

MINERAL RECYCLING FORUM 2024

Hilton Imperial Dubrovnik, 22-24 April 2024

Secondary raw material sources, supply, processing, and markets

SUMMARY SLIDE DECK



The networking and knowledge hub for the industrial mineral recycling business

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Refractories Window
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COMING UP IN 2025!

MINERAL RECYCLING FORUM 2025

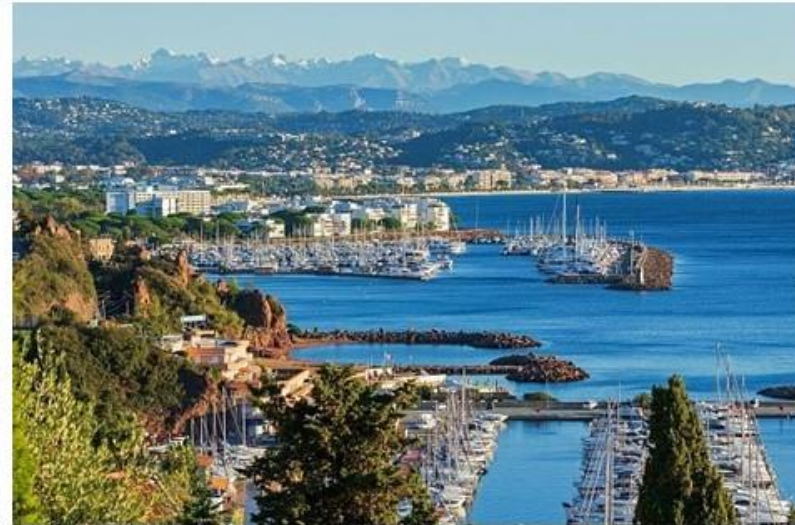


Pullman Cannes Mandelieu, 9-11 April 2025

Secondary raw material sources, supply, processing, and markets

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Welcome Reception & Boat Reception Sponsors



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Dobrodošli - Welcome to Dubrovnik



Last night's Welcome Reception thanks to



Tuesday night's "Karakra" Reception thanks to



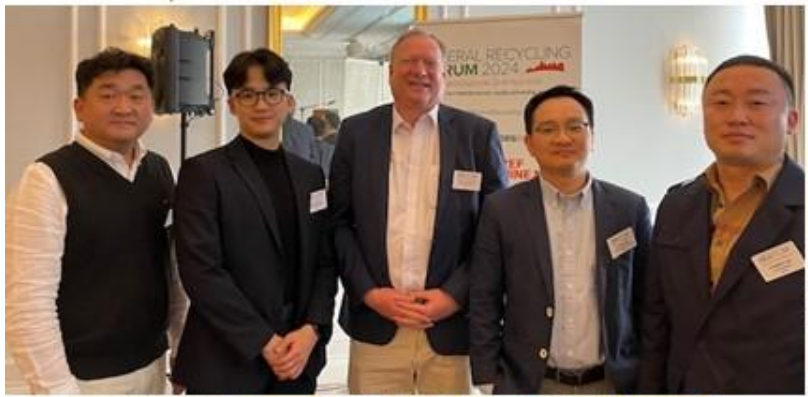
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Secondary raw material sources, supply, processing, and markets





Allied Mineral Products LLC	GC Rieber Salt As	Minerals by Cofermin
Altingoz Isiya Dayanikli Malzeme San Tic A.S	Glenn Hunter & Associates	MIRECO
Arena Fluor Materials	Global Recycling	MK Recycling GmbH
Befesa Aluminio SL	HarbisonWalker International	MMW Hamm GmbH
Calderys	Haver Niagara GmbH	OBM
Calderys (Haznedar-Durer)	Horn & Co RHIM Minerals Recovery	Poittemill
Carl Spaeter GmbH	Hydro Aluminium AS	Redwave
Cemmet	JBTC Trading Co	REF Minerals GmbH
Ceram Austria GmbH	K-UTEC Ag Salt Technologies	REF Minerals SIA
Chaitanya Refractory Pvt Ltd	Korea Materials	REFCA
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Climate Commodities Processing	Kümas	Refratechnik Holding GmbH
Corning Inc	L.AL	Refratechnik Steel GmbH
Deref S.p.A	Lhoist Europe	RHI Magnesita
Ecogreen Scrap & Industrial Waste Trading	Lincoln Electric	SEBOREF Minerals s.r.o
EURAGGLO	Mayerton Refractories	SEP Salt & Evaporation Plants Ltd
Euro Nordic Logistics B.V	Metals Hub GmbH	Shinagawa Refractories Co. Ltd
Euromines	Mine Feuerfest GmbH & Co. KG	Steuler Linings
Foosung Corporation	Mineralen Kollee	TRB Refractories
Gannon Eco	Mineralmahlwerk Hamm GmbH	TRL Krosaki Refractories Ltd
		Valoref
		Voestalpine Rohstoffbeschaffungs
		Voestalpine Steel Division

The future for the industrial minerals industry?

“Going where the minerals are greener”

Missions of our time

- **Decarbonisation**
- **Recycling**



“Going where the industrial minerals are greener”

New era of mineral exploration, sourcing, development... ...& **RECYCLING!**



“The next decades will see the greatest industrial transformation of our times – maybe of any times.”

EC President Ursula von der Leyen at the World Economic Forum, Davos, 2023



“We are experiencing a global race for the supply and **recycling** of critical raw materials.”

Thierry Breton, Commissioner for the Internal Market, EC, 2022



Entering a new era of mineral sourcing

Primary drivers



1. **Environment:** saving the environment; drive for the “Circular Economy” gathering momentum; climate change; CO₂ reduction; sustainable development of raw materials
2. **Cost factors:** rising cost of primary minerals, energy, logistics, waste treatment, landfill. future penalties
3. **Limited primary sources:** shortage of commercially developed mineral resources and processing plants: “critical” + “strategic”; risky overreliance on supply/trade from limited overseas sources; logistics stress; vulnerability spotlighted by Covid-19 pandemic, Russia-Ukraine war, China-Taiwan?
4. **China in change:** supply issues, wide range of factors; end of an era for low cost import reliance? Time to de-risk? Boost to alternative source development (incl. recycled materials).
5. **Emergence of hi-tech growth markets requiring “critical” raw materials:** to become more mainstream, particularly in the energy sector (eg. Li-ion batteries, EVs, solar, wind), and thus demand for respective critical minerals (eg. lithium, graphite, rare earths); minerals “gaining criticality”; = increasing government awareness/reaction/support/investment
6. **Recycling technology more economic/established:** evolved from esoteric, expensive sideshow, to mainstream processing line; advances in processing & sorting technology; opportunities sensed and sought after; primary mineral miners increasing mine waste recycling efforts.

The future for the industrial minerals industry?

“Going where the minerals are greener”

Tomorrow’s “mining” will in large part be efficient and economic utilisation of today’s industrial waste

Two key recycled waste streams

- Mine waste
- End products & their manufacturing



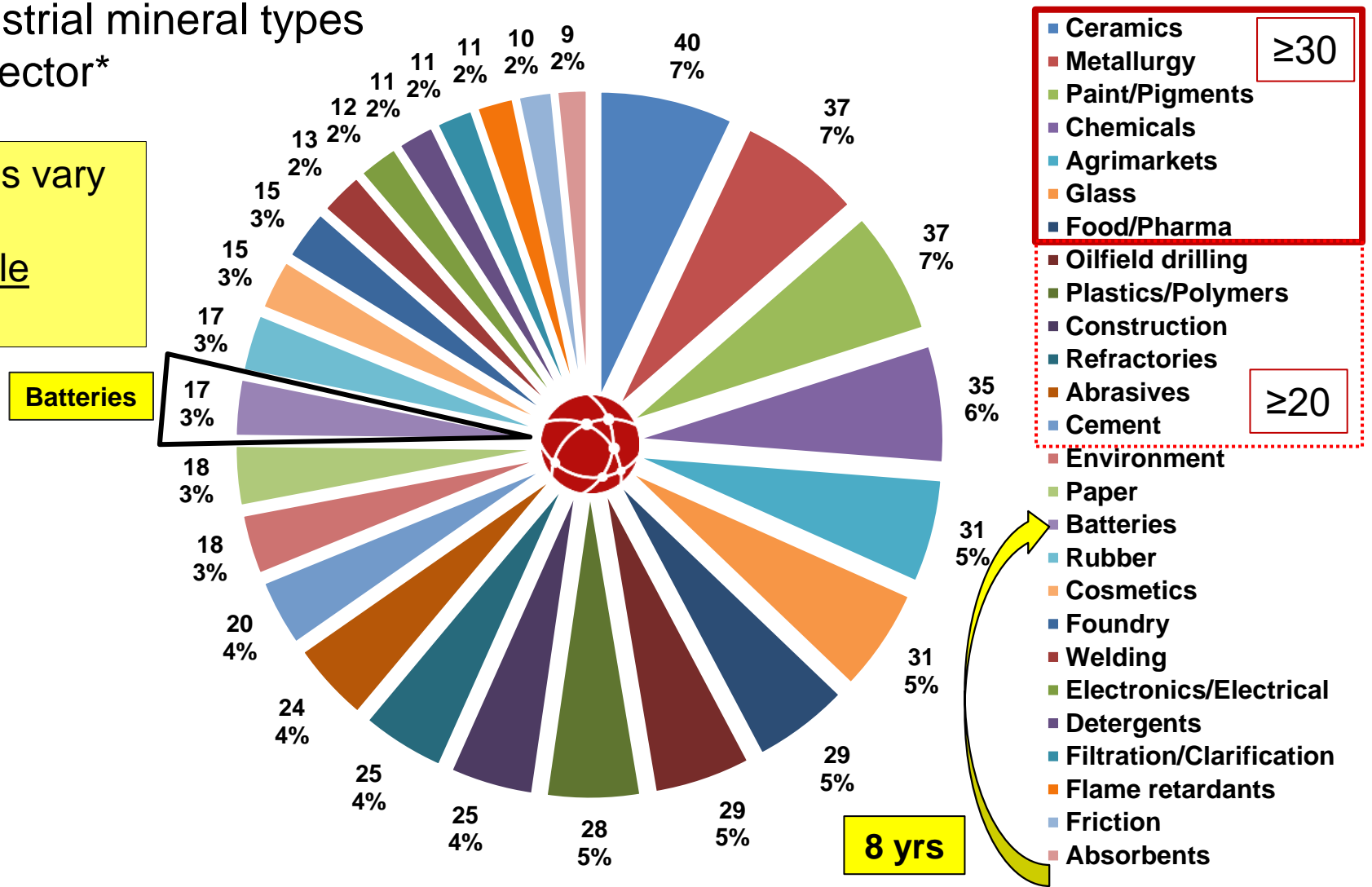
Industrial minerals: importance, “criticality”, “essentiality”

The industrial mineral/market “Kaleidoscope”!

Estimated total of industrial mineral types used in each market sector*

- Industrial mineral uses vary widely
- minerals serve multiple markets

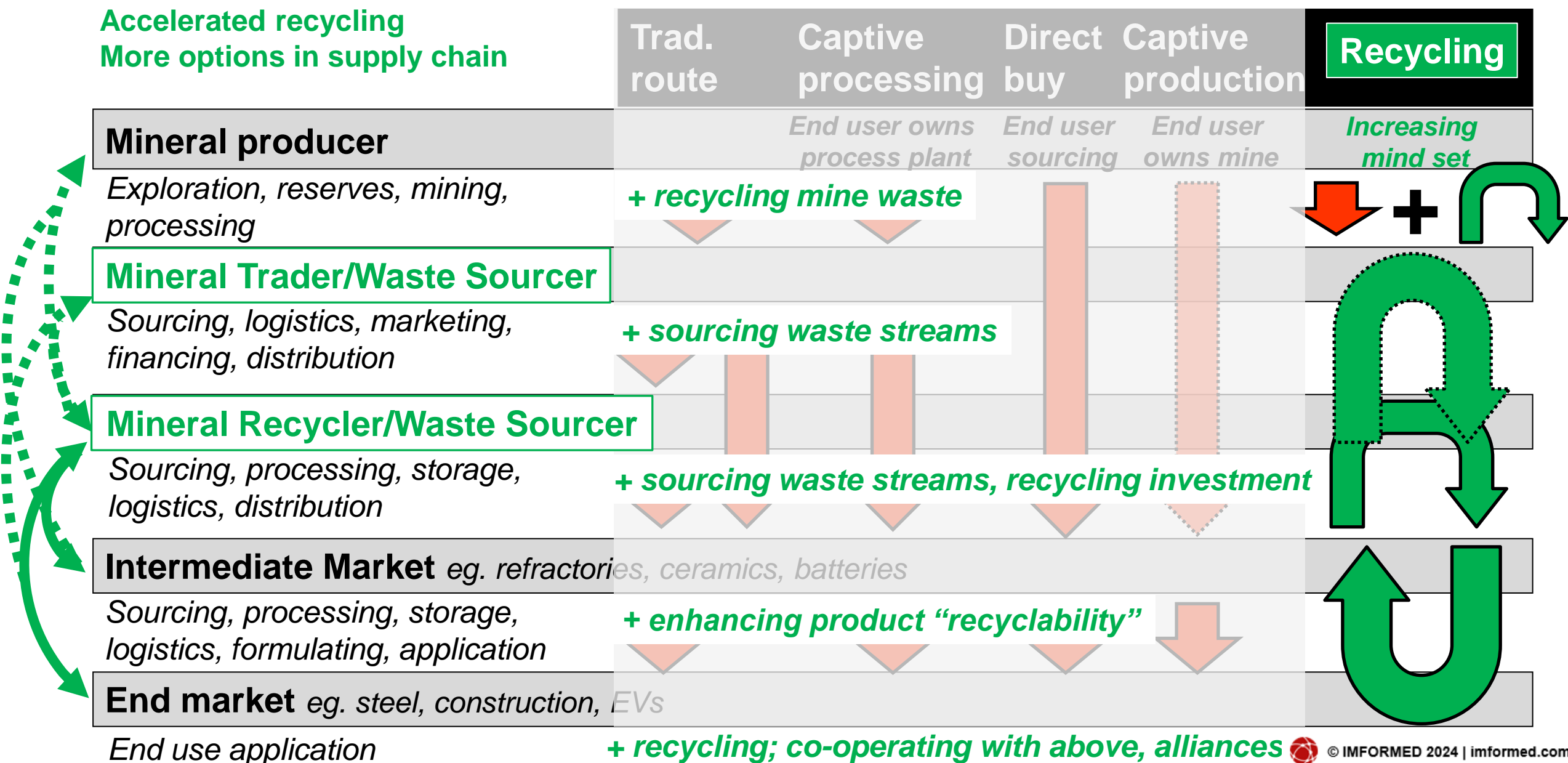
* Pie chart data compiled from:
IMFORMED
Industrial Mineral Forums & Research
MINERAL MARKET MATRIX
Wall Chart available from IMFORMED



All market sectors targeting recycling

Industry having to learn how for each market

Entering a new era of industrial mineral recycling – supply chain options



PROGRAMME

TUESDAY 23 APRIL

OVERVIEWS

- 08:00 **Registration**
- 09:00 **Welcome & Introduction**
Ismene Clarke, Director, & Mike O'Driscoll, Director, INFORMED, UK
- 09:30 **Locating mining in the circular economy: industrial minerals recycling & decarbonisation**
Dr Florian Anderhuber, Director of Energy and Climate, Euromines, Belgium
- 10:00 **Financing waste to industrial mineral value assets**
Nicholaus Rohleder, Co-Founder, Climate Commodities, USA

10:30 COFFEE

LIME | ALUMINA | SORTING

- 11:30 **Lhoist circular solutions for lime-based waste**
Mathilde Breuil, Lithium Market Development Manager, Lhoist, Belgium
- VIDEO** 12:00 **Production of alternative alumina from recycling Al slag**
Héctor Trigueros, R&D and Project Engineer, Befesa Aluminio SL, Spain
- 12:30 **Smart sorting for a sustainable future: REDWAVE ROX's sorting technology in C&D waste management**
Manfred Berghofer, Head of Global Sales - Mineral sorting, Redwave, Austria

13:00 LUNCH

PROGRAMME

TUESDAY 23 APRIL (CONTINUED)

RECYCLING REFRACTORIES 1: OVERVIEW | NORTH AMERICA

14:30 **“Ahead of Time”**: Closing the material loop from demolition to circular products
Werner Odreitz, CEO, REF Minerals, Germany

15:00 **Recycling refractories in the Americas**
Nelson White, CEO, Glenn Hunter & Associates, USA

15:30 COFFEE

16:00 **Overcoming challenges of recycling in North America: the transformation of a maturing recycling market**
Celio Cavalcante, Head of M&S, R&D and Sustainability NAM, RHI Magnesita, USA

16:30 **Reclaiming the future: Unlocking the technical, economic, & operational potential to integrate recycled mineral streams into North American refractory production**
Rebecca Mohr, Strategic Marketing Manager-Recycled Materials, HarbisonWalker International, USA

17:00 CLOSE OF DAY 1

PROGRAMME

**18:30 EVENING RECEPTION |
ABOARD “KARAKA” OLD TOWN HARBOUR**

sponsored by



**REF
MINERALS**

18.30 hrs Depart from Old Town Port on boat Karaka
Canapes and open bar on board.

20.30hrs Return to Old Town Port.
Please make sure you arrive in time for the boat as it will not wait.



**ALL ABOARD! TUESDAY
EVENING RECEPTION**
Dubrovnik Old Town
harbour and the *Karaka*,
replica of the town's famous
16th Century trade sailing
ship, venue for Tuesday
evening's reception, kindly
sponsored by Glenn Hunter
& Associates/REF Minerals

PROGRAMME

WEDNESDAY 24 APRIL

RECYCLING REFRACTORIES 2: EUROPE | JAPAN | CERAMICS

- 09:00 **Beyond green boundaries: MIRECO & RHI Magnesita - Pioneers of refractory recycling**
Alexander Leitner, Recycling Technology & Innovation Specialist, RHI Magnesita, Austria & Lucas Zimmermann, Head of Project Management, MIRECO, Germany
- 09:30 **Recent activities of spent refractory recycling in SHINAGAWA Refractories**
Masakazu Iida, General Manager of Research Centre, SHINAGAWA Refractories Co. Ltd, Japan
- 10:00 **Ceramic Honeycombs: Sustainable production and application**
Dr. Sonja Larissegger, Sales Manager Non-Catalytic Honeycombs & Dr Roland Nilica, Head of Research & Development, Ceram Austria GmbH, Austria

10:30 COFFEE

RECYCLING REFRACTORIES 3: INDIA

- 11:30 **Challenges and opportunities in recycling spent refractories**
Dr. Arup Kumar Samanta, VP (Monolithics Technology), TRL Krosaki Ltd, India
- 12:00 **Green refractory developments in India**
Ishan Agarwal, Head Operations & Business Development, Jai Balajee Trading Co., India

12:30 LUNCH & CLOSE OF CONFERENCE

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Networking and knowledge for the industrial minerals business



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Sponsorship/Exhibit/Registration Enquiries

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Programme/Speaker Enquiries

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- **Launched in January 2015**
- **Extensive experience & reputation**
- **Specialising in conferences, bespoke editorial, & market research in:**
 - **Industrial Minerals Supply/Demand**
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 - **Oilfield Minerals**
 - **Magnesia**
 - **Refractory Minerals**
 - **Fluorine**
 - **Salt**
 - **China**
 - **India**

CHINA REFRACTORY MINERALS **FORUM 2024**

InterContinental Dalian
21-23 October 2024



FIELD TRIP TO HAIMAG, HAICHENG THURS 24 OCT.

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FLUORINE **FORUM** 2024

Shangri-La Ulaanbaatar
14-16 October 2024



Field Trip Host



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SALT FORUM 2024

Intercontinental Hotel Abu Dhabi
18-20 November 2024



The new conference for global salt production and markets



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MINERAL MARKET MATRIX

2nd Edition 2023

AT A GLANCE A-Z GUIDE WHICH MINERALS FOR WHICH MARKETS

- Leading industrial minerals
- Main raw material feedstock
- Key specified chemical component
- World production
- Main source countries
- Leading consuming markets

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ALUMINA*	●			○	●	●	●		○
ALUMINA FUSED**	●					●	●		
ANDALUSITE	○					●	●		
ANTIMONY TRIOXIDE*				●		●			
ASBESTOS				●				●	
ATTAPULGITE		●							
BADDELEYITE				○		●	●		○
BARYTES (BARITE)				○		●	●		
BAUXITE	●				●	●	●		

PICK UP YOUR COMPLIMENTARY COPY AT OUR STAND TODAY !!

MINERAL RECYCLING **FORUM** 2024

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Participate
Learn
Enjoy