



In cooperation with



Sixth PROMETIA Annual Seminar, 21-23/10/2019 Clarion Hotel Ernst, Rådhusgata 2, Kristiansand, Norway



Monday, October 21st 2019

14:30 - 15:00	<i>Registration</i>	
15:00 - 16:00	General Assembly	Member representatives only
16:30 - 17:00	<i>Coffee Break</i>	
17:00 - 18:30	Brokerage Event	

Dedicated Upscaling Day



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Tuesday, October 22nd 2019

08:00	<i>Registration</i>	
08:30	Welcome	
08:45	Eramet innovation strategy	President Eramet R&D, Laurent Joncourt, Chairman of Eramet Ideas
09:15	Cooperation and funding opportunities	EIT Raw Materials: Ulf Orrebrink
09:45	RECLAMET - RECLAiming valuable METals from process residues through Hlsarna ironmaking	Bernard Vanderheyden, CRM
10:15	Coffee Break	
10:45	Alternative coke for up-scaling – Successful development for laboratory-pilot- industrial and implementation	Maria Lundgren, Swerim
11:15	Waste reclamation and upscaling with added value – Process Kish	Alan Scholes, MPI
11:45	RIGaT - recovery of indium, germanium and tin from lead bearing alloys generated in zinc refinement for direct implementation in industrial practice – KIC upscaling project	Andrzej Chmielarz, IMN
12:15	Industrial aluminium pilot at Karmøy – Hydro ASA	Cheif Technology Officer, Hydro ASA, Hans Erik Vatne
12:45	Lunch	
13:30	Casting simulator – a pilot tool to optimize casting technology	Sigbjørn Berge & Krister Engvoll, Elkem
14:00	Pilot-scale development of the LiCO process to produce lithium carbonate from industrial waste water	Frédéric Goettmann, Extractive
14:30	Eramet Lithium direct extraction process	Fabien Burdet, Eramet
15:00	Coffee Break	
15:30	Kvanefjeld REE – Continuous pilot scale mineral processing	Mikael Niemistö, GTK Mintec
16:00	IMP@CT, Integrated Mobile modularised Plant and Containerised Tools for selective, low-impact mining of small high-grade deposits – H2020 project	Jérôme Bodin, BRGM
16:30	RELICARIO - Recycling of End-of-Life CARbon fiber Reinforced plastics	Vincent Blet, CEA
17:00	Eramet Open Innovation challenge: winner announcement & feedback	
17:15	Mingling and tables with initiatives for future applications	



Mineral Processing and Extractive Metallurgy for Mining and Recycling Innovation Association

19:00 PROMETIA invited Dinner





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Wednesday, October 23rd 2019

08:00	Registration	
08:30	Public procurement of innovation for resource efficiency and waste valorisation	David Paez, CTA
9:00	Contribution for techtour participant n°1	TBD
9:30	Contribution for techtour participant n°2	TBD
10:00	Coffee Break	
10:45	Composition of PCBs obtained from mobile phones waste	Tadeusz Gorewoda, IMN
11:15	The CIME pilot facility at ORANO	Pascal Nardoux, ORANO
11:45	The contribution of geochemical cycling to the circular economy	Jordi Bruno, Amphos21

From Wednesday October 23rd 14h00 to Friday October 25th noon: PROMETIA TechTour for the “Young Generation”

More information on the upscaling projects

“RECLAMET - RECLAiming valuable METals from process residues through Hlsarna ironmaking”

The objective of this Upscaling project funded by EIT Raw Materials is to inject previously landfilled zinc-bearing dusts as well as galvanised scrap into the Hlsarna ironmaking process in order to enrich its off-gas dust to a high zinc concentration, enabling its valorisation as a feedstock for zinc production. One of the roles of CRM in this project is to support in the definition and optimisation of the pre-processing techniques needed for an efficient injection of the different kinds of recycled materials.

“Alternative coke for up-scaling – Successful development for laboratory-pilot- industrial and implementation”

“The work made was part of an EU RFCS project “FLEXCOKE” with Swerim, SSAB, LKAB and thyssenkrupp Europe as partners. The main objective of the project was to increase the flexibility using alternative carbon sources in safe cokemaking and to produce coke of a quality that meets the requirements for stable blast furnace operation. Different cokes were produced in laboratory and pilot scale from alternative coals, such as thermal coals and bio-coals, as part of the coking coal blend. Selected coke was tested in LKAB Experimental blast furnace (pilot scale) and later in full scale at SSAB cokeplant and blast furnace.”

“Waste reclamation and upscaling with added value – Process Kish”

‘Kish’ is a blast furnace process waste containing graphitic flakes and iron oxide. Although often internally recycled by steelmakers as ‘iron units’ or recarburiser, higher value uses are possible. Work has been done to develop a process to produce electrode quality graphite flake suitable for the Li-ion battery market, whilst using recycled materials for the entire process.

“RIGaT - recovery of indium, germanium and tin from lead bearing alloys generated in zinc refinement for direct implementation in industrial practice – KIC upscaling project.”

Development of a technology for recovery of tin, indium and germanium from polymetallic alloys formed in the production of zinc and lead by Imperial Smelting Process. The solution is based on the preliminary studies conducted together by IMN and zinc smelter HC Miasteczko Slaskie.

“Pilot-scale development of the LiCO process to produce lithium carbonate from industrial waste water”

Lithium is not only at the heart of numerous battery technologies, it also plays an important role in chemical synthesis. Alkyl lithium compounds are, for instance, employed as an organic base in numerous reactions. Once the reaction is done, the products are washed, and the lithium is discharged with the waste water. Since 2017 Extractive is developing a process to recover lithium from such industrial waste waters. The process is entering pilot scale, with the aim of producing 1 t of Li₂CO₃ per week by the end of 2019. In this presentation, we want to share our experience with the pilot scale development hydrometallurgical recycling processes.

“Kvanefjeld REE – Continuous pilot scale mineral processing”

This campaign was done as a part of the EURARE project with ore provided by Greenland Minerals Ltd (Kvanefjeld, Greenland) as an example of a continuous pilot scale campaign that also included comminution, classification and flotation. It was executed at GTK Minetec in Outokumpu, and the most important outcomes were production of a zinc rougher concentrate and two rare earth element concentrates.