



Международное Общество по маркшейдерскому делу
International Society for Mine Surveying
Internationale Gesellschaft für Markscheidewesen



Date: 29 September 2024

To the ISM Executive
ISM Presidium Meeting
South Africa

**RE: REPORT ON THE WORK OF THE INTERNATIONAL SOCIETY FOR MINE SURVEYING (ISM)
COMMISSION 2: GEOMETRY OF MINERAL DEPOSITS/MINERAL RESOURCES MANAGEMENT**

Committee Structure

ISM Commission 2 is an active committee, which committee continued its work in January 2024 after its new leadership was confirmed in the Minutes of the 50th ISM Presidium Meeting of 26 and 28 October 2023, Beijing and Xuzhou, China. The initial planning for 2024 was done by the Chair and Co-Chair. The planning provided for a smaller Working Group who organise Commission 2 meetings, facilitate meetings, produce minutes, action minutes and do follow-up work in-between meetings. The members of the Working Group are:

- Prof. Fred Cawood: Chair
- Prof. Liu Zaibin: Co-Chair
- Ms Yujia Yang: Secretary (Resigned as Secretary in July 2024)
- Dr. Yingying Gong: Secretary (Appointed as Secretary from July 2024)
- Dr Guihong Li
- Dr Tao Fan
- Ms Xiaotian Jing
- Ms Jawed Zhao
- Dr Qiang Liu

Meetings

Meetings give opportunity to collaborate with international counterparts, discuss leading mine survey practices and to arrange presentations to guide members on leading practices. The preliminary (planned) theme for the ISM Congress of 2026 is “Human-centred autonomous surveying and mapping systems for mining” and Commission 2 have therefore adopted digitalization (as an enabler of autonomous systems) as our theme for 2024. The Working Group have monthly online meetings to keep in contact and to do supporting work. Working Group meetings were held on:

- 08 January 2024
- 05 February 2024
- 18 March 2024
- 20 May 2024
- 10 July 2024

- 12 August 2024

There were three full Commission 2 meetings planned for 2024.

- 30 May 2024
- 29 August 2024
- 28 November 2024

In addition to the Working Group members, active members of Commission II (surnames in alphabetical order) are:

- Prof. Hamid Ashraf (Pakistan)
- Mr. Alex Bals (South Africa)
- Prof. Guoliang Chen (China)
- Prof. Qinghua Gu (China)
- Dr. Markus Mathey (Germany)
- Mr. Chris Moy (Australia)
- Prof. Axel Preuße (Germany)
- Mr. Jurgens Visser (South Africa)
- 14. Prof. Zhenxin Zhang (China)

The meeting of 30 May was attended by 14 members and there were 4 apologies. Countries represented in the meeting were (alphabetical order):

- Australia
- China
- Germany
- Pakistan
- South Africa

The following Agenda points were discussed:

1. Welcome and Apologies
 2. Self-Introduction of Commission 2 members
 3. Finalising the membership Commission 2
 4. Introduction to the work of Commission
 5. Technical presentation: Digital Geology Support Technology - Creating Digital Holographic Geological Maps for Intelligent Coal Mines
 6. Discussion: Definition of MRM and Role of Mine Surveyor in MRM
 7. General
- ISM presidium meeting in South Africa

The technical presentation was done by Prof. Liu Zaibin from Xi'an CCTEG Transparent Geology Technology Co. LTD. The topic of his presentation was Digital Geology Support Technology: Creating Digital Holographic Geological Maps for Intelligent Coal Mines. Prof Zaibin explained and demonstrated CCTEG's solution for a transparent geology support system (TIM-CLOUD), which is comprehensive geological model (holographic geological map) to share standardized, real-time geological data using real-time spatial coordinates and geological navigation models for intelligent mining and 3D interactive visual analysis. The system is integrated with other on-mine hard- and software solutions for plan compliance. The presentation was well-received by Commission 2 members, who expressed gratitude for an excellent presentation. A copy of the presentation was distributed along with the minutes of the meeting.

The meeting on the 29th of August started but was abandoned after 15 minutes because only one member, the two Chairs and the Secretary, were in attendance. The presentation is standing over to the next meeting, which is on 28 November 2024. There are two presentations planned for this meeting, namely:

- Guest Presentation Dr M Mathey: Sustainable mine planning in Germany: 3D numerical modelling of mine excavations with focus on surface subsidence and environmental impact.
- Second Presentation Prof. F Cawood : What an AI-Powered Mining Organization means for ISM Commission 2

Overall Chairs' comments

It is our experience that members want to participate in commission meetings, but because of a combination of high levels of 'business' and the difficulty of bringing people together across national boundaries and different time zones, it is not easy to keep commission work alive. In addition, the lack of depository of past commission work makes it difficult to build on previous work, which mostly happened before the global Covid-19 pandemic and its international lockdowns. This matter of energising commissions so that the international professional issues don't fall behind other professions, should be an active discussion point at the 51st Praesidium Meeting in South Africa.

In conclusion, Commission II is an active commission of the ISM. We strongly believe that the mandate of the commission is important, especially in a digital era where artificial intelligence is influencing how data is collected, processed and presented for performing work and doing signoffs when defining the geometry of mineral deposits and during critical decision-making for mineral resources management. We therefore call on the members of the ISM, and the executive in particular, to support, volunteer for commission work and actively participate in commission meetings.

Yours truly,

PROF. FT CAWOOD

PROF. LIU ZAIBIN

CHAIR: ISM COMMISSION 2

CO-CHAIR: ISM COMMISSION 2