

ASSET OPTIMIZATION FOR COPPER ELECTROWINNING

CASE STUDY

LOCATION
Africa

CATEGORY
Mining

COMMODITY
Copper

YEAR
2013

The Company

A mid-tier copper mining company in Australia with copper assets globally. The company produces 200,000 tonnes of copper but is aiming for continued copper production growth in the near future.

The Challenge

One site in Africa struggled to deliver planned production output due to an under-performing copper operation that was constrained by the electrowinning (EW) plant. EW was consistently below target in most measured variables such as current efficiency, current density, supplied amps, copper supplied, plated and stripped. With limited information available, production improvement was at a standstill.

The Solution

Production OEE is an integrated solution with sophisticated built-in logic developed to deliver insight on production restrictions. The standard program incorporates a combination of integrated Information Technology and tools for Continuous Improvement.

The system has similarities to a standard manufacturing OEE model but is applied as a production centric model across the value chain making it different, and infinitely more powerful at identifying and prioritising losses across an operation and for any asset.

Implementation

The Asset Optimization project involved a brief period of discovery to establish a functional specification. Based on the functional specification a specific Production OEE model for electrowinning was developed and implemented. The model developed included an automatic reporting system to highlight the biggest production losses and opportunities for

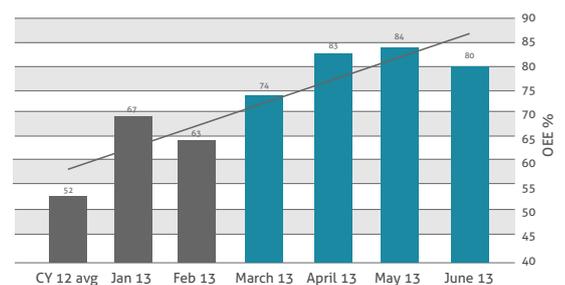
improvement. This information allowed us to help the client create projects and act on specific issues that restricted overall production.

This particular deployment was done as part of a program spanning multiple countries and operations but is easily implemented as a one-off as required.

Results

Increased data availability, visibility and execution of continuous improvement projects increased production in electrowinning on average by 25%.

Production OEE in Copper Electrowinning



Improvements realised were:

- Less power interruptions and faster ramp up of power to EW after trips and blackouts.
- Less shorts through improved operational and crane handling practices.
- Solved critical reliability issues in major electrical and mechanical equipment.
- Stabilised processing parameters overall in the plant.

The Asset Optimization project delivered an additional 14,000 tonnes of copper on an annualised basis, representing approximately an additional AU\$80 million in revenue.