

## EXPERT FORUM

# Digitalisation in the Raw Materials Sector

20-22 January 2020

Kunsthalle Leoben, Kirchgasse 6, 8700 Leoben, Austria

Day 1, 20 January 2020

EVENT PROGRAMME

12:00 **REGISTRATION AND LIGHT LUNCH**

**Welcome. Main Auditorium.**

Chaired by Patrick Nadoll, *EIT RawMaterials*

13:50 **Welcome to the event**

Andreas Klossek, *Interim CEO, COO, Managing Director, EIT RawMaterials*

14:00 **Welcome from the hosting institution**

Prof. Dr Peter Moser, *Montanuniversität Leoben*

14:05 **Digitalisation as an integral part of the Lighthouse Sustainable Discovery and Supply**

Patrick Nadoll, *Senior Advisor – Exploration and Resource Assessment, EIT RawMaterials*

**Block 1: Setting the Current Scene. Main Auditorium**

Chaired by Hanno Bertignoll, *Montanuniversität Leoben*

14:30 **Overview of Eramet AI**

Joseph Pellegrino, *Eramet*

14:45 **AI – image recognition, pattern analysis, machine learning**

Markus Häupl, *ABAUT*

15:00 **Optimum use of AI and ML for mineral exploration in a digitalised society – opportunities and challenges**

Thorkild Maak Rasmussen, *Luleå University of Technology*

15:15 **Digital solutions and machine learning platforms for applied mineralogy and petrology**

Tomáš Hrtska, *Czech Academy of Science*

**Block 1: Setting the Current Scene. Main Auditorium**  
Chaired by Hanno Bertignoll, *Montanuniversität Leoben*

- 15:30 Improving performance by measurement and digital analysis of mining processes  
Philipp Hartlieb, *Montanuniversität Leoben*
- 15:45 CERA Blockchain Solution  
Valentina Dietrich, *Montanuniversität Leoben*
- 16:00 Panel

16:30 NETWORKING COFFEE BREAK & DIGITAL TRADESHOW

**Block 2: Digital Challenges & Success Stories in Specific Application Areas. Main Auditorium**  
Chaired by Krzysztof Kubacki, *EIT RawMaterials*

- 17:00 Digitalization in Exploration: from imaging sensor integration to data fusion using machine learning  
Richard Gloaguen, *Helmholtz-Zentrum Dresden-Rossendorf*
- 17:15 Digital exploration: Machine learning and public geodata for mineral prospectivity mapping in Finland  
Vesa Nykänen, *Geological Survey of Finland*
- 17:30 Digitalization in mine tunnel development  
Uwe Restner, *Sandvik*
- 17:45 Advanced data analytics for mining and mineral processing applications  
Sergii Anufriev, *KGHM Cuprum*
- 18:00 Digital twins for monitoring and evaluation of ground quality, processes and machines  
Paul O'Leary, *Montanuniversität Leoben*
- 18:15 Panel

19:00 NETWORKING DINNER AND DRINKS

## Day 2, 21 January 2020

8:30 **NETWORKING COFFEE & DIGITAL TRADESHOW**

### PARALLEL SESSIONS

#### PARALLEL SESSION 1. *Tower Room*

- 9:00 MireBooks I
- 9:15 MireBooks II
- 9:30 MireBooks III
- 9:45 MireBooks IV

#### PARALLEL SESSION 2: *Thesis Awards & Digital Natives. Main Auditorium*

Chaired by Fabio Ferri, *EIT RawMaterials*

- 8:50 **Introduction**  
Fabio Ferri, *EIT RawMaterials*
- 9:00 **Award Winner Master Category:**  
**Textural and Mineralogical Characterization of Li-pegmatite Deposit: Using Microanalytical and Image Analysis to Link Micro and Macro Properties of Spodumene in Drill Cores**  
Juan Sebastian Guiral V, *Luleå University of Technology*
- 9:10 **Award Winner Master Category:**  
**Virtual Underground Training Environment**  
Jakub Jastrzębski, *Aalto University*
- 9:20 **Award Winner PhD Category:**  
**The Hämmerlein skarn-greisen deposit in the Erzgebirge (Germany) - Analysis, geometallurgy and pre-concentration of a compositionally complex and fine-grained ore deposit**  
Marius Kern, *TU Bergakademie Freiberg*
- 9:30 **Award Winner PhD Category:**  
**Computational Methods and Strategies for Geometallurgy**  
Pierre-Henri Koch, *Luleå University of Technology*
- 9:40 **Extended Reality and Data Visualization experiences in mining and other activities**  
Luca Piovano, *CeDInt - UPM*
- 9:55 **Panel & Awards Ceremony**

10:15 **NETWORKING COFFEE & DIGITAL TRADESHOW**

**Block 3: Disruptive Start-Ups in the Raw Materials Sector. Main Auditorium**  
Chaired by Antonis Politis, *EIT RawMaterials*

- 10:45 **Gold mining 4.0**  
Mathias Cherbuin, *CyanoGuard AG*
- 10:55 **Worldsensing Journey - From Idea to Success**  
Andrea Bartoli, *Worldsensing*
- 11:05 **Making Human Labor Easier, more Productive and Safer with Robotic Eyes**  
Wolfgang Walcher, *Robotic Eyes*
- 11:15 **High precision measurement & optimization under harshest conditions**  
Marc Banzac, *Mecorad GmbH*
- 11:25 **Digitization Solutions: Ventilation-on-Demand**  
Giorgos Papapanagiotakis, *Emphasis DigiWorld*
- 11:35 **Flying Robotics for Underground 3D Mapping**  
Fran Espada, *Hovering Solutions*
- 11:45 **Metheore: Measure to Manage**  
Arpitsingh Parmar, *Metheore*
- 11:55 **Panel**

12:15 **LUNCH & DIGITAL TRADESHOW**

**Block 4: Future Developments & Responsibilities. Main Auditorium**  
Chaired by Massimo Gasparon, *EIT RawMaterials*

- 13:30 **Digitalisation in the raw materials sector - A European Commission perspective**  
Debby DeRoover, *European Commission, DG Grow*
- 13:45 **Mineral Intelligence for Europe? - Where we are, where we are going, connection to EIT RM**  
Špela Kumelj, *Geological Survey of Slovenia*
- 14:00 **Industry Needs & Priorities for Digitalisation in the Raw Materials Sector**  
Michael Haschke, *DMT*
- 14:15 **Operational Intelligence - A mandatory step for Sustainability**  
Andrea Bartoli, *Worldsensing*
- 14:30 **If data is eating the world, who is eating the data?**  
Mirko Liebetau, *Talpasolutions*
- 14:45 **Upscaling mineral exploration through field augmented reality: The FARMIN project**  
Tobias Kampmann, *Luleå University of Technology*
- 15:00 **Digital competences as the basis for sustainable development of the raw materials sector**  
Yury Zhukovskij, *St.Petersburg Mining University*
- 15:15 **Panel**

15:45 **PITCH&MATCH (please register)**

17:00 **CLOSING**

19:00 **DINNER**