



Conference Programme

Day 1: 4th November 2024

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| 12.00-14.00 | Registration of participants |
| 13.00-14.00 | Lunch |
| 14.00-14.10 | Welcoming the participants – Bartosz POLNIK, KOMAG Institute |
| 14.10-14.30 | Opening ceremony – Dariusz PROSTAŃSKI, Director of KOMAG Institute, Marek GZIK Secretary of State at the Ministry of Science and Higher Education, Krzysztof ZAMASZ, Chairman of the Scientific Council at KOMAG Institute |
| 14.30-15.45 | Panel discussion Mining at the Crossroads: Innovation, Sustainability and New Challenges in the Era of Energetic Transition |
| Moderator | Anna Zych, Wydawnictwo Gospodarcze Sp. z o.o. |
| Participants | Marta Jarno, <i>Director of the Mining and Metallurgy Department of the Ministry of Industry</i> , Leszek Pietraszek, <i>President of the Management Board of the Polish Mining Group</i> , Łukasz Deja, <i>President of the Management Board of Południowy Koncern Węglowy</i> , Aleksander Sobolewski, <i>Director of Institute of Energy and Fuel Processing Technology</i> , Dariusz Prostański, <i>Director of KOMAG Institute</i> |
| 15.45-16.00 | Nitros – fuel additive – Marek Mrówczyński, NITROERG S.A. |
| 16.00-16.15 | Coffee break |

16.15-17.30 Panel discussion **New Technologies in Mining for Green Energy – From Innovation to Practice**

Moderator Bartosz Polnik, Deputy Director for Development, KOMAG Institute

Participants Krzysztof Zamasz, Chairman of the Scientific Council at KOMAG Institute, Commercial Director of the Veolia Group in Poland, Vice President of the Management Board,

Mirosław Skibski, Director of the ARP S.A. Branch in Katowice,
Kazimierz Karolczak, Chairman of the GZM,
Agnieszka Spirydowicz, Chairman of the Board at ZKlaster

17.30-17.45 Coffee break

17-45-19.00 Session – Faces of electromobility in the mining industry in the era of the green transition

1. Putting products into service in mining operations (from own experience), formal and legal requirements – Krzysztof Pawlik, INOVA
2. Electrification of vehicles in the mining industry – a case study – Jędrzej Dąbrowski, Ele-DriveCo
3. KGHM ZANAM new generation of self-operated mining machines as an element of the energy diversification of mining plants – Daniel Bajus, KGHM ZANAM S.A.
4. Energy storages – an essential element of a successful energy transition – Daniel Bysiak, NGEN
5. Cyber security threats and how to prevent them in industrial and large scale energy storage – Radosław Gutowski, SEP Board Member – Chairman of the Polish Committee for Electromobility and Energy Storage SEP

19.30 Gala dinner

20.30 Performance – **Ireneusz Krosny Theatre of One Mime**

Day 2: 5th November 2024

7.00-9.00 Breakfast

9.00-10.00 Special session – Hydrogen technology as a means of transforming Silesia

1. Hydrogen and decarbonisation – Grzegorz Semerjak, Silesian-Małopolska Hydrogen Valley
2. ROW 2.0 – Rybnik Hydrogen District – Ewelina Włoch, City Council of Rybnik
3. Design of an alkaline electrolyser as a result of research and development work carried out at KOMAG – Krzysztof Nieśpiałowski, Mateusz Wójcicki, KOMAG Institute



Rzeczpospolita
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4. Hydrogen production as a method of waste heat utilisation – Korneliusz Sierpowski, KOMAG Institute

10.00-11.00 Panel discussion **Energy transformation of cities - challenges and limitations**

Moderator **Agnieszka Spirydowicz** Chairman of the Board at ZKlaster

Participants Mayor of Bytom,
Mayor of Rybnik,
Mayor of Zabrze,
Mirosław Skibski, Director of the ARP S.A. Branch in Katowice,
Albert Gryszczuk, President of the Board of the National Chamber of Energy Clusters

11.00-11.15 Coffee break

11.15-12.30 **Session – Modern technologies and energy management in RES installations: software, systems and high-performance solutions**

1. Possibilities of using KOMAG Institute's original software to analyze the consumption profile and forecast of energy production from RES installations – Joanna Rogala-Rojek, Marcin Jura, Krzysztof Stankiewicz, KOMAG Institute
2. Electrode boiler integrated with energy management and storage system – Wojciech Kurpiel, KOMAG Institute
3. Energy management system concept for renewable energy installations – Piotr Hylla, KOMAG Institute
4. Review of selected solutions of high-efficiency power generation units for small hydropower plants – Jan Mikoś, Upper Silesian Institute of Technology
5. Precision impedance measurement method used in the optimisation of electrical parameters of an electrode furnace – Grzegorz Debita, KOMAG Institute

12.30-13.45 **Project session – DynGOSP – Dynamic management of demand, production, resource management and distribution logistics of hard coal in an economy pursuing a decarbonising energy mix**

1. Mine capacity assessment model – Sylwester Kaczmarzewski, Jacek Jarosz, Mineral and Energy Economy Research Institute
2. Concept of coal deposit resource management through the definition of a dynamic resource base and quantification of risk in the mining process – Jarosław Kulpa, Eugeniusz Sobczyk, Artur Dyczko, Michał Kopacz, Leszek Malinowski, Dominik Galica – Jacek Jarosz, Mineral and Energy Economy Research Institute
3. Opportunities to introduce zero-waste enrichment technologies for hard coal – Daniel Kowol, Piotr Matusiak, Rafał Baron, Paweł Friebe – KOMAG Institute
4. Construction of a concept for continuous heap and dump inventory using unmanned aircraft technology – Dariusz Michalak, Jerzy Jagoda, Sławomir Bartoszek, Joanna Rogala-Rojek, Krzysztof Stankiewicz, Jarosław Tokarczyk, Kamil Szewerda

5. The application of information techniques in the dynamic management of processes related to demand, production and distribution logistics of hard coal and its contribution in an economy pursuing a decarbonising energy mix – Radosław Marłęga



Project co-financed by the National Centre for Research and Development under the Strategic Research and Development Programme 'Social and economic development of Poland under conditions of globalising markets' – GOSPOSTRATEG

13.45-14.30 Lunch

14.30-16.00 Project session – CoalHeritage (Conservation and promotion of the Coal Mining Heritage as EU's cultural legacy)

1. CoalHeritage project: objectives and impacts
2. Cultural and natural heritages: definition, legal framework and application to coal-mining – Laurent Beccaletto
3. Adaptation of mine sites into tourist and cultural facilities as a way to protect and preserve mining heritage – a review of successful examples – Magdalena Rozmus, Kamil Szewerda
4. Standards and mechanisms for the management of mining heritage sites. Coal Heritage research findings – Sylwia Jarosławska-Sobór, Robert Hildebrandt
5. Virtual reality and 3D models as tools for presentation of mining heritage assets – Kamil Szewerda, Dariusz Michalak
6. Design and production of CoalHeritage Visual Map Journal – Andreas Karavias

16.00-17.00 Session – Modern technology and safety in mining

1. TR-2000: Innovative solutions for gypsum mines in Italy - automation, safety and individual adaptation – Karolina Grzegorzczuk, FAMUR
2. Floor transport system FRTS-900 – Paweł Para, FAMUR
3. The problem of testing the effectiveness of sprinkler systems of mining machines in the light of the current state of the law, the state of knowledge and technology and the requirements of users – Grzegorz Stopka, AGH, Łukasz Bołoz, AGH, Krzysztof Libera, Daniel Mieszaniec, FAMUR
4. Bench tests on the efficiency of a longwall shearer's sprinkler system in extinguishing and preventing/reducing the ignition of a methane atmosphere from mechanical sparks – Dominik Bałaga, Marek Kalita, Michał Siegmund, KOMAG Institute, Krzysztof Libera, Daniel Mieszaniec, Remigiusz Pyka, FAMUR

17.00-17.15 The most favourable directions for foreign expansion: Africa, ASEAN – Marcin Jabłoński, Chamber of Commerce of Exporters and Importers

17.15-17.30 Coffee break

17.30-18.45 Session – Innovative safety systems and sustainable technologies in mining

1. Fibre Optic systems for the recognition, forecasting mitigation and combating of mining hazards – INTERLAB, Tomasz Stańczyk
2. UWB technology in real-time localisation systems – Sławomir Bartoszek, Jerzy Jagoda, Sebastian Jendrysik, Krzysztof Stankiewicz, KOMAG Institute
3. Innovative power transmission system implemented as a part of HEET project – Marcin Skóra, KOMAG Institute
4. Battery-powered self-operated mining machines – Formal and legal requirements – Krzysztof Pawlik, INOVA
5. Critical raw materials (CRM) recovery from mining waste and the remediation of soils contaminated with potentially toxic elements (PTE) in the context of climate change – Iustina Popescu, Adriana Bors, Liliana Dumitrescu, Alexandra Polifron Chirita, Ana-Maria Turculeț, Robert Szabo

19.00-23.00 Dinner in a pub

Day 3: 6th November 2024

7.00-9.30 Breakfast

9.30-11.15 Session – Advanced technology and resource management in mining

1. Research on the production of composite coal fuel with a concept for the industrial-scale management of Fine Carbon Fractions – Krzysztof Supernok, Agata Czardybon, Karina Ignasiak, Michał Rejdak, Joanna Bigda, Sławomir Stelmach, Institute of Energy and Fuel Processing Technology
2. Laboratory tests for determining the corrosion wear rate of link chains of scraper conveyors – Mateusz Wójcicki, KOMAG Institute, Andrzej N. Wiecek, Silesian University of Technology
3. Performance properties of metal flexible couplings for scraper conveyors – Andrzej N. Wiecek, Silesian University of Technology
4. Innovative technologies for cleaning and maintaining equipment not only in mining – Bartłomiej Janik, 3N Solutions Sp. z o.o.

5. Technology for cleaning machinery and equipment components in underground mine workings using solid carbon dioxide – Marek Kalita, KOMAG Institute
 6. Wind machine as a source of clean energy – Michał Szelka, Jarosław Tokarczyk, KOMAG Institute, Krzysztof Kołodziejczyk, AGH
 7. Gravitational energy storage in mine shafts in the light of value analysis – Jacek Korski, KOMAG Institute
- 11.15-11.30 Summary and closing of the Conference
- 11.30-13.00 Lunch and departure of participants