



CASE STUDY

CODELCO, HEXAGON MINING AND RCT FORM STRATEGIC ALLIANCE FOR CUSTOMISED AND INNOVATIVE SOLUTIONS



“Codelco are working to improve operational continuity; implementing Teleoperation for mining equipment for safety, and to improve the productivity.

For this reason Codelco worked with RCT in one Teleoperation project - with a Komatsu Wheel-dozer WD600-3 - achieving within the set time, implementation of this functionality and fully satisfying customer and operators requirements. RCT’s technology is robust and highly reliable, with a high specialisation of their professionals.

Our idea is to continue with RCT to implement the teleoperation for other production equipment, in order to achieve remote operating of the entire production process.”

Norma Vargas, Codelco

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RCT Custom provides unrivalled experience, capability and focus to create customised solutions in any situation.

Like many mine sites situated in geographically harsh and climate sensitive landscapes, Codelco’s Andina site in Chile is faced with a myriad of challenges – poor visibility; high altitude (4km above sea level); large cliff faces; steep drops; minus 25-degrees Celsius winter weather; slippery, icy surfaces; and annual blizzards, which close the mine until it is safe for employees to return.

Codelco was confronted by the outcomes of a risk assessment which determined that either autonomous or at the very least, teleremote controlled mining had to be implemented.

This was a perfect opportunity for RCT and Hexagon Mining to collaborate and form a solution.

Through this ground-breaking partnership, a customised solution to help Codelco meet operating requirements – to create a safer environment for employees and considerably reduce shutdown time from extreme weather – was achieved by building trust, leveraging skills and co-operating to achieve a successful outcome.

Both RCT and Hexagon Mining were confident their core systems could be engineered together to produce a solution to satisfy Codelco’s expectations.

Senior Project Engineers and ControlMaster® Software Engineers from RCT and Hexagon Mining conducted extensive research to adapt and establish new technologies, which would suit Codelco’s mine site.

RCT’s ATX2200 (teleremote controlled system) and RCT’s Muirhead® Speed Limiter were combined with Hexagon Mining’s Jmineops Geofencing functionality and Hexagon Mining’s SAFEMine CAS and TrackingRadar Object Detection systems. These mining technologies were integrated and installed onto a Komatsu WD600 wheel dozer by RCT and Hexagon Mining field engineers.

With the dozer operated from a safe location – in a stationary, insulated cabin within the site – RCT customised the teleremote installation by utilising the site’s existing resources, materials, and a new communication network.

A line-of-sight, portable remote was also included to operate the dozer in a line-of-sight situation (rather than the stationary cabin). This provides flexibility for operating each machine, in multiple applications across the site, if the network is down.

For this pilot project, Codelco requested the system solution be fitted in to an older dozer, and this challenge proved that RCT is able to adapt its solutions to any situation or machine.

The simplicity of using the teleremote system has been highly praised; the easy transition from actually physically driving the machine, to operating it from a safe cabin; feeling safe at work and not having to endure the sometimes brutal Chilean weather, is priceless for the operators.

More notably, positive feedback related to how RCT conducted the whole process.

“Our partnership with RCT was key to the delivery of this functionality for Codelco”, said Dave Goddard, Director of Business Development for Hexagon Mining Autonomous. “RCT brought a ‘can-do’ attitude to the project, and we never had anything less than full confidence in their ability to deliver.”

RCT Custom’s core focus is to create adaptable, bespoke solutions, and where appropriate, together with partners such as Hexagon Mining, on a project-by-project basis. The solution ensured it was relevant and suited to Codelco Andina’s mining requirements.

RCT is advocated worldwide for living its values of always going that “extra mile”. The added service of RCT’s trainers delivering an on-site training programme and remaining on-site for an extra week to ensure everything was 100% in order, contributed to successful completion of Stage 1.

Codelco has approved RCT to deliver Stage 2, which aims to complete in October/November 2015.

