

DIGITAL MINES: BUILDING FULLY AUTONOMOUS MINES FROM PIT TO PORT

PERTH | 10 - 12 APRIL 2019

Pan Pacific Perth, Australia

HEAR FROM
20+ Speakers from

South32
BHP Billiton
Resolute Mining
Anglo American
Gold Fields
Rio Tinto
Fortescue Metals
Newcrest Mining

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INSIDE >](#)

PARTICIPATING COMPANIES



BHP



ANGLO
AMERICAN



RioTinto

Fortescue
The New Force in Iron Ore

KEY THEMES

Digital Mines: Building a Fully Autonomous Mine From Pit to Port

Gold Field's IIoT Deployment Strategies in Gold Mines

How Anglo American Realizes Major Benefits in Automation

Improving Mining Operations with Big Data Analytics

Roy Hill's Case Study on Artificial Intelligence in Mining Explorations

How Drones Are Changing Mineral Surveillance, Site Operations and Monitoring

Mines of the Future: 5G Fully Autonomous Mines by 2020

Improving Mining Asset Performance with Data Analytics

Workplace Safety with IIoT Innovations

Intelligent Mining with Big Data Analytics

Integrating IIoTs with Miners to Track Efficiencies, Output and Productivity

Safety Regulation in the Autonomous Mines

Mining Chief Tech Officer Panel Discussion

200+ DELEGATES

IN 2018 FROM

Aer International
Albemarle
Alto Capital
AMC Consultants
Arafura Resources
Barra Resources
Berkut Minerals
BHP Billiton
Bluebird Battery Metals
BMG Resources
Coogee Chemicals
Corazon Mining
Covalent Lithium
CPC Engineering
Edison Projects Australia
Electro 80
Emerson Automation Solutions
First Graphene
Fortescue Metals Group
Galaxy Lithium
GC Partners Asia/Ex-BHP
GHD
Global Advanced Metals
GR Engineering Services Limited
Lycopodium
Magellan Power
Mineral Commodities
Mineral Resources
Mitsubishi Development
Mitsui & Co. (Australia)
MSP Engineering
Multotec
Mzi Resources
Neometals
Noah's Rule
Novo Resources Corp
Obrist Powertrain GmbH
PCF Capital Group
Pilbara Metals Group
Pilbara Minerals
Pioneer Resources
and many more...

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claridenglobal.com

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THE CONFERENCE AT A GLANCE

DAY 1: WEDNESDAY, 10 APRIL 2019

MAIN CONFERENCE

- Keynote: Intelligent Mines - Building a **Fully Autonomous Mine** From Pit to Port
- How Anglo American Realizes **Major Benefits in Automation**: From Autonomous Haulage to Driverless Trains
- **Integrating IoTs with Miners** to Track Efficiencies, Output and Productivity
- How **Big Data & Cloud for Mining & Metallurgical Operations** Enable Intelligent Mining
- How **Drones Are Changing the Art of Mineral Surveillance**, Equipment Maintenance, Operations Monitoring and Site Mapping
- Mining Chief Tech Officer **Panel Discussion**

DAY 2: THURSDAY, 11 APRIL 2019

MAIN CONFERENCE

- Improving Mining Asset Performance with **Predictive Maintenance and Analytics**
- Gold Mine **IIoT Deployment Strategies**. Why and How Deployments Succeed with Case studies
- **Artificial Intelligence in Mining** and Metallurgical Operations, with Case Studies
- **Safety Regulation** in the Autonomous Mines of Western Australia
- How **IoT is Revolutionizing Workplace Safety**

DAY 3: FRIDAY, 12 APRIL 2019

SITE VISIT

- Digital Mining Automation Equipment Site Tour

Dear Mining Colleagues,

Digital transformation is emerging as a driver of sweeping change in the world across many traditional industries. Within the mining industry, digitalization is becoming a force that changes the nature of companies and their interaction with employees, communities, government and the environment at every step of the value chain. From mineral exploration and valuation, through mining, ore processing and production, to satellite remote control and sensing, digitalization is blurring traditional industry lines and challenging the business models of the past.

The digital transformation of mining & metals sectors could unlock \$320 bn in value over the next decade, with a potential benefit of approximately \$190 billion for the mining sector and \$130 billion for the metals sector. The total benefit for mining and metals is equivalent to 2.7% of industry revenue and 9% of industry profit. This is forcing mining companies to focus their operational investments on big data and IOT to maximize yield recoveries and improve operational efficiencies.

To help mining companies align their strategy and operations towards innovation, moving from digital laggards to digital first movers, extract further value from the evolving mine tech ecosystem, engage & train tomorrow's digital workforce, Clariden Global would like to warmly welcome you to our *Digital Mines Conference: Building Fully Autonomous Mines From Pit to Port*, in Perth, Australia.

FEATURED SPEAKERS



HON BILL JOHNSTON MLA
Minister for Mines and Petroleum
Member for Cannington
Government of Western Australia



PETER BURMAN
Program Manager
Mine Automation
Boliden

BOLIDEN



VANESSA LICKFOLD
Head of Geoscience,
Western Australia Iron Ore
BHP

BHP



THAO DH NGO
Group Executive
Chairman
First Indochina Group, Vietnam

FIRST INDOCHINA GROUP



JAMES BATCHELOR
Superintendent
Modelling, Operations/
Mining
Roy Hill Iron Ore

ROY HILL



ANIL SUBRAMANYA
Research Portfolio
Manager
Minerals Research Institute of Western Australia

mriwa

2018

3

PAST PARTICIPATING COMPANIES

Our 2018 Mining Conference in Australia garnered professionals from the following leading companies:

189 Corporate
 Aeon Metals
 Aer International
 Albemarle
 Alto Capital
 AMC Consultants
 Arafura Resources
 Ardiden
 Atc Alloys
 Ausdrill Northwest
 Ausenco
 Australian Vanadium
 AVZ Minerals
 Azure Capital
 Banlaw
 Barra Resources
 Berkut Minerals
 BHP Billiton
 Bluebird Battery Metals
 BMG Resources
 Business Women Australia
 CBMM
 Clean TeQ
 Collerina Cobalt
 ConsMin
 Coogee Chemicals
 Corazon Mining
 Covalent Lithium
 CPC Engineering
 Curtin University
 Department Of Mines, Industry
 Regulation And Safety
 Discovery Capital
 Edison Projects Australia
 Electro 80
 Emerson Automation Solutions
 Emerson Process Management
 Enirgi Power

European Metals
 Euroz Securities
 First Graphene
 Fortescue Metals Group
 Galaxy Lithium
 GC Partners Asia/Ex-BHP
 GHD
 Global Advanced Metals
 GR Engineering Services Limited
 Greenpower Energy
 Hanking Australia Investment
 Hatch
 Hexagon Resources
 IMP Group
 Ironbark Zinc
 Jord Proxa
 Kaefer Integrated Services
 KBR Technology
 Komatsu Mining Corporation
 Korab Resources
 Latin America Tema Bv
 Latin Resources
 Lead FX
 LioneTown Resources
 Lithium Australia
 Living Water Mining
 Lycopodium
 Magellan Power
 Mineral Commodities
 Mineral Resources
 Mitsubishi Development
 Mitsui & Co. (Australia)
 MSP Engineering
 Multotec
 Mzi Resources
 Nagrom
 Neometals
 Noah's Rule

Novo Resources Corp
 Obrist Powertrain Gmbh
 PCF Capital Group
 Pilbara Metals Group
 Pilbara Minerals
 Pioneer Resources
 Primero
 PT Indika Energy
 PTT Energy Resources
 RCR Tomlinson
 Rio Tinto
 S&P Global Market Intelligence
 Schenck Process Australia
 SGS Australia
 Siebtechnik Gmbh
 Simulus
 SNC Lavalin Group-Rosslyn Hill
 Mining
 Softbank Group Usa
 South32
 South32 Worsley Alumina
 St George Mining
 Strategic Energy Resources
 Sun Brilliance/Midwest Gold
 Resources
 Tema Engineers
 Tianqi Lithium Corporation
 Triton Minerals
 Ventnor Capital
 Venturex
 Westrac
 Wood Group
 WorleyParsons - Koodaideri DES
 Project
 Wright Legal



HEAR FROM KEY EXPERTS IN THE MINING INDUSTRY

WORLD-CLASS LINEUP OF SPEAKERS



JAMES BATCHELOR
Superintendent Modelling,
Operations/Mining
Roy Hill Iron Ore



MARC JADOU
Strategic Marketing
Director
Nokia



VANESSA LICKFOLD
Head of Geoscience,
Western Australia Iron Ore
BHP



JOHN WELBORN
Managing Director and CEO
Resolute Mining Limited



ANDREW CHAPLYN
Director Mines Safety
**Department of Mines
Industry Regulation and
Safety**



HON BILL JOHNSTON MLA
Minister for Mines and
Petroleum
Member for Cannington
**Government of Western
Australia**



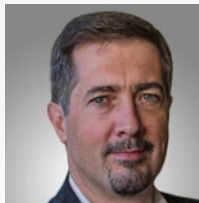
MICHAEL PLACE
Unit Manager: Projects
Gold Fields



THAO DH NGO
Group Executive Chairman
**First Indochina Group,
Vietnam**



SHARNA GLOVER
Program Director
Autonomous Operations
BHP



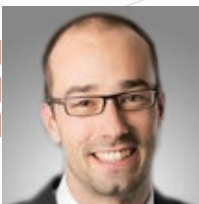
ALASTAIR MATHIAS
General Manager -
Automation & Technology,
Productivity & Technical
Support
Rio Tinto



JAMES (JIM) HERRING
General Manager,
Christmas Creek
Fortescue



GARY ROBERTSON
Product Strategy - Manager
Mineware



ANTOINE DESMET
Analytics Manager -
Smart Solutions
Komatsu



DR JOE CRONIN
Automation Project
Manager
**Resolute Mining
Limited**



PETER BURMAN
Program Manager Mine
Automation
Boliden



MAHMOOD HUSSEIN
Chief Executive Officer
**Global Drone Solutions
(Site Tour Leader)**

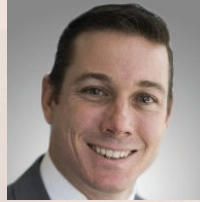


HEAR FROM KEY EXPERTS IN THE MINING INDUSTRY

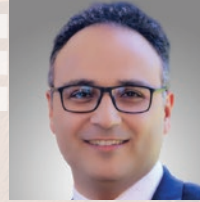
WORLD-CLASS LINEUP OF SPEAKERS



DR PENNY STEWART
Managing Director
Petra Data Science



BRETT FREEMAN
General Manager - APAC
MST Global



ALI SOOFASTAEI
AI Research Developer
AI Centre of Excellence,
Vale, Australia



ANIL SUBRAMANYA
Research Portfolio Manager
Minerals Research Institute
of Western Australia



ANGELO LABRIOLA
Head of Product, Digital
Solutions
Orica



HUME SAUNDERS
Manager - Automation &
Technology Platforms
Rio Tinto



PAUL BARCLAY
Sales Manager
ABB



DAVID FARR
Chairman and Chief
Executive Officer
Emerson



CLAIRE WILDEKAMP
General Manager,
Western Australia
SAP



ANTON KROGER
Senior Director, Energy and
Natural Resources
SAP (ANZ)



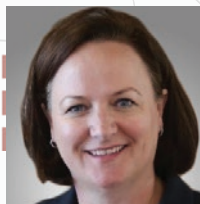
JON WEIDENBAUM
Automation Consultant
Emerson



MARTIN VAN DER MERWE
Business Director Systems
and Solutions
Emerson



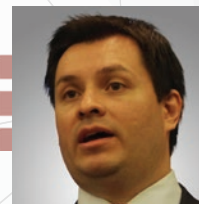
CHRISTO VISSER
Superintendent
Applications & S4HANA
Program Manager
Covalent Lithium Pty Ltd



REBECCA KERR
General Manager
Technology
Roy Hill



RYAN MORRISON
Applications Architect
Oz Minerals



JAIME LAGUNA
Sales Manager,
Energy Practice
Nokia



DAN WARD
Mining Technology
Manager
Airobotics



CONFERENCE HIGHLIGHTS



DIGITAL MINES: BUILDING A FULLY AUTONOMOUS MINE FROM PIT TO PORT



GOLD FIELD'S IIOT DEPLOYMENT STRATEGIES IN GOLD MINES



HOW ANGLO AMERICAN REALIZES MAJOR BENEFITS IN AUTOMATION



IMPROVING MINING OPERATIONS WITH BIG DATA ANALYTICS



ROY HILL'S CASE STUDY ON ARTIFICIAL INTELLIGENCE IN MINING EXPLORATIONS



HOW DRONES ARE CHANGING MINERAL SURVEILLANCE, SITE OPERATIONS AND MONITORING



MINES OF THE FUTURE: 5G FULLY AUTONOMOUS MINES BY 2020



IMPROVING MINING ASSET PERFORMANCE WITH DATA ANALYTICS



WORKPLACE SAFETY WITH IOT INNOVATIONS



INTELLIGENT MINING WITH BIG DATA ANALYTICS



INTEGRATING IOTS WITH MINERS TO TRACK EFFICIENCIES, OUTPUT AND PRODUCTIVITY



SAFETY REGULATION IN THE AUTONOMOUS MINES



MINING CHIEF TECH OFFICER PANEL DISCUSSION

12 APR
FRI 7

POST-CONFERENCE SITE TOUR

DIGITAL MINING AUTOMATION EQUIPMENT SITE TOUR



With rapid transformations to drone technology, the adoption and expansion of drone usage is increasingly cutting across industries. With these advances come challenges including how to conduct operations within Civil Aviation Safety Authority regulations, and manage various privacy and security issues.

Clariden Global have partnered with Global Drone Solutions to bring you this workshop, to learn about the latest industry advances in drone technology and hear from industry experts on how they utilise drones in their business. The workshop includes drone demonstration and attendees will also be given the opportunity to view various different drone platforms.

Data, technology, and new ways to use both are increasingly transforming the mining sector worldwide. From drones to automation to data collection and analytics and more, miners now have the cutting edge of science to help them slash down the inefficiencies and hazards that have long plagued mining operations. See it for yourself on a tour of Curtin University's HIVE (Hub for Immersive Visualisation and E-research), an advanced facility dedicated to immersive data visualization and simulation. You will be treated to virtual reality tours of some Western Australian mining sites that are making strides towards digitization and automation, as well as get a glimpse inside the Pawsey Supercomputer Center, one of only two of its kind in Australia.



HERE ARE

10 REASONS WHY YOU SHOULD ATTEND THE CONFERENCE

A convenient, strategic platform to meet with leading Mining companies, MET providers, Mine Tech pioneers and IoT leaders

Discover new mining digitisation trends and mining tech adoption opportunities for the recovering mining sector

Mining tech companies, start-ups and unicorns will display and discuss current and up-and-coming projects & tech offerings which can drive the mining service arena to new heights

Deep dive into the process of de-minifying humans from the mines and the challenges faced by companies as they reshape their organizations

Analyse the future of Manufacturing, Equipment, Technology and Service Companies (METS) and how this sector will drive innovation and new tech investments

DIGITAL MINES: BUILDING FULLY AUTONOMOUS MINES FROM PIT TO PORT

Opportunities for mature miners to upskill themselves with the knowledge of new mining IoT tech; at the same time, championing diversity and inclusion opportunities for all in Mining Tech

Learn the best practices and case studies of leading mining companies which had pioneered mining digitization

Explore new project opportunities for the adoption and application of new mining technologies

Evaluate risk and returns in investing in new disruptive mining technologies, ascertain possible ROI for your company

Understand the impact of disruptive innovation through AI, IoT, Robotics, Autonomous Vehicles, Drones, and how to customize their adoption to your specific mining mineral

DISCOVER

WHO YOU WILL MEET AT THE CONFERENCE

9

10 APRIL, EVENING: CHAMPAGNE NETWORKING SESSION

Enjoy a glass of champagne whilst networking with other like-minded individuals on topics that are of most interest to you and fellow delegates.



Who You Will Meet:

SENIORITY LEVEL OF DELEGATES

70%

Director Levels
& Above

10%

Head of
Department

20%

Manager



Industries

- Mining companies
- IoT companies
- Drone companies
- Robotic automation companies
- Cloud platform providers
- Satellite and telecoms companies
- Consultancy firms
- Mining equipment services
- Other MET services
- Mining regulators
- Mining Supply chain companies

In the Roles of:

- CEO
- President
- Chairman
- Co-Founder
- Director
- CTO
- CIO
- Managing Director
- Director
- Chief Geologist
- Head, Projects
- Head, Logistics/Shipping
- Head, Automation
- Plant Superintendent
- Head, Maintenance
- Head, Safety
- Head, Operations
- Head, Data Science
- Head, IoT
- Head, Digital

MAIN CONFERENCE AGENDA

DAY 1

BUILDING A FULLY AUTOMATED INTELLIGENT MINE -
INTEGRATING REMOTE OPERATIONS WITH AUTONOMOUS
VEHICLES, DRONES AND DATA ANALYTICS

09:00 Welcoming Speech, Opening Remarks & Thank You
Sponsor Speech by Conference Producer

09:15 **Keynote: Intelligent Mines - Building an Autonomous
Mine from Pit to Port**

- What would an automated mine of the future look like?
- The Death of the Manual Mine?
- What constitutes a Digital Mine?
- Preparing for the digital reinvention of the Mine

HON BILL JOHNSTON MLA
Minister for Mines and Petroleum
Member for Cannington
Government of Western Australia

09:45 **Harnessing Digital Transformation to Achieve Top
Quartile Performance in Mining**

Global industry is focused on digital transformation, leveraging new technologies to boost project and operational performance. But there's no consensus on how to get there, and it's difficult for companies to know whether they are on the right track or when they've arrived. A clear and actionable roadmap tailored to business goals and readiness enables companies to gain clarity on their best opportunities for digital transformation and build a realistic implementation plan to accelerate time to results. Emerson's Digital Transformation Roadmap is focused on business drivers and enablers around key areas of project and operational performance which, coupled with Emerson's unique portfolio and expertise, enable top quartile results.

DAVID FARR
Chairman and Chief Executive Officer
Emerson



10:15 **Interactive Speed Networking Session**

10:30 *Morning Refreshments & Networking Session*

10:45 **How Rio Tinto Realizes Major Benefits in Automation:
From Autonomous Drilling to Driverless Trains**

ALASTAIR MATHIAS
General Manager - Automation & Technology,
Productivity & Technical Support
Rio Tinto



11:15 **Mining Robots: New Autonomous Drilling Delivering
Significant Gains in Blast Accuracy and Drilling
Performance While Driving Improvements in Productivity
and Safety (Plus New Advances in Drilling Tech)**

HUME SAUNDERS
Manager - Automation & Technology Platforms
Rio Tinto



11:45 **Future X Architecture for Mining: A Connected,
Digital Platform for Creating Safer, More Efficient
and Productive Mines**

Learn how mining business can benefit from a new communications architecture, and discover how:

- A mission-critical private LTE network will support robust wireless, multi-service coverage and capacity, offering a unified, future-proof infrastructure for mobile broadband, PTT/PTV, CCTV, IoT and future AR/VR applications.
- Multi-access Edge Computing (MEC) technologies provide the flexibility, scalability and universal availability of computing power, data and intelligence, while supporting ultra-low latencies required for automation and autonomy.
- Digital value platforms ensure that mining companies can turn the masses of data collected from a vast multitude of sensors, cameras and systems into actionable insights from pit to port.
- The above technologies are helping mining operators to create value, through business-centric applications and cross-domain collaboration with ecosystem partners along the full value chain

MARC JADOUL
Strategic Marketing Director
Nokia



12:05 **Connecting Your Mine to the Future - Axon Digital
Ecosystem**

Connecting your mine to the future will require a flexible, integrated and open standard communications ecosystem. Choosing the right digital ecosystem will determine how much data and what advanced applications a mine can deploy to ensure maximum flexibility and uptime. We will review how miners are achieving scalable and flexible digital ecosystem, and how to avoid getting locked to one solution or technology when deploying the next generation productivity and safety optimisation systems.

BRETT FREEMAN
General Manager APAC
MST Global



MAIN CONFERENCE AGENDA

DAY 1

12:25 Lunch & Networking

13:30 **Panel Discussion: What Does the Future of Mining Look Like for You and How Do Technologies Like Cloud & Machine Learning Play a Role in Allowing You to Adopt These Technologies Faster**

Panelist:

CLAIRE WILDEKAMP
General Manager, Western Australia
SAP



Moderators:

CHRISTO VISSER
Superintendent Applications & S4HANA Program Manager
Covalent Lithium Pty Ltd

ANTON KROGER
Senior Director, Energy and Natural Resources
SAP (ANZ)



REBECCA KERR
General Manager Technology
Roy Hill



RYAN MORRISON
Applications Architect
Oz Minerals

14:00 **Digitalisation - Creating Value and Visibility for the Mining Industry to Improve Productivity, Reduce Downtime and a Safe Environment**

PAUL BARCLAY
Sales Manager
ABB



14:30 **How Resolute has Captured Advantages and is Leading the Industry in Commissioning the World's First Fully Automated Underground Gold Mine at Syama in Mali**

JOHN WELBORN
Managing Director & CEO
Resolute Mining Limited



15:00 Afternoon Refreshment & Networking

15:30 **Interoperability Enabling Autonomous Missions in Mining**

SHARNA GLOVER
Program Director Autonomous Operations
BHP



16:00 **Building a World-class Autonomous Fleet Management System Plus Retro-fitting Existing Trucks, Loaders and Equipment's to Autonomous Capabilities**

DR JOE CRONIN
Automation Project Manager
Resolute Mining Limited



16:30 **Safety Regulation in the Autonomous Mines of Western Australia**

ANDREW CHAPLYN
Director Mines Safety
Department of Mines, Industry Regulation and Safety



17:30 **Closing Remarks by Conference Chairman**

17:35 **Champagne Networking**



After a long day of learning, benchmarking, and planning, unwind and mingle with your peers




MAIN CONFERENCE AGENDA

DAY 2

AUTOMATION THROUGH ADVANCES IN PREDICTIVE MAINTENANCE, AR/VR, SAFETY & IOTS

- 09:00 **Welcoming Speech, Opening Remarks & Thank You Sponsor Speech by Conference Producer**
- 09:15 **Fortescue's Values Based Approach to Innovation**
JAMES (JIM) HERRING
General Manager, Christmas Creek
Fortescue 
- 09:45 **The Best of Both Worlds: Edge and Cloud Combined for More Efficient and Effective Mining**
GARY ROBERTSON
Product Strategy - Manager
MineWare 
ANTOINE DESMET
Analytics Manager - Smart Solutions
Komatsu
- 10:15 **Morning Refreshments & Networking Session**
- 10:30 **Digitising Drill and Blast, And Its Critical Role in The Mining Value Chain**
ANGELO LABRIOLA
Head of Product, Digital Solutions
Orica 
- 11:00 **Case Study of Granny Smith Gold Mine IIoT Deployment Strategies. Why and How IIoT deployments succeeded**
MICHAEL PLACE
Projects Unit Manager
Gold Fields 
- 11:30 **Case Studies - Mining Tech Innovations and the exploration and processing of Minerals and Metals through:**
 - a. Development of a Maturity Scale for Mining Performance and Maintenance Data Analytics
ALI SOOFASTAEI
Artificial Intelligence (AI) Research Developer at the AI Centre of Excellence
Vale 
 - b. Future of the Mineral's Sector: Innovation and the Digital Econom.
ANIL SUBRAMANYA
Research Portfolio Manager
Minerals Research Institute of Western Australia 
 - c. What Does the Mine of the Future Look Like?
PAUL BARCLAY
Sales Manager
ABB 

d. Wi-Fi, LTE or 5G for Your Mining Network

JAIME LAGUNA
Sales Manager, Energy Practice
Nokia 


e. IOT Technology Developments and Cultural Enablers to Attain Top Quartile Performance

JON WEIDENBAUM
Automation Consultant
Emerson 

MARTIN VAN DER MERWE
Busines Director Systems and Solutions
Emerson

12:30 **Lunch & Networking**

13:30 **Artificial Intelligence in Mining and Metallurgical Operations, with Case Studies: Treating Rocks and Minerals as Data Objects using AI and Immersive Visualization**

JAMES BATCHELOR
Superintendent Modelling Operations/ Mining
Roy Hill Iron Ore 


14:00 **Pit to Plant Digital Twin Simulation Case Studies**

DR PENNY STEWART
Managing Director
Petra Data Science

14:20 **The Application of Artificial Intelligence to Improve Productivity, and Energy Efficiency in Surface Mine Sites**

ALI SOOFASTAEI
AI Research Developer
AI Centre of Excellence, Vale, Australia

14:40 **The Future of Tailings Dam Management through Automation and Digitalisation**

DAN WARD
Mining Technology Manager
Airobotics 


15:10 **Afternoon Refreshment & Networking**

15:30 **Integrating IoTs with Miners to Track Efficiencies, Output and Productivity**

THAO DH NGO
Group Executive Chairman
First Indochina Group, Vietnam 

FIRST INDOCHINA GROUP

16:00 **5G and High Resolution Positioning Services as Enablers for Mine Automation**

PETER BURMAN
Program Manager, Mine Automation
Boliden 

MAIN CONFERENCE AGENDA

DAY 2

16:30 Mining Chief Tech Officer Conference Panel Discussion:

Bringing Chief Transformation Officers, Chief Geologists, CTOs, Chief Data Officers, Chief Robotics Officers to discuss and debate on the latest tech disruptions and industry & market challenges faced by the international mining community

PETER BURMAN
Program Manager, Mine Automation
Boliden



THAO DH NGO
Group Executive Chairman
First Indochina Group, Vietnam



FIRST INDOCHINA GROUP

17:00 Closing Remarks by Conference Chairman



PLATINUM SPONSOR



Emerson is a global technology and engineering company providing innovative solutions for customers who want to translate technology investments into Top Quartile performance. Emerson Automation Solutions offer scalable, secure technologies, expertise and services that will ensure that IIoT investments deliver on the promise of digital transformation.

<https://www.emerson.com/en-au/automation-solutions>

SILVER SPONSORS



Nokia creates the technology to connect the world. We develop and deliver the industry's only end-to-end portfolio of network equipment, software, services and licensing that is available globally. Our customers include communications service providers whose combined networks support 5.7 billion subscriptions, as well as enterprises in the private and public sector that use our network portfolio to increase productivity and enrich lives.

Through our research teams, including the world-renowned Nokia Bell Labs, we are leading the world to adopt end-to-end 5G networks that are faster, more secure and capable of revolutionizing lives, economies and societies. Nokia adheres to the highest ethical business standards as we create technology with social purpose, quality and integrity.

www.nokia.com



MST Global was a pioneer in the digitisation of mines. Operating in mining communications since 1989, MST installed the first mine wide, operational Wi-Fi/IP network at an underground mine in Canada in 2004.

Since then MST has remained at the forefront of underground digital networks by investing heavily in new network elements and devices that has seen our IMPACT digital suite of technologies installed in over 120 mines around the world.

LTE/5G Underground:

There is a lot of talk about LTE/5G in underground mines, but few have put in the serious development effort to enable LTE to be taken underground in a practical and reliable manner - MST has.

MST identified the operational opportunities offered by LTE for underground mining several years ago, but our deep digital experience also identified the challenges to make the implementation of LTE underground practical and reliable. We have undertaken a major upgrade of our network infrastructure to ensure LTE can be supported and rolled out in any underground operation.

Software and Business Intelligence Applications:

We also invest heavily in software and Business Intelligence applications. This investment is building up a portfolio of software applications to extract further value from various data sources, which can then be used to better manage underground processes.

www.mstglobal.com



BRONZE SPONSOR



As the cloud company powered by **SAP HANA®**, SAP is the market leader in enterprise application software, helping companies of all sizes and in all industries run at their best: 77% of the world's transaction revenue touches an SAP® system. Our machine learning, Internet of Things (IoT), and advanced analytics technologies help turn customers' businesses into intelligent enterprises. SAP helps give people and organizations deep business insight and fosters collaboration that helps them stay ahead of their competition. We simplify technology for companies so they can consume our software the way they want — without disruption. Our end-to-end suite of applications and services enables more than 425,000 business and public customers to operate profitably, adapt continuously, and make a difference. With a global network of customers, partners, employees, and thought leaders, SAP helps the world run better and improve people's lives.

For more information, visit www.sap.com.



DyFlex Solutions are an Australian owned SAP Gold Partner with extensive experience in Mining and related sectors with offices in Perth, Adelaide. We are the "SAP Mining experts", with a proven track record, delivering outstanding results and rapid time to value to our clients.

Our recent projects include:

- * Oz Minerals
- * Covalent Lithium
- * Mine Site Technology
- * Tianqi Lithium
- * Goldfields
- * Red 5

Our Packaged Mining Solutions are based on the SAP HANA Platform and include DyFlex SAP S/4HANA for Mining, SAP Ariba Procurement Automation, Success Factors for HR and the latest SAP Asset Central and Asset Intelligence Network solutions.

All our projects are enhanced by our unique DyFlex SAP accelerators which add significant value and efficiency to the testing, migration, training and deployment process and are supported by a pragmatic project management approach.

As the recognised leader in Mining and SAP Cloud technologies, DyFlex is the perfect partner to assist you in your journey to Digitalisation, whether you are transitioning to Cloud or plan to leverage Big Data, IOT, AI or Automation, DyFlex is here to help.

<https://dyflex.com.au/>

SPOTLIGHT SPONSOR



MineWare supports over 280 systems across more than 130 surface mining operations around the world to improve their performance and productivity. Delivering productivity gains of up to 16%, while reducing costs, MineWare's monitoring systems provide sites with independent machine guidance and payload monitoring information for their large ground engaging machinery in real-time.

Argus and Pegasys empower operators make fast, confident and correct decisions on a range of production, mine planning, truck loading and maintenance tasks—via one integrated system for draglines, electric shovels or hydraulic excavators (both backhoe and shovel configurations).

MineWare, a Komatsu company, has been a key development partner for leading mining institutions for over 12 years with a continuous focus on research, system improvement and world class customer service with a 24/7 remote support team.

www.mineware.com



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PETRA's® suite of highly scalable and platform agnostic AI algorithms are successfully deployed by mining and oil and gas companies around the world. Hundreds of FORESTALL® prediction algorithms are preventing unplanned downtime and enabling process optimisation by predicting process variables in real-time. FORESTALL was a finalist in the Austmine 2017 Innovation Award. MAXTATM digital twins for value chain optimisation ingest 10s of millions of tonnes of ore data to predict and simulate plant performance using AI. MAXTA digital twins have been successfully used for geometallurgical prediction, drill and blast simulation and process control simulation. MAXTA machine learning models are readily deployed across the value chain from mine planning right through to advanced process control.

www.petradatascience.com



Orica (ASX: ORI) is the world's largest provider of commercial explosives and innovative blasting systems to the mining, quarrying, oil and gas and construction markets, a leading supplier of sodium cyanide for gold extraction, and a specialist provider of ground support services in mining and tunnelling.

Our purpose is to make our customers successful, every day, all around the world. We take pride in operating safely, responsibly and sustainably. Together, these enable us to grow and create enduring value for our shareholders.

www.orica.com



Airobotics partners with leading enterprise companies and governments around the world to digitize their businesses with fully automated industrial drones, aerial data, and AI-enabled analytics.

SAFER SITES. SMARTER CITIES.

Airobotics is redefining the ways that automated drones provide insightful data through a diversity of sensors and AI-enabled application software to transform the physical to the digital for Smart Cities, Construction, Mining, Complex Industrial Environments and Defense.

As the world's first and only regulatory compliant commercial UAV solution that can be operated remotely, Airobotics' end-to-end automated drone platform is purpose-built to run complex drone operations. Airobotics' robotic airbase, multi-tool drone, and AI-driven analytics automate the digitization of sites and cities through high-frequency data collection, processing, visualization and analysis to reveal critical business insights.

THE SYSTEM IS COMPRISED OF:

Optimus - a large, multi-tool drone capable of flying 40 minutes while carrying a 1.2-kg payload.

Robotic Airbase - a completely automated base station from which the Optimus drone launches and lands on its own, without any human intervention.

Airobotics Software - machine learning/AI-enabled analytics that enables users to visualize, process and analyze aerial, and additional third-party data for accurate decision making.

<https://www.airoboticsdrones.com/>



ABB is a pioneering technology leader transforming the way mines operate, creating a digitally enabled environment that is safe, clean and sustainable to write the future of industrial digitalisation and mining.

new.abb.com/mining



EXHIBITORS



Australian Diversified Engineering (ADE), is passionate about haul road operations and improving a fundamental aspect of open cut mining. The haul road is the backbone of the mine and deficient dust management practices can cause an increase in production cycle times as haul trucks must manage adverse operating conditions. Mines are unfortunately well accustomed to living with overwatered roads and the heightened risk of vehicle accidents, as well as ineffective dust suppression resulting from underwatering.

The ADE Spray system revolutionises the mine water truck as operators simply select a Water Coverage Rate. The Water Coverage Rate is the amount of water applied to the haul road and ADE Spray will consistently apply the water rate to the haul road. Mines love the simple spray rate terminology that is easily understood and communicated. Mines looking to improve haul road safety and road maintenance programs are now measuring haul road friction. Road friction results can be used to set spray parameters and restrictions.

The once analogue water truck is now digital, data is stored locally or can be sent remotely. The ADE Spray system has the ability to be remotely monitored and controlled and the next evolution might just be an autonomous water truck.

www.ade.net.au



Established in 2009, **Portable Analytical Solutions** delivers comprehensive knowledge and support across an extensive range of instruments and applications.

Our services include: User Training; Compliance Standards; Rental Options; Factory Support; Multi-technology Solutions. And cover applications in the Precious Metals, Industry, Mining, Exploration, Defense, Environment, Consumer, Medical and Research sectors.

Our expert team draws on more than 20 years of experience in the development, sales and support of sophisticated analytical instrumentation for commercial and scientific purposes.

Working with XRF (Niton), NIR (ASD), LIBS (Rigaku), Hyperspectral (Headwall) and FTIR (Agilent) technologies, and with experience in the development of analytical solutions, PAS has an intimate knowledge of the specific product to suit what you need to do.

We get real satisfaction out of finding the precise solution for your specific application which may be quite different to that of another user of the same product, in the same industry. There is no one-size-fits-all answer in this constantly-changing market so you need to be dealing with the best.

www.portableas.com



Beijing Soly Technology Co., Ltd. is a high-tech enterprise owned by China Shougang Group. For ages, Soly places a high value on automatic, informationalized, digital and intelligent technology and production research and system integration for metallurgy, nonferrous mines, gold mines, coal mines, and other mining industry, as well as pelletizing and sintering process. At present, the company is the integrator of intelligent system for mining industry with the most comprehensive strength in China.

Beijing Soly Technology Co.,Ltd. has close cooperative relations with Siemens, Schneider, ABB, NMT and other well-known enterprises. At the same time, many foreign mining enterprises visit our company and Shougang Mining Company for technology intercourse and investigation, and express a strong intention of cooperation.

Browse our website www.soly.com.cn for more information.



EXHIBITOR



INX Software is a workforce management solution provider focused on increasing compliance, efficiency, productivity and ROI for organisations across the areas of Safety, Training, Personnel Logistics and Environmental. We work extensively with organisations in high-risk sectors such as mining and oil & gas on their digital transformation. With over 600,000 users across 23 industries in over 21 countries, and include companies such as Rio Tinto, Roy Hill, and MMG.

Website: <https://www.inxsoftware.com/>

MEDIA PARTNERS



National Resources Review is a quality mining and energy magazine which offers in-depth stories from Australia with a link to the world. Content includes prominent national and international industry news, government policies, topical features, projects in progress, company overviews and recent industry accomplishments. The unique coverage makes National Resources Review a vital source of information on sustainability, health and safety, innovations, industry skills and investment updates together with profiles of new entry as well as major players in the resources industry.

<https://www.nationalresourcesreview.com.au/>



Headquartered in London and with offices in Istanbul, **Global Business Reports (GBR)** was established in 2001 in order to provide up to date and first hand information for global business decision makers. In an age where cross boundary trade and investment and the globalization process are the driving factors for businesses, information is crucial. Precise sectorial reports help companies understand and expand their markets, improve their sourcing chain, target their investments and discover the trends affecting their industry around the world. GBR provides in depth surveys and up to date information and data covering all aspects of the hydrocarbon, Chemical, Energy, Minerals, Mining and the Metallurgical industries around the world. GBR's website provides sector specific information to our database of over 26,000 industry players, through regular content updates and weekly specific newsletters. Each newsletter provides issue-specific analysis and exclusive interviews from executives and politicians. Whether it be regulatory changes, new discoveries, or geopolitical trends, our expert journalists seek out the most relevant and up-to-date information and opinions to let the industry how these issues affect business. The GBR website receives around 8000 readers per month and has been read in 130 countries around the world, providing a strong platform for business-to business communication.

Website: <http://www.gbreports.com/>

ASSOCIATION PARTNER



Hong Kong International Mining Association (HKIMA) is a Hong Kong-based organization established in 2012. The co-founders are experienced senior executive members of global mining and financing listed companies.

The mandate of the association is to promote the exchanges and cooperation in the mining and financial markets among Mainland China, Hong Kong and overseas. As Asia's financial hub, Hong Kong, with its strategic geographic location, international market context and well established legal system, provides an ideal platform for such purpose. If you are interested to learn more about our association, please email us at elsie@hkima.hk.



ASSOCIATION PARTNER

**The Malaysian Chamber of Mines' primary objectives are:**

- To protect, promote and advance the general interest of the minerals resource community in Malaysia,
- To collect, classify and diffuse minerals resource information,
- To consider all questions connected with the minerals industry and promote public discussion thereon,
- To communicate and exchange information on minerals resource industry matters to and with other minerals industry associations in Malaysia and elsewhere,
- To promote and facilitate the minerals resource industry contribution to sustainable development within the national and global sustainable development strategies.

<http://www.mcom.com.my/>

<https://malaysianminerals.com/>

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Looking for the ideal platform to elevate your professional status and strike key business partnerships?

Leverage on our limited sponsorship packages to strengthen and confirm your market position through consistent and continual branding awareness and take advantage of the plethora of opportunities with high level decision makers.

Your Partnership with us will provide you with:

- Unparalleled industry exposure
- Leads generation and set-up of meetings with key decision makers
- Extraordinary brand visibility, increasing brand awareness and preference
- Long-term business partnerships with leading mining suppliers, customers and regulators

Please contact *Audrey* at +61 4 3228 7146 or email audrey@claridenglobal.org to discuss potential exhibition and sponsorship opportunities or to customize your own package.

**Benefit as a Media Partner or Supporting Organization at Digital Mines Conference**

- Enhance your corporate profile and visibility within your industry - Your Company's logo will be emblazoned on our brochures and distributed to the key industry decision members across Australia
- Affiliation with an internationally recognized commercial event organizer

Clariden Global events are widely known and trusted throughout Australia for giving best value to senior industry executives. We partner with selected media and supporting organizations, capable of delivering the highest caliber of expert knowledge and key industry insights to the target market.

If you meet the criteria mentioned above and would like to explore the opportunity to partner with us for Digital Mines Conference: Building Fully Autonomous Mines from Pit to Port, please contact *Mandy Denver* at +61 3 9909 7310 or email mandy.denver@claridenglobal.org.



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DIGITAL MINES: BUILDING FULLY AUTONOMOUS MINES FROM PIT TO PORT

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Please complete this section.

Booking Contact (Approving Manager) Mr/Mrs/Ms:	_____
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<input type="checkbox"/>	I would like to receive more information on hotel accommodation using Clariden Global corporate rate.

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Please register the following participant(s) for this Conference

(Please tick to select your conference packages. You may tick more than one.)

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Telephone: _____ Fax: _____

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3rd Participant Name (Mr/Mrs/Ms): _____

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CONFERENCE FEES

Conference Packages	Super Early Bird Fee (If payments and registrations are received by 16 Jan 2019)	Early Bird Fee (If payments and registrations are received by 13 Feb 2019)	Final Early Bird Fee (If payments and registrations are received by 13 Mar 2019)	Regular Fee
INDUSTRY PROFESSIONALS				
A: 2-day Conference (Most Popular)	AU\$1,895	AU\$2,095	AU\$2,195	AU\$2,295
B: 2-day Conference + Site Tour (Most Value)	AU\$2,395	AU\$2,595	AU\$2,695	AU\$2,795

PLEASE NOTE: The conference fee includes lunch, refreshments and conference documentation. Payments are required with registration and must be received prior to the conference to guarantee your place.

GROUP DISCOUNTS

Register with your Colleagues Today to Enjoy Group Discount*:

Group discount of 10% for the 2nd participant from the same organization.

For limited time only by 13 March 2019, register 3 participants and the 4th participant will receive a **complimentary** seat.

For 5 or more registrations, please contact **Mandy Denver** at mandy.denver@claridenglobal.org.

Group Discount will only be applicable to the package of the lowest value.

*Only 1 discount scheme will apply. Discount will compound on top of your early bird discount! This offer is valid for a limited time only, till 13 March 2019.

4 WAYS TO REGISTER



Email: admissions@claridenglobal.com



Fax: +61 3 9909 7788



Call: +61 3 9909 7310



Website: www.claridenglobal.com

PAYMENT METHODS

BY CHEQUE / BANK DRAFT :

Made payable to CLARIDEN GLOBAL INTERNATIONAL LIMITED and mail to: 3 International Business Park, #04-29, Nordic European Centre, Singapore 609927.

BY TELEGRAPHIC TRANSFER TO:

Bank Name: **Standard Chartered Bank**
Bank Code: **7144**
Bank Branch Code: **001**
Bank Address: **6 Battery Road, #01-01 Singapore 049909**
Bank Account No: **0107775042**
Bank Account name: **CLARIDEN GLOBAL INTERNATIONAL LIMITED**
SWIFT Code: **SCBLSG22**

Please note that all bank charges are to be borne by participants. Please ensure Clariden Global International Limited receives the full invoiced amount.

Note: Please include invoice number on all payment types and your company's name in your payment instructions for our reference.

CREDIT CARD:

To make payment by credit card, please call our client services hotline at +61 3 9909 7310.

CONFERENCE VENUE AND ACCOMMODATION INFORMATION

Pan Pacific Perth

10 - 12 April 2019

Address: 207 Adelaide Terrace, Perth WA 6000, Australia

Phone: +61 8 9224 7777

Website: <https://www.panpacific.com/en/hotels-and-resorts/pp-perth.html>

HOW TO REGISTER AND PAY

An invoice and registration confirmation will be sent within 7 days, please contact us if you have not heard from us within 7 days. Payment can be made by credit card, by bank transfer or by cheque made payable to "CLARIDEN GLOBAL INTERNATIONAL LIMITED".

ALL PAYMENTS MUST BE RECEIVED IN ADVANCE OF THE EVENT.

ACCOMMODATION

Accommodation is not included in the program fee but you will be entitled to use our corporate rate for your accommodation. Information will be sent along with your registration confirmation.

CANCELLATIONS AND SUBSTITUTIONS

Once we have received your booking, the place(s) are confirmed. No refunds will be made for any cancellations, however, program credits of equivalent value only applicable for Clariden Global events will be provided. Credits can only be redeemed for 1 program and is valid for only one (1) year from date of issue.

Substitution with a qualified candidate is allowed by providing at least 5 working days of advance notice to Clariden Global. One time substitution is allowed with no charges. Subsequent substitutions will be charged 10% admin fee.

ALL CANCELLATIONS MUST BE RECEIVED IN WRITTEN FORM

PLEASE NOTE: CLARIDEN GLOBAL INTERNATIONAL LIMITED reserves the right to change the content and timing of the programme, the speakers and the date and venue due to reasons beyond their control. If in the unlikely event that the course is cancelled, CLARIDEN GLOBAL INTERNATIONAL LIMITED will refund the full amount and disclaim any further liability.

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