

A comparative study of production efficiency improvements between UKCS O&G and global mining





Why mining?

- Extractive, continual process industries
- Dependant upon process equipment availability
- Remote locations
- Hash environments
- Tight margins
- Variations in commodity prices
- Long history of continuous productivity improvement projects



Findings from mining

26 Case studies Total

\$300m

Annualised Savings

Improvement activities followed four main themes

- Contract and vendor management
- Working capital (AP/AR)
- Materials & inventory management
- > Throughput

All concentrated on human factors and management process



Contractor & vendor management



Copper mine - South Africa

- Reduction in contract & vendor cost
- > Focus on main operational activities

Cost reduction \$7.2m annualised

Diamond mine – Canada

- > Reduction in operating costs
- Contractor management

Cost reduction \$6.4m annualised





Working capital

Iron & Titanium Division – Global Operations

- > Accounts payable
- Account receivable
- > Inventory reduction

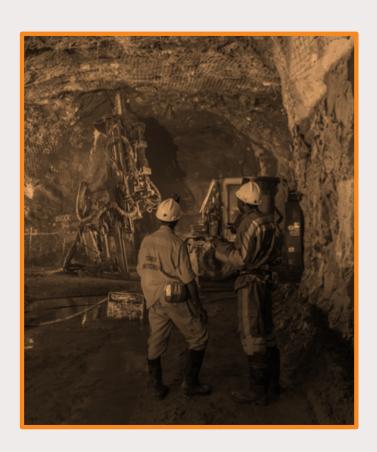
Cash Release \$65m

Copper Mine – North American Operations

- Accounts payable
- > Account receivable
- Inventory reduction

Cash Release \$19m





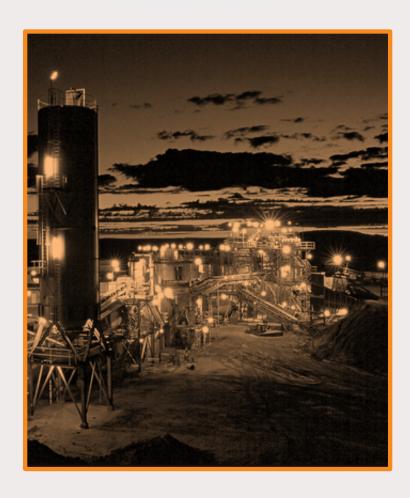
Materials & inventory management

Mining Division of Major Latin American Conglomerate - Three Mines to Process Plant

- > Integrated planning
- > External & internal logistics
- > Shipped product quality control
- > Integrated mining & logistics operations control

Cost reduction \$7.2m annualised





Throughput

Global mining firm - Diamond Division

- Process plant operations
- UG & surface mine services
- > Plant maintenance
- Executive management training

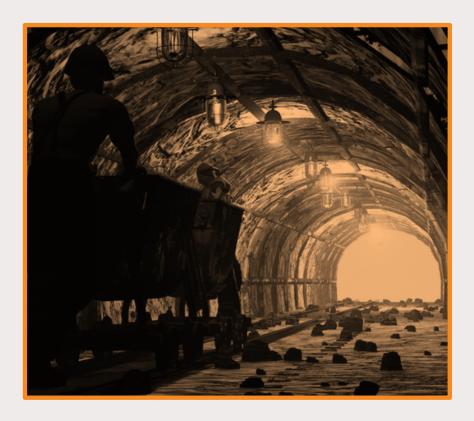
15% increase in mean daily production

Global mining firm - Bauxite and Alumina Division

- Mine and process plant operations
- Mine and process maintenance
- End-to-end quality process redesign
- Executive management, supervisor and operator training

\$26m annualised throughput increase





Summary

- > Improvement without major capital investment
- > Focus on main operational activities
- > Seek alignment
- Control process
- Engage with supply chain
- Measure to improve