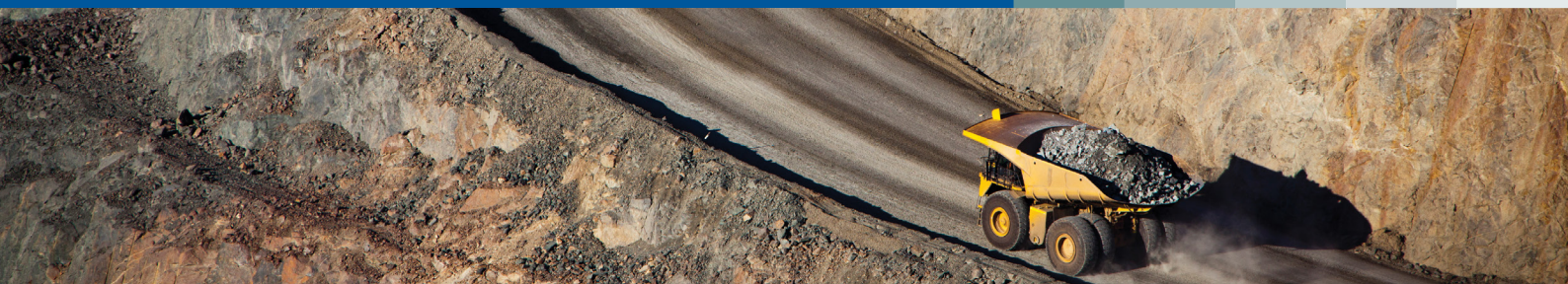




Industry Insight Mining

Yokogawa Australia & New Zealand





Yokogawa Electric Corporation

Established in 1915, Yokogawa is a leading provider of Industrial Data Management, Automation, Safety, Instrumentation and Advanced Solutions. Combining superior technology with engineering services, project management, and maintenance, Yokogawa has a wealth of experience in all aspects of the mining process. We provide solutions that enhance safety, ensure accurate and reliable business and process operation, and increase plant and business efficiency. As a technology based organisation, we are also well placed to provide guidance on positioning the most appropriate technology for the right application, designed to ensure an optimal outcome.

With a presence in Australia and New Zealand for over 30 years, we are a trusted, energetic, service-focused organisation with a strong reputation for quality, technical expertise and the ability to solve the most complex problems for our clients in an innovative manner. We are recognised for our ability to meet the most demanding of schedules, often on applications that test the limits of conventional platforms and expertise. Through working collaboratively with our clients we can ensure the desired outcome, designed and installed to the highest possible safety standards.



Quality First
Pioneering Spirit
Contribution To Society

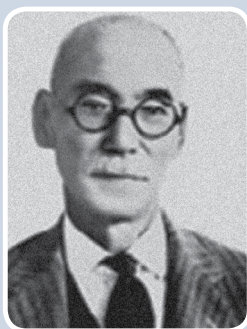
Gold | Copper | Nickel | Zinc | Coal | Iron Ore | Lithium | Diamond



Technology Driving Sustainable Growth

A key Yokogawa principle in supporting mining organisations is the agility to rapidly and effectively co-develop solutions to the most complex of challenges. Be this on new developments, expansions or refurbishments, our Co-innovating Tomorrow philosophy is inherent in our culture and designed to ensure the co-creation of value for our clients. This not only ensures the latest and most applicable technology is employed, but also matches the specific needs of our clients for highly reliable, efficient and safe operations.

Co-innovating tomorrow™



*"You don't need to worry about profits.
Just learn and improve our technology.
You must make products that earn us the respect of our customers."*

Dr. Tamiyuki Yokogawa

Synaptic Business Automation™

To remain competitive, miners must remain agile, and well placed to adapt quickly and effectively to change. Having a thorough understanding of your process is a crucial first step before embarking on a process improvement journey through digitalisation. Yokogawa not only assist in developing basic process excellence on a mine or mining process, but we can further help improve safety, reliability, production efficiency and throughput, across the supply chain and between companies.

Synaptic Business Automation expresses an ideal state for a business whereby the synthesizing of data, systems, organizations, knowledge, and supply chains adds value and strengthens competitiveness.

The linked data on mining processes, plant operations, human resources, and supply chains can be organised, integrated, controlled, broken down, and analysed to yield insightful decisions at various levels in the organisation, from operations in the field to corporate management.

Distributed Control Systems | Wide Area SCADA | Process Instruments | Process Analysers



Human Digitalisation

The human side of mining is causing significant challenges. Skilled workers moving to other industries and generational changes which have seen large-scale retirement of established mining engineers combined with a lack of suitable replacements, bite deep into the industries skills base.

The pressure for cost control in a high cost environment means mining companies must do more with less, while making better use of the experience of remaining skilled workers. Traditional methods of operation are being challenged in ways never before experienced and the industry needs support to address this crisis.

Generating actions through insights made through implementation of an effective digitalisation strategy on a well operated mine can address many of these challenges. However, many of the insights necessary to complete the jigsaw can only be identified through experience. With a diminishing engineering skills base though, mechanisms to capture that knowledge need to be put in place.

Advanced Decision Support

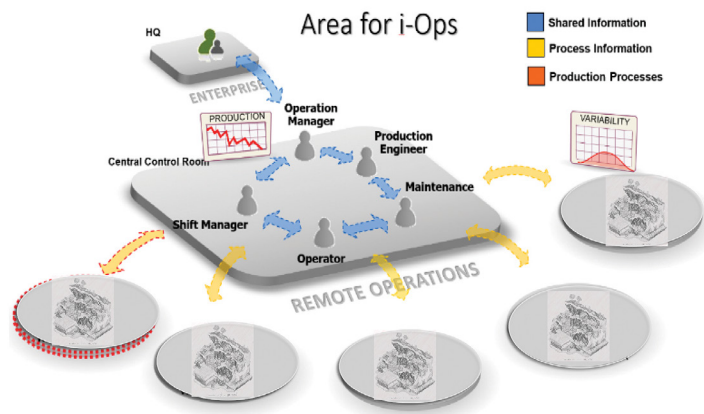
Through collaboration and Co-innovation with our customers, Yokogawa are leading a market-driven, standards-based, integrated approach to help alleviate skills shortage and cost issues across all industry segments including Mining. Advanced Decision Support provides an integrated consulting solution that brings together existing concepts, standards, and capabilities to help improve the effectiveness of all operators.

While industry has focused much thought and effort on automating procedures, alarm management, and human machine interface individually, insufficient attention has been focused on how they can all work together to help improve operator effectiveness. Such an approach not only reduces manning requirements, but also improves process consistency, operational efficiency and safety.

Improve effectiveness of operator decisions to support, rather than replace operator judgment

Based on research into human-automated path planning and decision support

Integrates existing, but separate, industry standards into a cohesive solution



Integrated Operations

Technology is already playing a growing role in the mine of the future and it set to transform it further still. Enabling technologies such as IIoT and Intelligent Operations are being deployed by Yokogawa in response to a need to improve overall visibility and increase safety on distributed processes and plants.

Key to achieving this is the re-evaluation of how large-scale automation projects are implemented along with how they can be leveraged to increase value through optimisation and improving plant performance. This is especially challenging where multiple operations over a wide geographical area are concerned.

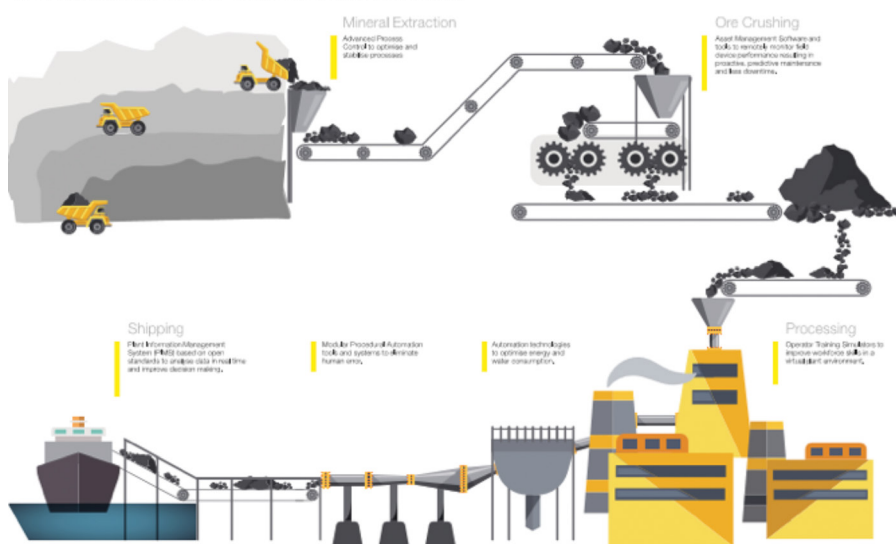
Yokogawa's intelligent operations provides a framework for realising business objectives at the operations level by addressing such drivers as total cost of ownership, enterprise level information management, operations efficiencies and production management.

Model Based Mining

For decades, the mining industry has been plagued by disconnected processes providing limited visibility for operations and management teams. Adoption of new and innovative technologies have attempted to address this and other issues, yet many see little improvement. Markets will no longer tolerate production at any cost, presenting miners with the challenge of adapting or disappearing.



Process Automation Solutions – Pit to Port / Sensor to Boardroom



When reviewing a client's process improvement journey, Yokogawa's principles have always remained the same in ensuring the basics are done well as a first step. This underpins all future activities from new device introduction, control system upgrades all the way up to a holistic revamp of data collection and reporting methods.

Connected
processes

Basic Mining
Principles

Process
Visibility

Reduced
Variability

Best Practice from Mining & Other Industries

Yokogawa's approach comes from decades of best practice development and Co-innovation from a diverse range of industries, merged with the best of mining. Many have common challenges related to safety, visibility, streamlining, cost and supply chain management. We believe in keeping complexity to a minimum through providing guidance on operational excellence, technology improvement and the replacement of disjointed reporting systems with streamlined management dashboards that report on actual operational performance.

Mining | Extraction | Ore Crushing | Processing | Shipping



Edge To Insight

Digital Transformation is the adoption of digital technologies that enable companies to integrate and synthesize data, information and systems horizontally in an enterprise and vertically across the supply chain.

It has the potential to allow mining companies to adopt new and more efficient work processes, developing new business models and a step change in performance. Viewed holistically, you can align performance expectations with a clear and insightful representation of current status, allowing you to develop an enduring model for long term and sustainable improvement.

Digital transformation technologies are not a silver bullet. If implemented poorly, they can actually destabilise plant performance. However, approached holistically on a well-run mining process, sustainable improvements in performance can be recognised. OpreX from Yokogawa focuses on the co-creation of customer value, addressing specific needs within the business. Visibility of all aspects of the process can be attained providing high levels of insight from field level to boardroom. Mining executives now have clarity on process performance allowing them to identify first hand whether their improvement directives are bearing fruit.

OpreX™

Measure Financial & Non-Financial Indicators

Uncover
Underlying Costs

Minimise
Downtime

Improve
Decision Making

Generate Demand Reports for Asset Utilisation

Reduce
Number &
Severity of
Safety
Incidents

Focusing on improving efficiency rather than reacting to and managing an erratic process, OpreX allows mining executives to reduce variability and boost profitability through knowing which data to ignore and which to utilise.

Yokogawa Australia & New Zealand

Contact Us in Australia

Email: enquiries@au.yokogawa.com

Website: www.yokogawa.com/au

Phone: +1300 558 965

Contact Us in New Zealand

Email: enquiries@nz.yokogawa.com

Website: www.yokogawa.com/nz

Phone: +0800 706050

Follow Us



Uncover | Measure | Minimise | Improve | Review