



RawMaterials Hub
Regional Center Greece



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation



FACULTY of MINING
and GEOENGINEERING



RawMaterials
ACADEMY



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ESEE Education Initiatives project. Participants overview of **RawD Trip** Copper Story

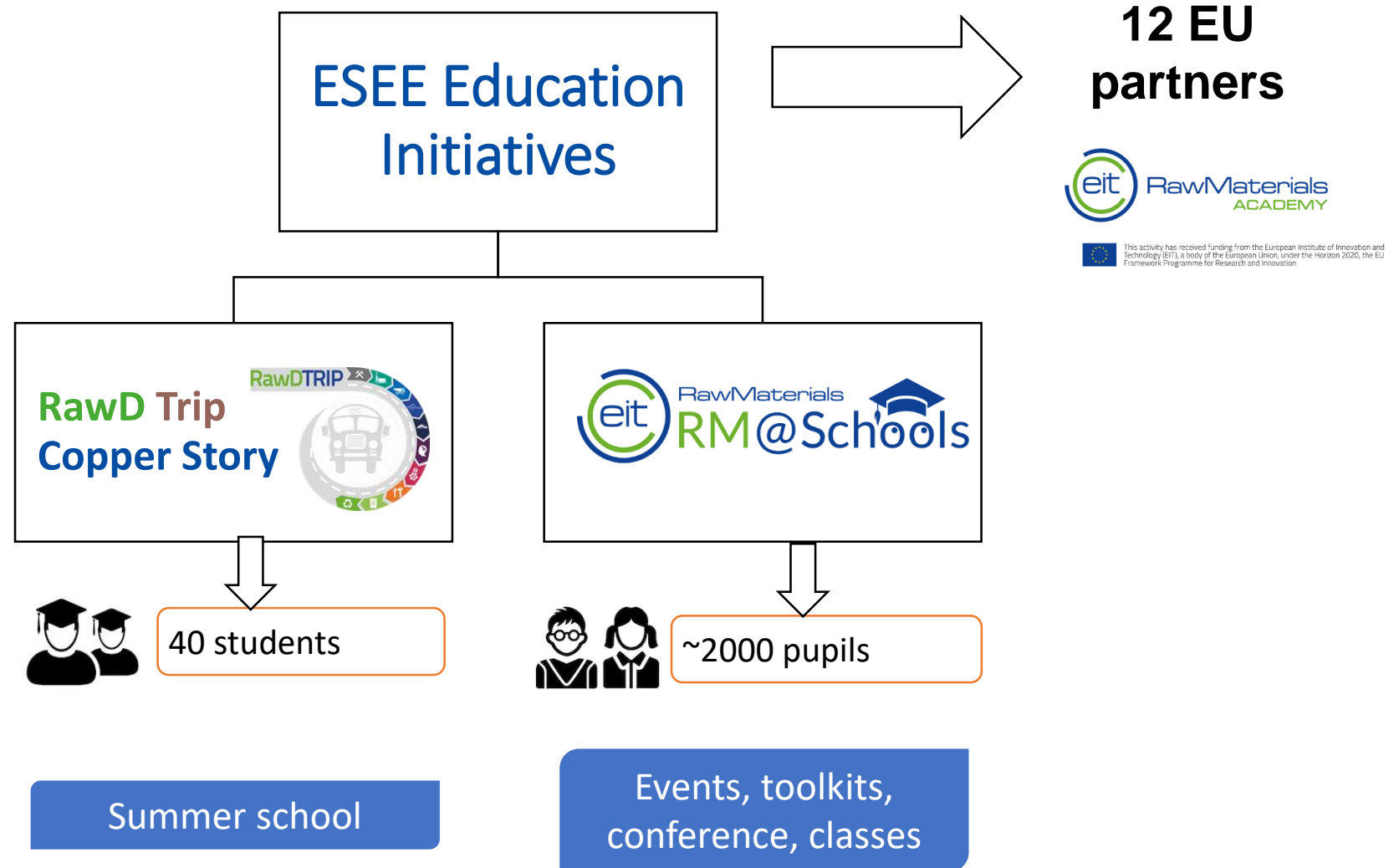
Skenderas Doris, Vasilis Loukadakis, National Technical University of Athens, GR

Natalia Kowalska, Radosław Pomykała, Zuzanna Łacny

AGH University of Science and Technology, Faculty of Mining and Geoengineering

4th Greek Raw Materials Community Dialogue 11 – 12 December 2019

ESEE Education Initiatives – strengthens the overall position of raw materials



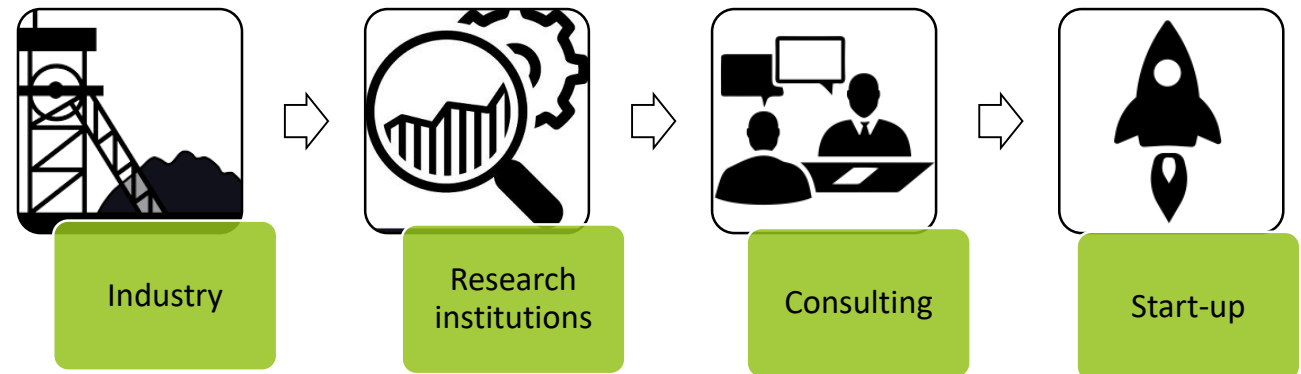
RawD Trip Copper Story

Summer School

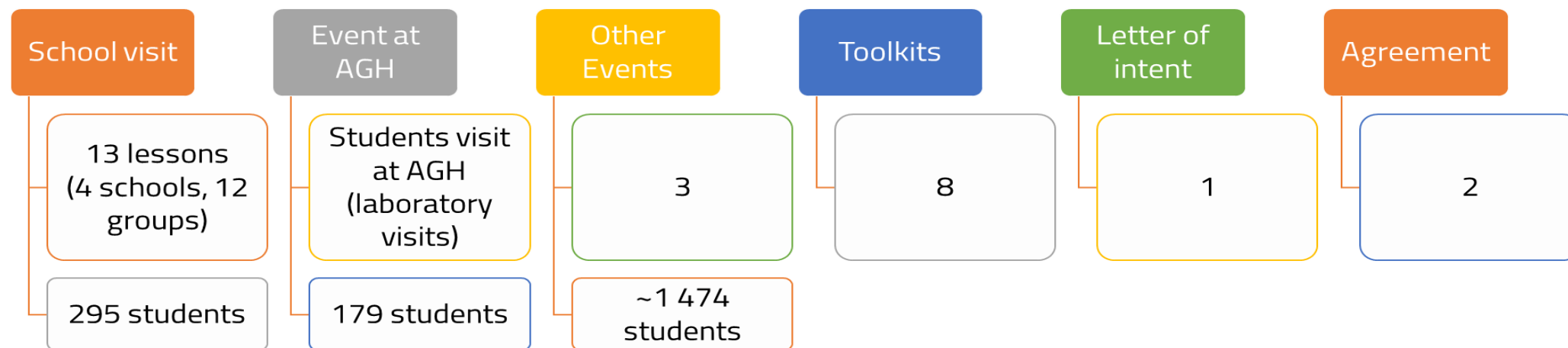
- 2nd-13th of September
- AGH University
- Lower Silesia Region
- 40 Students from RIS countries
- 7 days of technical visits
- 3 days of workshop
- 7 Industrial & Research partners



Bosnia
Bulgaria
Croatia
Greece
Hungary
Serbia
Slovakia
Spain
Ukraine
Turkey
Poland



AGH University Contribution to RM@Schools



What is the RawD Trip...

What is RawD Trip : Travelling summer school

Where: Poland

When: 2nd-14th of September 2019

The participants: *and master students coming from studies of the raw material value chain all over from Eastern and Southern Eastern Europe (ESEE region)*

Why: *To bring together and **visit industrial sites** of the selected raw material (in 2019 its copper) while studying about its importance and business and market relevance. **Technical topics and solving industry challenges** is another important point of these summer school .*



The NTUA Team...



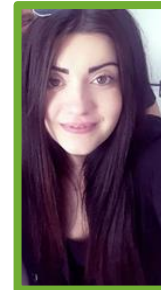
Doris Skenderas



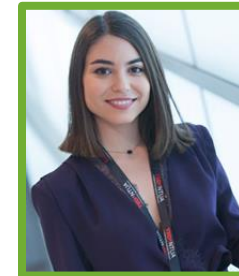
Vasilis Loukadakis



Maria Mantzarea



Maria Karagianni



Nantia Baka

In the RawD Trip we...

Technical Visits



- ☐ Underground Mine
- ☐ Enrichment plant
- ☐ Tailing Pond
- ☐ Smelter
- ☐ Wires and Cables Company
- ☐ International Fair of Mining, Energy and Steel
- ☐ Waste management Facilities

International Fair of Mining, Energy and Steel



KGHM Polska Miedz S.A.



Smelting, Institute of non-ferrous metals, Glwice



Tailing Pond, Polowice



Waste management Company Krakow

In the RawD Trip we...

Lectures



- ☐ History of Cu
- ☐ World/EU Cu Recourses
- ☐ Cu Mining Technologies
- ☐ Cu Processing and metallurgy
- ☐ Reclamation
- ☐ Environmental Risks
- ☐ Recycling
- ☐ Uses



RawMaterials Hub
Regional Center Greece

Soft skills
presentation,
Tomasz
Trzesniowski,
SGPR. TECH



Cu ore processing, Lecture, AGH University



Opening ceremony

4th Greek Raw Materials Community Dialogue



Cu ore processing,
Lecture, AGH University

11 – 12 December 2019

In the RawD Trip we...

Case Study



☐ 8 groups

☐ 8 different case studies

☐ Presentations



Case study project presentations and team working

4th Greek Raw Materials Community Dialogue

11 – 12 December 2019

... and our End Results

- ❑ K. Baka – 1st place in the case study & 100% efficiency in the tests
- ❑ D. Skenderas – 3rd place in the case study
- ❑ M. Mantzarea – 100% efficiency in the tests
- ❑ V. Loukadakis – 100% efficiency in the tests



Closing ceremony and awards

Conclusions

Opportunities to...

Meet engineers with “different” backgrounds

The culture of a different country in relation with raw materials value chain and their engineering attitude

Compare the Greek industrial standards

Test our hard and soft, skills

Drawbacks...

Unexpected organization problems, most of which were solved efficiently from the organizers

Lectures level could be more upgraded



All these combined with a lot of fun...

Cruise on Vistula River, Krakow



Gold mine, Zloty Stok



Monument of the Wawel Dragon, Krakow



Former Katowice Hard Coal Mine Shift, Katowice



Open-air mining museum, Leszczyna



Open-air mining museum, Barbeque dinner, Leszczyna



Thank you for your attention!

Any Questions / Comments ?