

52nd Presidium Meeting of the ISM 2025 6-8 July Krakow Poland

*Strengthen cooperation,
exchanges and youth education*

ISM Commission 4 report

Rock and ground movement, subsidence
damages

Ryszard Hejmanowski - Chair
Dai Huayang - Co Chair
Agnieszka Malinowska

Membership

- 38 members from 10 countries – verified and updated early 2025
- 4 new members – who applied 2025 for the 52nd presidium meeting
- proposals from the member countries are welcome
- we are going to organize the remote meetings of our commission

Goal is to :

- Strengthen the cooperation and exchanges among:
 - Youth industry experts,
 - Academic staff and experts,
 - Networks (local, regional and national levels).
- Support the recognition of ISM work in the field of:
 - youth work,
 - non-formal learning,
 - volunteering.

How are we doing the work?

Polish Society For Mine Surveying

Attract the people for joining the Polish society for mine surveying

conference fee reduction



award for the best Master thesis,

internship sponsored by EU funds,



excursions (tech-tour, training in Germany)



Polish Society For Mine Surveying

www.pk-ism.org (PL)



A relatively narrow community of mining surveyors (less than 1000 active surveyors in the industry).



Membership in the Polish Society for Mine surveying is voluntary and an annual fee is required (about 20 Euro)



We have 53 active members of the PK ISM in 2025

Polish Society For Mine Surveying

is organising:

- the **Discussion Seminar** for the **Mine Surveyors** from Poland (2012, 2013, 2018, 2019, 2023, 2024, **2025**), ✓=
- Co-organising the **Conference** „Days of Mining Surveying and Protection of Mining Induced Areas" (every two years)

Mine Surveyors - Discussion Seminar 2025

- Surveyors from across Poland gathered to share insights and challenges.
- Key companies present: KGHM, JSW, PGG, LW Bogdanka, KS Wieliczka, KS Kłodawa, KS Bochnia, PGE Bełchatów, PeBeKa.
- Academics from AGH, UR Kraków, Wrocław Tech.
- Strong student presence (Mine Surveying & Geohazards, AGH).
- Insightful input from the Higher Mining Authority.



Type of mobility ↔ Funds and programs

1. Exchanges
 1. education,
 2. trainings,
 3. shadowing.
2. Volunteering activities
3. Youth workers (trainings)
4. Scholarships



Erasmus+



The Wind of changes

- the Europe is trying to step up from the natural fossil Energy source
- green Energy will be involved and developed further,
- exploration and mining will switched into the raw materials,

- the needs for competences of Mine Surveyors goes into the post-mining issues (sinkholes, flooding in subsidence areas, residual subsidence)
- the education of Mine surveyors should follow the direction of industry, and economic changes

Very happy to announce that I have completed my
Masters degree at [AGH University of](#) ...zobacz więcej
[Zobacz tłumaczenie](#)



Graduate of mining
surveying
specialty anno 2023
at the
AGH University of Krakow

The Wind of changes

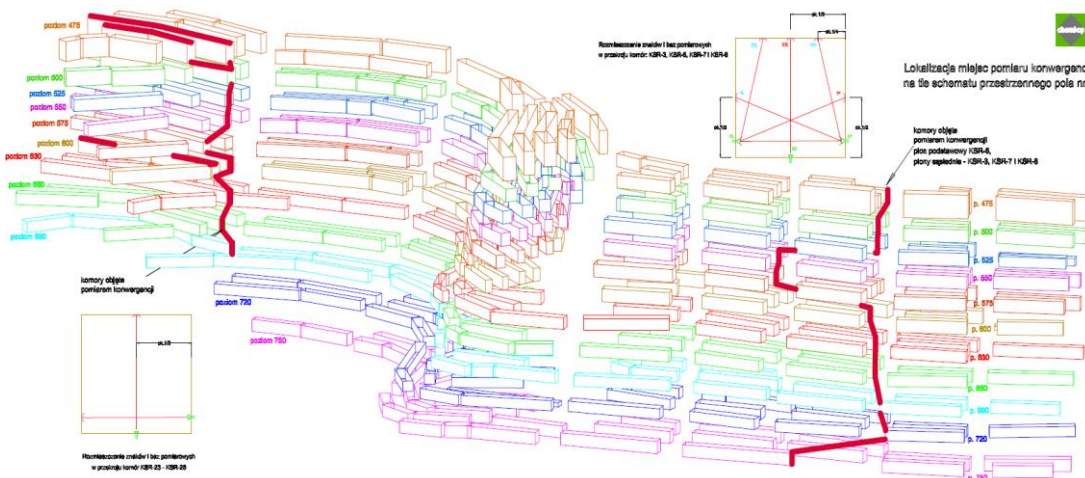
23 students of
Surveying and Geohazards
2025
AGH University of Krakow



The Wind of changes - PhD. for the industry

Applied research for Mine Surveyors novel PhD Programm

- 4 years external PhD studies financed by the Polish government (50000 Euro)
Topics chosen by the companies for resolving burning scientific issues



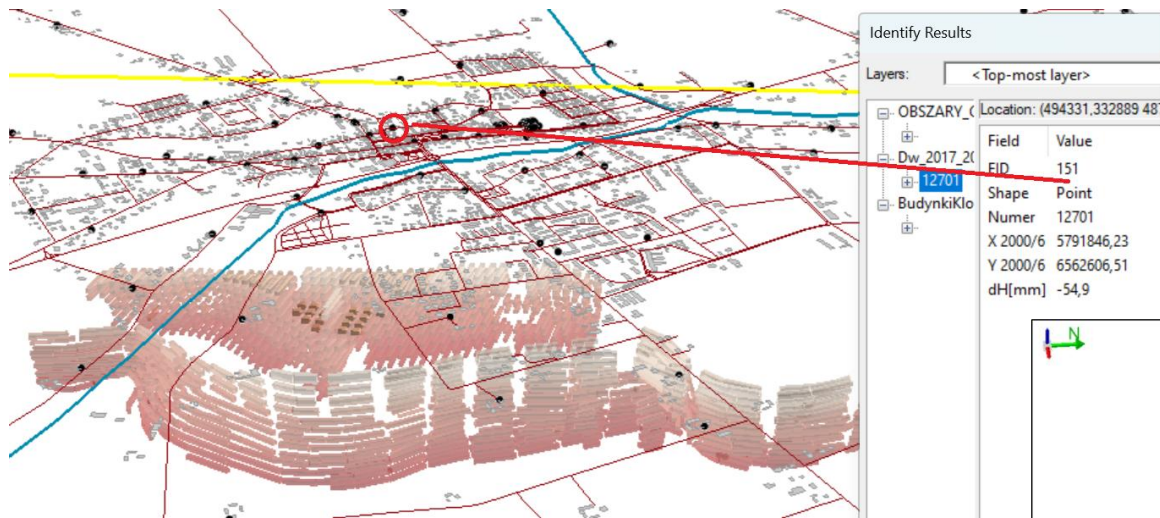
Example of surveying monitoring network in the underground Salt mine (20 Bln qubic metres excavated)

More activities of the ISM Commission 4 in direction of :

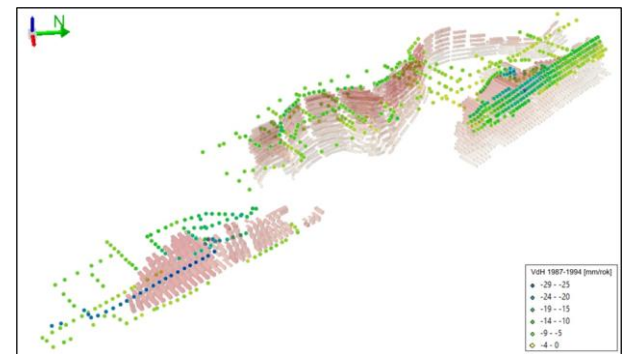
- measurement results data management in mines,
- management of transformed areas,
- monitoring of the deformation and earth fissures,
- water issues and water pumping caused subsidence,
- land reclamation considering former mining activities,
- salt gas cavern management

More activities of the ISM Commission 4

- measurement results data management in mines,



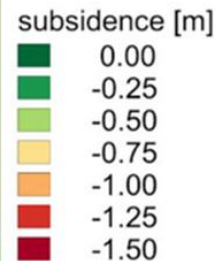
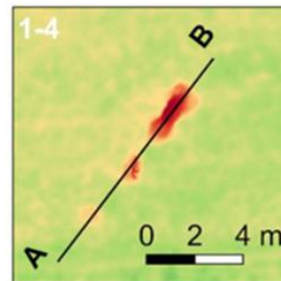
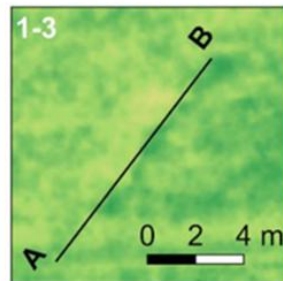
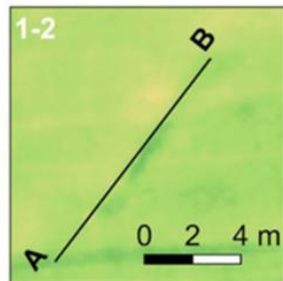
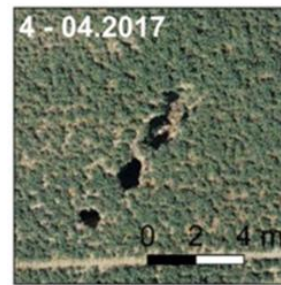
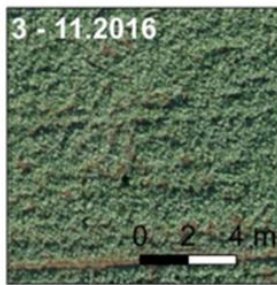
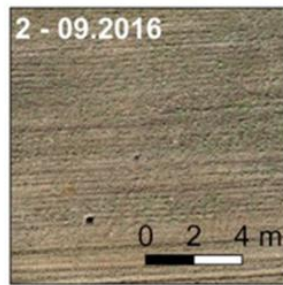
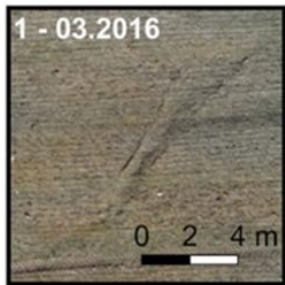
Example of salt mine
Surface and
underground
measurement network



GIS applications for
surveying management

More activities of the ISM Commission 4

- monitoring of the deformation and earth fissures,

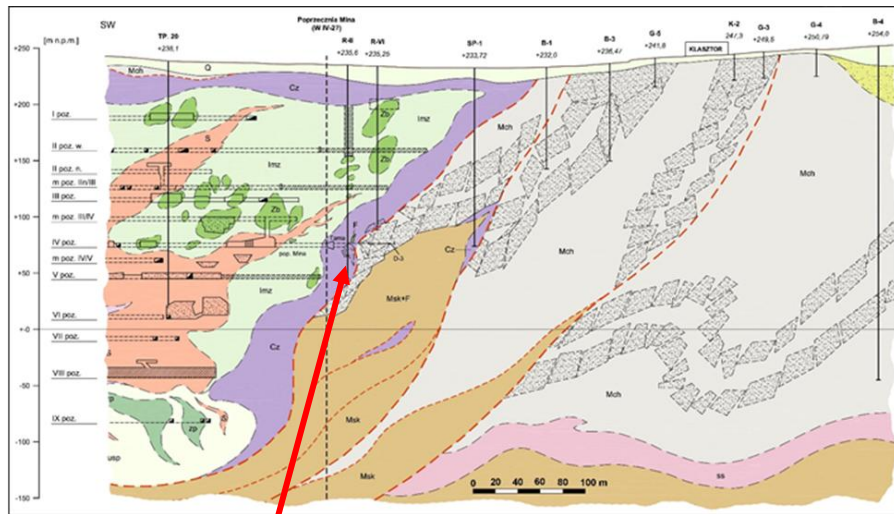


An Example of applicability of unmanned aerial vehicle (UAV) photogrammetric data to land surface deformation monitoring in areas affected by underground mining

[Development of an A-B discontinuous deformation \(Piekary site\). | Download Scientific Diagram \(researchgate.net\)](#)

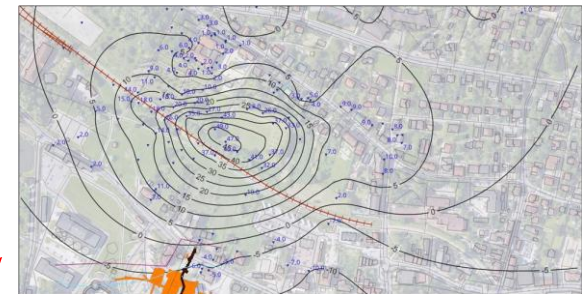
More activities of the ISM Commission 4

- water issues and vertical movements caused by water level changes in aquifer

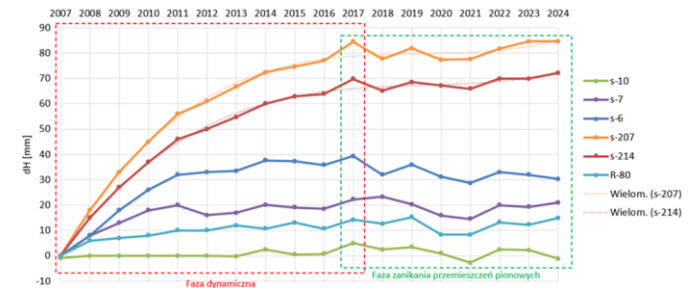


Water intrusion

Verical movements 2007-2024[mm]



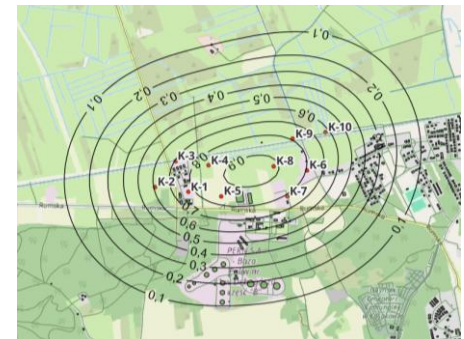
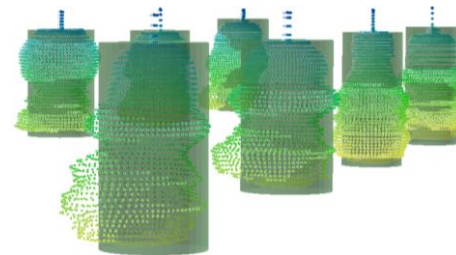
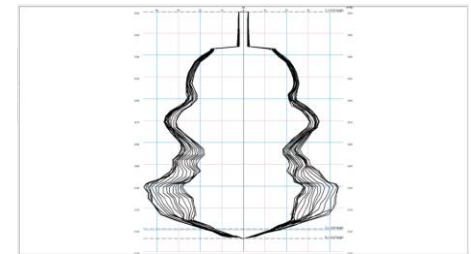
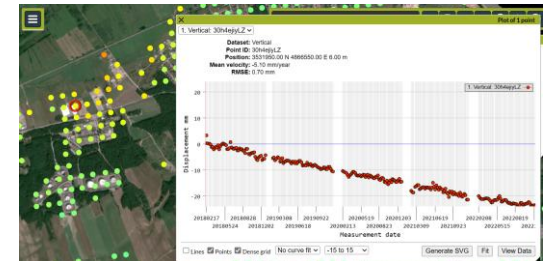
Water Subsidence vs uplift



More activities of the ISM Commission 4

- salt gas cavern -MMM

- **Monitoring,**
- **Modelling,**
- **Management.**





Thank You for your attention