



Towards a more sustainable Alumina production in Europe

Public Clustering Workshop (September 23rd-24th, 2021)

Alumina is essential in the aluminium production value chain. Approximately 2 tonnes of alumina are indeed needed for producing 1 tonne of primary aluminium. Alumina is a key raw material produced globally and at European level. Globally, about 80 million tonnes of Alumina is produced from which about 6 Mt is produced in Europe, i.e., about 7% of the global production. In addition to this domestic production, approximately 2.5 Mt of alumina need to be imported to support the production of 4 Mt primary aluminium in Europe.

This one day and ½ workshop aims to present the main outcomes from the relevant on-going EU H2020 projects addressing this upstream part of the aluminium value chain.

On one side, this workshop will present how bauxite residue can be valorised, e.g.

- via the various processing routes addressed under the EU [RemovAL](#) project.
- via specific valorisation concept in the cement industry as considered under the [ReActiv](#) project.
- via the benefits of extracting Scandium and other valuable REE and metals as addressed in the [SCALE](#) project and relevant projects ([REEBAUX](#) and [RIS-RESTORE](#)).

On the other side, potential alternative alumina production routes will be presented, as studied by the EU [AISiCaI](#) & [ENSUREAL](#) projects. Additionally, the concept of industrial symbiosis will be further investigated from a business model perspective as addressed in [CORALIS](#) or from synergies with the silicon value chain as studied in [SisAL](#) or from skills need perspective as covered in [SAIS-SPIRE](#).

The main objectives of this workshop are to promote exchange and cross-fertilisation between those EU projects and the industry in order to foster new synergies. The ultimate goal is to identify the most promising processing routes to turn bauxite residue into resource or to produce alumina from alternative sources.

The workshop will be articulated between several plenary sessions where the various project outcomes will be presented in combination with virtual coffee break where participants will be invited to pursue the discussion with speakers and other participants in an user-friendly networking area.

The Workshop is freely accessible and the deadline for registration is 15 September.

Only registered participants will have access to the workshop.

Registration will open in June 2021.



RemovAL project received funding from the European Community's Horizon 2020 Programme (H2020/2014-2020) under grant agreement n° 776469

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Proposed programme

Day 1

<p>09:30 – 10:00 Session 1: Introduction to Workshop - Peter Droll Welcome speech and general overview of the Workshop's Day 1 by RemovAL EU Project Officer, Myt, ITRB, European Aluminium</p>
<p>10:00 – 10:45 – Session 2: Setting the scene – benchmarking Chairs: Luc Demange (Rio Tinto)</p> <ul style="list-style-type: none"> • Long term sustainability of the aluminium industry and the role of technology – Pernelle Nunez (IAI) • Focus on European dimension - Christian Leroy and Konstantinos Kollias (European Aluminium) <p>Q/A (20 minutes)</p>
<p>Virtual Coffee Break (15 minutes) 10:45-11:15</p>
<p>11:15 -12:45 – Session 3: Focus on the RemovAL processing routes of Bauxite Residue Chairs: Carlos Martín-Portugués Montoliu (ACCIONA)</p> <ul style="list-style-type: none"> • 1 presentation from RemovAL: Pilot #1 to #5 – Lisa O'Donoghue (UL) • 1 presentation from RemovAL: Evaluating the benefits of innovative valorization pathways for Bauxite Residue – Johan Berg Peterssen (NTNU) • 1 presentation from RemovAL: Production of REE and Ga concentrates (Pilot #6) – Carsten Dittrich (MEAB) <p>Q/A (20 minutes)</p>
<p>12:45-13:15 - informal break-out sessions</p>
<p>13:00-14:00 - Virtual Lunch Break (60 minutes)</p>
<p>14:00 - 15:30 - Session 4: Extracting Rare Earths Elements (REE) and other elements from Bauxite Residue Chairs: Yannis Pontikes (KU Leuven)</p> <ul style="list-style-type: none"> • 1 presentation from SCALE: Production of Scandium compounds from BR – Efthymios Balomenos (Mytilineos) • 1 presentation from REEBAUX: REE recovery from bauxite and bauxite residue in the ESEE region – Nenad Tomašić (UNIZG – PMF) • 1 presentation from RIS-RESTORE: Reprocessing of red mud tailings in the ESEE region with emphasis on extraction of REE, Sc, Y, Hf, Zr, and Ti - Ana Mladenović <p>Q/A (20 minutes)</p>
<p>15:30-16:00 - informal break-out sessions</p>
<p>16:00 – 16:30 End of Day 1: Final discussion and main conclusions (supported by the chairs) – Ken Evans (IAI)</p>



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Day 2

Brief Introduction by ERMA -09:00-09:30 Bernd Schafer
09:30 – 10:30 - Working Session 5: Alternative routes of alumina production Chairs: Stephan Beaulieu (Aughinish) <ul style="list-style-type: none"> • 1 presentation from ENSUREAL (low grade bauxite) – Casper Van der Eijk (SINTEF) • 1 presentation from AlSiCal (anorthosite) – Asuncion Aranda (IFE) Q/A (20 minutes)
10:30-11:00 Virtual Coffee Break + Break-out sessions
11:00 – 12:30 - Working Session 6: Industrial symbiosis and aluminium value chain Chairs: Carlos Rodriguez Gago (Alcoa) <ul style="list-style-type: none"> • 1 presentation from ReActiv – Philippe Benard (Lafarge) • 1 presentation from SisAL – Gabriella Tranell (NTNU) • 1 presentation from CORALIS – Marcelino Gallego Garcia (CIRCE) Q/A (20 minutes)
12:30 -13:00 Break-out sessions
13:00-14:00 Lunch Break
14:00 - 15:30 - Working Session 7: Sustainability in Process industry Chairs: Tassos Kladis (AdMiRIS) <ul style="list-style-type: none"> • 1 presentation: Policy and Stakeholder analysis - George Tentis (Green2Sustain) • 1 presentation: (Near) zero waste processing in industry – Liesbeth Horckmans (Vito) • 1 presentation: A cross-sectoral blueprint for a sustainable process industry (SPIRE-SAIS) - Antonius Schröder (TU Dortmund) Q/A (20 minutes)
15:30 -15:45 End of Day 2 Final discussion and main conclusions (supported by chairs)



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