



RIS – ALiCE (Project No. 18258):

Al-rich industrial residues for mineral binders in ESEE region

International Workshop

Registry of secondary mineral resources for the production of low- carbon cement

February, 2021

Thank you for your interest to participate to the International workshop: “Registry of secondary mineral resources for the production of low-carbon cements” organized within the RIS ALiCE Project: “Al-rich industrial residues for mineral binders in ESEE region”. The project is supported by European Institute for Innovation and Technologies (EIT – Raw Materials).

The organization team have been working hard to make this event effective and practical for all participants from academia, industry, research and development institutions and others interested parties.

In participant booklet can be found important information for workshop organization. Please read it before the start of the workshop.

You are welcomed on 26th February, 2021!

RIS-ALiCE workshop organization team

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RIS ALiCE Project

European Union Commission promotes using natural resources more efficiently with the focus on the recycling. Currently, there is a significant amount of unused secondary raw materials which are mostly landfilled.

Huge amounts of various **Al-rich residues** (steel slag, red mud, ash, landfills of bauxite mines) with a low recycling rate or landfilled in RIS countries present a **high secondary mineral resources potential**. A promising way of **recycling these waste mineral materials** is the **synthesis of sustainable mineral binders with high Al content**, which can be further used as environmentally friendly construction material.

On the other hand, high Al content is the main pain point for the production of Al-rich mineral binders because of the high demand for bauxite, a valuable natural resource. In RIS-ALiCE, this challenge will be successfully overcome by the replacement of bauxite with Al-rich industrial and mining residues. Moreover, this approach will represent an innovative recycling case study for the ESEE region.

The main goal of RIS-ALiCE project is creation of a network of relevant stakeholders in the area of currently unused and landfilled Al-rich industrial residues and contribution to the increase of the innovation potential and competitiveness of the ESEE region. By interlinking local partners, valorising Al-rich residues for innovative mineral binder and creating an upgradeable online registry, we will help enhance sustainable mineral resource management in the ESEE region will be enhanced.

The main outcomes of RIS-ALiCE project are:

- **establishes a long-term network** between the producers/holders and the end-users of Al-rich industrial residues;
- **valorises** the Al-rich residues by the production of environmentally friendly high-Al mineral binder based on data from Slovenia, Hungary, and Bosnia and Herzegovina;
- **transfers knowledge** from Slovenia, Hungary, and Bosnia and Herzegovina to the whole ESEE region;

- **implements** the circular economy and zero-waste management for Al-rich industrial residues in the ESEE region.

The project will impact:

- **EU by encouraging circular economy** and thus enhancing the raw materials self-sufficiency;
- **EIT Raw Materials** through the **implementation and promotion of sustainable raw materials management**, introducing innovative raw materials recycling approaches to the ESEE region and by setting up and strengthening the networks connecting waste producers and mineral end-users;
- **RIS-ALiCE consortium by creating new business opportunities** with focus on advanced and sustainable solutions with a focus on Al-rich residues in an environmentally friendly way.

More information: <http://ris-alice.zag.si/about>

Partners of RIS ALiCE Project

Academia:



Research organizations:



GeoZS
Geološki zavod
Slovenije



Industry:



LUCIS

International Registry Workshop

The topic of the workshop is the circular economy and sustainable management of secondary mineral raw materials for their use in the production of low-carbon cements, as well as strategies and solutions that can fast track decarbonisation in the cement industry.

Developed registry of Al-containing industrial and mining residues (<https://alice-registry.eu/>) with the data valuable for both, waste providers as waste users in Eastern-Southeaster Europe region will be introduced. The specially tailored registry to suit the needs of cement industry will provide data on the available and appropriate secondary resources for cement production which will contribute to the implementation of sustainable management of raw materials and circular economy. The registry will offer long-term “marketplace” of mineral residues for their potential use in cement production, and thus will serve as a matchmaking tool between the waste holders/ producers and cement plants. Later on registry can include other materials and be upscaled also to other regions of Europe and globally.

The International Registry workshop will be hosted at **Ss. Cyril and Methodius University in Skopje (UKIM), Faculty of Technology and Metallurgy (FTM), Skopje, Republic of North Macedonia.**

Data	26th February, 2021
Time	9.30-14.30 (CET)
Place	FTM-UKIM / online

Connection Links and attendance instruction

The main goal of this workshop is to promote ALiCE registry among participant and to engage participants in dynamic discussion.

Zoom Platform has been chosen for this online event. Instruction about Joining a Zoom Meeting can be found:

<https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-meeting>

The Zoom link for participation is:

Join Zoom Meeting: **RIS ALiCE Workshop 26.02.2021**

<https://us02web.zoom.us/j/84182903475?pwd=TVhwYjBXZ2QvdFVDWkFFV1Ircrk9NzZ09>

Meeting ID: 841 8290 3475

Passcode: 256570

The zoom link will be available at 9 AM, please connect in advance.

In order to have structured workshop we would appreciate if you keep in mind the following guidelines:



Please, test Zoom in advance.



Use your **Name** and **Surname**, so all participants can easily identified you.



Turn your **camera** on when you are asked from organizer and when you will **present** or **speak**.



Keep yourself **muted** when it is not your time to speak.



Rise your hand when you want to say something and wait the moderator to give you the right to speak.



Put your hand **down** when you already commented on what you want to say.



Use **chat** for comments or questions.

Program of the International Registry Workshop

Time	Presenter	Title of presentation
9.30-9.35	Prof. Emilija Fidanchevski	Workshop opening
9.35-10.15	Prof. Karen Scrivener	Plenary Lecture
10.15-10.45	Mr. Nikos Nikolakakos	Co-processing developments & the European circular economy
10.45-11.15	Mr. Robert McQuillan	Alternative raw materials in LafargeHolcim Europe
11.15-11.30	Coffee	break
11.30-11.40	Dr. Sabina Dolenc	RIS ALiCE Project presentation
11.40-12.20	Dr. Gorazd Žibret	AliCE Registry presentation
12.20-12.30	Coffee	break
12.30-13.00	Mr. Stéphane Pepin	Reuse and recycling of NORM into construction materials: a regulatory perspective
13.00-13.30	Prof. Konstantin Kovler	Natural radioactivity of building products containing industrial residues
13.30-14.00	Dr. Efthymios Balomenos	Bauxite Residue Management Practice and vision at Mytilineos Metallurgy
14.00-14.30	Discussion	
14.30		Workshop closing

List of Invited Speakers

Keynote 1:

Plenary Lecture



Prof. Karen Scrivener

Institution: EPFL - Swiss Federal Institute of Technology Lausanne, Switzerland

Background: More than 40 years research on cement and concrete with materials Science approach! Now focussed on sustainability: LC3 – blended cement with limestone and calcined clay: CO₂ up to 40% lower. Former editor in Chief of Cement and Concrete Research. Founder of Nanocem research network.

Keynote 2:**Co-processing developments &
the European Circular Economy**

Mr. Nikos Nikolakakos

Institution: CEMBUREAU - The European Cement Association,
Belgium

Background: Working in CEMBUREAU since 2017, dealing with the topics of alternative fuels and materials use by the European cement industry, the environmental legislation & emissions to air and the biodiversity conservation.

Keynote 3:**Alternative Raw Materials in
LafargeHolcim-Geocycle**

Mr. Robert McQuillan

Institution: LafargeHolcim-Geocycle, France

Background: He works as Business Development Manager and has 23 years' experience in developing circular economy projects, Alternative Fuels and Alternative Raw Materials (ARM) for the Cement Industry. He has held both operational and functional roles in Europe and Africa.

Current role in corporate team leading development of ARM and CO₂ reduction initiatives. He is originally from Aberdeen, Scotland, but he is based in Lyon, France.

Keynote 4:**RIS ALiCE Project Presentation*****Dr. Sabina Dolenec***

Institution: ZAG- Slovenian National Building and Civil Engineering Institute, Slovenia

Background: Researcher at Laboratory for cements, mortars and ceramics, 15 years of experience in the field of mineral and microstructural characterization of materials (cements and other mineral binders, mortars, secondary raw materials).

Keynote 5:**ALICE Registry Presentation**

Dr. Gorazd Žibret

Institution: GeoZS – Geological Survey of Slovenia, Slovenia

Background: dr. Gorazd Žibret is senior researcher, with 18 years of experiences in conducting basic and applied geochemical research and research for minerals sector.

Keynote 6:**Reuse and Recycling of NORM into
Construction materials:
a regulatory perspective*****Mr. Stéphane Pepin***

Institution: Federal Agency for Nuclear Control Section “Surveillance of the Territory and Natural Radiation”, Belgium

Background: Ph. D. in theoretical nuclear physics.
Currently natural radiation expert for FANC (Belgian radiation protection regulator).
Board member of European NORM Association.

Keynote 7:**Natural radioactivity of building products containing industrial residues*****Prof. Konstantin Kovler***

Institution: Technion – Israel Institute of Technology, Israel

Background: Building materials, performance and technologies; sustainability and durability; recycling of industrial by-products in construction; protection of public from ionizing radiation and radon mitigation.

Keynote 8:**Bauxite Residue Management Practice and vision at Mytilineos Metallurgy**

Dr. Efthymios Balomenos

Institution: Research and Sustainable Development, MYTILINEOS – Metallurgy BU, Greece

Background: Metallurgist with a PhD in Thermodynamics. More than 10 years of experience in Bauxite Residue reuse research.

Organization team:



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Supported by



RawMaterials
Connecting matters

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

