



MINING TECHNOLOGY & SECURITY CONFERENCE

12 & 13 September 2019

**Emperors Palace Convention Centre
Johannesburg**



Objectives of the conference

- To identify technologies and innovations that are improving operational effectiveness and security within the mining sector.
- To deliberate on ways to secure mine assets
- To assess government strategies and funding criteria for technologies
- To assess the challenges in the implementation of new technologies.
- To assess how technology can assist in preventing illegal mining and mining fraud.
- To network industry players.

Speakers Include

Peter Theron
Partner/Director
PWC

Johan Bouwer
Head of VR /New Technology
Stimulated Training Solutions

Tatenda Munjeri
Business Development Engineer
Ramjack Technology Solutions

Chris Kirchhoff
Professional Land Surveyor
5D Survery

Itumeleng Mukhovha
AssociateSenior Lecturer
Baker & McKenzie

Jorina Van Rensburg
Managing Director
CONDYN

Sodhie Naicker
Director
DMT Kai Batla

Mashudu Mashutha
Legal Reseacher
Corruption Watch

Dr Mbuyu Sumbwanyambe
Senior Lecturer-Electrical and Mining Engineering,
Unisa

Dr Gargi Mishra
Founder
Mining Technology Innovation

UNISA | university of south africa

5DSURVEY
Remarkable Geospatial Solutions

corruption watch

sts3D
simulated training solutions

RAMJACK
Technology Solutions

CONDYN

Baker McKenzie.

DMT
DMT Kai Batla (Pty) Ltd

pwc

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Background to the Conference

THE mining industry worldwide is undergoing unprecedented changes, including high commodity prices and rising exploration costs. In South Africa, the GDP from the mining sector decreased to 220907.55 ZAR Million in the first quarter of 2019 from 227291.33 ZAR Million in the fourth quarter of 2018. The fluctuations are partly as a result of number of challenges among others, illegal mining activities, the theft of commodities in refinery or final product stages as well as the hi-jacking of products in-transit. In many instances the loss of commodities is higher than the implementation of new technologies that can be used to manage and to improve security.

Various mines have lost their assets due to cable theft, mineral theft and other crimes within the mining industry. There is need for adaptation of improved technology that enhance security within the mines. The use of data in the mining sector has become imperative in a fast-paced and competitive market, and innovative data management platforms are creating better ways to manage, store and make sense of mining data. Artificial Intelligence (AI) and machine learning applications are being used to analyse important data and pick up patterns, which allows for better planning and resource management.

This conference presents perspectives on mining technologies that are being developed to better understand how mining industries are evolving to improve operational effectiveness and security. South Africa's mining industry is set to undergo significant transformation in the next decade. With the rise of artificial intelligence, technology is set to drive a lot of what people are currently seeing in the mining industry going forward. The mining industry has to adjust and embrace new technology and innovation, as well as new ways of working. The development of new technologies benefits every aspect of the mineral industry. This includes; exploration, mineral processing, beneficiation, health and safety, as well as environmental issues. Above all, adaptation of technology will boost security within the mines. Technology development therefore, needs to be focused on those areas that are critical to the entire value chain.

This is a must attend conference to those interested in the discussion surrounding mining technology, security and the use of artificial intelligence in mining operations. Topics to be discussed include, technologies in mining, future of intelligent mining, use of drones in mining security, technology funding, challenges being experienced in securing precious resources amongst other topics.

Target Sectors

- Mining
- Mining equipment

- Logistics
- Tracking companies
- Software companies
- Surveillance
- Search and rescue
- Survey and mapping
- Mining safety
- Transport
- Policing
- Government
- Universities

Target audience (But not limited to)

- Mine managers
- Mine security managers
- Plant managers
- Engineering managers
- Logistics coordinators
- Mining managers
- Electrical engineers
- MacroAnalysist
- Geologist
- Business development manager
- Product development manager
- Managing directors
- Geotechnical engineers
- Surveyors
- Geophysicist
- Mineral Exploration
- Geoscience
- Environment and Safety
- Facilities Engineering
- Resources Development
- Drilling and Excavation
- Research and Development
- Technology Developers and Consultants
- Designing and Planning
- Managing Director
- Head of Data and Data Analytics
- Chief Technology Officers
- Chief Information Officers
- Head of Systems Integration
- Head of Innovation
- Systems Engineer
- Head of Automation
- Energy Services
- Academia





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Preliminary Programme

Day 1 – Thursday 12 September 2019

07:00 REGISTRATION AND NETWORKING

08:45 Opening by chairperson

09:00 Technological advances set to drive the SA industry forward

- Critical Challenges the Mining Industry Faces in the Technology Revolution
- Perception of high costs
- Understanding the digital transformation process

Pieter Theron, Partner/Director, PwC

09:45 Virtual Reality and its application on critical parts on mine sites

- Overview of the use of Virtual Reality during drills and blast
- Virtual Reality in improving mine safety
- Enhancing mining education through Virtual Reality
- The limitations of virtual reality use in the mine
- User protection and health concerns

**Johan Bouwer, South African company
Simulated Training Solutions (STS3D)**

10:30 REFRESHMENTS AND NETWORKING

11:00 An investigation into mining royalties being stolen or diverted

- Identifying the risk
- Measures to reduce the theft of minerals

**Mashudu Mashuta, Legal Researcher,
Corruption Watch**

11:45 The uGPS rapid Mapper as an underground scanning device

**Tatenda Munjeri, Business Development
Ramjack Technology Solutions**

12:30 Latest drone innovations in survey and mapping

**Chris Kirshhoff, Director, Kirshhoff
Professional Surveyors**

13:15 NETWORKING LUNCH

14:15 Roof bolt scanning using a Slim borehole scanner “SBS” - impacts on mine safety and cost savings.

- Objective documentation of in-situ rock mass conditions
- Determination of orientation and exact position of discontinuities
- Calculation of potential sliding wedges
- Optimal adjustment of the anchor scheme according to the exact structural fabric
- Supervision of the roadway roof and monitoring of the loosening of the roof rocks
- Convergence control and investigation of damages
- Optimised application of injection techniques
- Inspection and monitoring of covering and grouting
- Digital image storing and integration into a database
- Reinterpretation of the data at any time

Speaker: Sodhie Naicker, Director, DMT Kai Batla

15:00 CLOSING AND NETWORKING

Day 2 Friday 13 September 2019

07:00 REFRESHMENTS AND NETWORKING

08:45 Remarks by Chairperson

09:00 Digital mining

- The rise of strategic partnerships and risk management between mines and entrepreneurs.
- Relevance of government initiatives in promoting and supporting the future of mining
- Junior mining companies and developing solid business plans

Itumeleng Mukhovha, Associate, Baker McKenzie

09:45 Mining in the fourth industrial revolution

- SA mining adopting, driving 4IR as its impact on the mining sector
- Stimulating the Fourth Industrial Revolution (4IR) and embedding 4IR initiatives

**Dr Mbuyu Sumbwanyambe, Senior Lecturer-Electrical and
Mining Engineering, Unisa**

10:30 REFRESHMENTS AND NETWORKING

11:00 Information security in Mining

- IoT technology is paving the way for mine optimization initiatives
- The rise of cyber-attacks jeopardizing safety and revenues

Jorina van Rensburg: Managing Director: Condyn

11:45 How robots could change SA mining

- Big data and technology for mining applications
- Is technology a replacement of human physical capabilities

Dr Gargi Mishra, Founder, Mining Innovation Portal

13:00 LUNCH AND NETWORKING

14:00 Assessing the use of above the ground technology to further deep level mining

- Overcoming the challenges of electricity and labour costs
- Reserving the decline of deep level mining

Speaker TBA

14:45 Exploring AI programs to improve efficiencies in the mines

Speaker TBA

15:45 CLOSING AND NETWORKING



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REGISTRATION FORM

To register, please complete form below

Participant 1:

Designation: _____

Company / Organisation: _____

Email: _____

Phone: _____

Participant 2:

Designation: _____

Company / Organisation: _____

Email: _____

Phone: _____

Participant 3:

Designation: _____

Company / Organisation: _____

Email: _____

Phone: _____

Postal Address: _____

Person dealing with accounts: _____

Country: _____

Company VAT No: _____

Email Address: _____

Signature: _____

Date : _____

By completing and signing this form, the signatory accepts the terms and conditions as stated on the registration form.

Please indicate your choice of payment method

☐

Bank Transfer

☐

Cash Deposit

Banking Details

Vukani Communication Consultancy (PTY)

First National Bank

Account No. 62584405867, Account Type : Cheque

Branch Name : Randburg Square

Branch Code: 261750

CONFERENCE FEE

R7,997 Per Delegate Excl. VAT

Conference fee above INCLUDES the following entitlements: Entrance to session, registration pack, daily lunch and refreshment breaks.

Registration fees above EXCLUDES the following entitlements: Travel costs and accommodation.

REGISTER NOW

Terms and Conditions

The following terms and conditions will apply

- Vukani Communication reserves the right, due to circumstances beyond our control, to change speakers, conference content, date and venue.
- The signed registration form is a binding contract.
- No seats will be reserved unless Vukani Communications receives a signed registration form.

SUBSTITUTIONS:

- Delegate Substitution. Substitution is welcome at any time and do not incur any additional charges. Please notify Vukani Communication in writing of any such changes at least 3 days before the date of the event.
- Please note that the speakers and topics were confirmed at the time of publishing however circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics.

• As such, Vukani Communication reserves the right to alter or modify the advertised speakers and/or topics if necessary. Any substitutions or alterations will be updated and sent to you as soon as possible.

- Delegate substitution must be made in writing 7 days before the start of the event.

CANCELLATION:

By signing and returning the registration form, the authorizing signatory on behalf of the stated company is subject to the following terms and conditions.

Charge of 50% of the Registration Fees, plus R700 (+VAT) Administrative charge will be made for cancellations received in writing at least 14 working days prior to the event.

For any cancellations received in less than 7 working days before the date of the event, the full fee will be payable and no refunds or credit notes will be given.

If registered delegate does not cancel and fails to attend the summit, this will be treated as cancellation and no refund or credit will be issued