

FROM THE DIRECTOR'S DESK

Welcome to the Future: Embracing 21st Century Mining



Highlights

**This is what makes the WMI different:
all our researchers get the opportunity
to work on real-life issues**

Applying the digital era to mining is an interesting exercise. There is a minefield of buzz-words or buzz-phrases, including: 'the future of mining', 'mining into the future', 'mining 4.0', 'digital mining', 'smart mining' and 'intelligent mining'.

On first appearance, they seem interchangeable. Starting with the future of mining, the big question is: When is this future? Tomorrow? Next year? 2030? 2050? It is clear that the answer must be linked to a specific point in time. 'Mining into the future' is better, because it implies that there is a transition from today to the future, whenever it is. We prefer 21st century mining because we are twenty years into it, which allows us to examine trends until about 2030. After that, we simply do not know what mining will look like.

Then there is 'Mining 4.0', which is the application of the fourth industrial revolution to mining. For a mine to become intelligent, it requires intelligent design with smart infrastructure systems. Smart infrastructure is 'digital' and consists of smart sensors, communication, computers and software systems. Smart systems give good information, but the raw information is at best 'good'. The information only becomes 'smart' upon verification and integration with other data – when it becomes visual.

Smart information has the potential to give intelligent answers when measured against a good design or rule; then, the data becomes the source of multidisciplinary interpretation and machine learning is applied for artificial intelligence.

It seems to me that these buzz-phrases, although often used interchangeably, have different meanings. The goal is to achieve the highest rank of 'smart' – which is 'intelligent' – as long as we remember that we cannot have an intelligent mine without intelligent people working in it and that intelligence comes not necessarily from a high level of education.



**Class Photo of Community Relations
Practitioners outside the Wits club**

FIRST QUARTER: EVENTS

There were several significant WMI events during the first quarter of 2019, including:

- Vice-Chancellor and Principal of Wits University Professor Adam Habib's Future of Mining Dinner, attended by several mining company CEOs and executives;
- Attending and participating in the Cape Town Mining Indaba;
- An excellent workshop with Caterpillar on new machines for hard-rock, narrow-reef mining; and
- Several high-profile visits to the incredibly exciting Sibanye-Stillwater Digital Mining Laboratory (DigiMine) by executives of Impala Platinum, the Mining Qualifications Authority, Seriti Resources and Exxaro Resources.

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WITS MINING INSTITUTE

WMI PARTNERSHIP WITH SYNERGY GLOBAL TO BUILD CAPACITY IN AFRICA ON COMMUNITY RELATIONS PRACTICE WITHIN THE EXTRACTIVE INDUSTRIES

This newsletter focuses on the WMI/CSMI partnership with Synergy Global to deliver training to community relations practitioners across Africa. Completion of the four courses leads to a programme qualification at NQF Level 6. Each course is also available to delegates as a Certificate of either Attendance or Competence. The Wits-Synergy partnership is in its seventh year, with between 70 and 120 delegates qualifying in this area every year; this is a significant acceleration of African skills in community relations practice. The WMI is currently in consultation with Synergy Global and the relevant Schools at Wits in order to raise the level of the qualification to NQF 9, making it a Master's degree specialisation in this area of knowledge.



Practitioners using their creative skills to create a sculpture to represent the current situation/system in the community



The March course was Managing Community Impacts facilitated by Noleen Dube and Alison McCallum. As with all the short courses offered in this programme, the week was enriched by building relationships between practitioners from different companies, sharing stories of challenges faced, and by bravely stepping out of our normal (often inadequate) ways of understanding and developing solutions for the complex challenges that are part of peoples' "new normal".

On this particular course, influenced by the many problems associated with community relations with mining companies, we focused on:

- What are we not seeing?
- Where are the points of advantage for meaningful intervention?
- What old ways of doing things do we need to let go of?
- In what ways does the community relations profession need to better capacitate itself to effect real change both externally and internally?

The excellent guest speakers got us thinking differently about the role of policies and procedures, and how to increase influence and effect within our individual organisations. Paul Kapelus, Director of Synergy Global comments: "One of the key values of this programme is the way in which it is supporting the professionalisation and career path development of community relations practitioners within industry. This is having a significant effect on the ability of practitioners to have real influence and positive effect within and outside of their organizations."

The need for 21st century skills for the mining cluster, especially at NQF Levels 5 to 7, is at an unprecedented high. The future of work has already started in the mining space, while government, companies and the current workforce are positioning themselves for this future. This is responsible mining.

Until next time, let us spread the good news that 21st century mining is moving from smart to intelligent to be responsible, safe and efficient. This is exciting!

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