available for free download from the Department of State Development Manufacturing Works website.

FURTHER INFORMATION

Collaborative Remote Operations Centre report
www.statedevelopment.sa.gov.au/ictroadmap

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Final report on Resource Area Management and Planning released

The *Resource Area Management and Planning final report* was jointly released in July 2014 by the Minister for Mineral Resources and Energy and the Minister for Planning, and can be downloaded from the Department of State Development Mineral Resources website.

The Resource Area Management and Planning (RAMP) Project is a collaborative initiative between the Department of State Development and the Department of Planning, Transport and Infrastructure which seeks to address the impacts of urban encroachment (sensitive uses) within the interface areas of some of South Australia's long-standing extractive mineral resource quarries.

It aims to establish a more coordinated approach in the identification and protection of key extractive mineral resources in the state's Greater Adelaide Region and major regional centres through the reconciliation of processes and policies under the state's *Mining Act 1971* and *Development Act 1993*.

The RAMP final report includes 11 recommendations for change in key areas which seek to:

- Identify and prioritise key extractive mineral resources and mines which are of significance for South Australia.
- Review and update planning policies and guides.
- Recognise key extractive mineral resources in the state planning strategy and local government strategic documents.
- Recognise transport routes that carry heavy vehicles and related interface issues.
- Develop greater awareness for new landowners and the community.

The RAMP Project and final report has been guided by the valuable expert contribution provided by a reference group that included representatives from Cement, Concrete and Aggregates Australia, South Australian Chamber of Mines and Energy, Urban Development Institute of Australia, Local Government Association and Environment Protection Authority, with executive support from the Department of State Development and the Department of Planning, Transport and Infrastructure.

The two departments are currently progressing through the implementation of the recommendations.

FURTHER INFORMATION

Resource Area Management and Planning final report
www.minerals.statedevelopment.sa.gov.au/access_to_land/planning_and_development

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