

#### **SUMMARY SLIDE DECK**



Les Jardins du Marais, Paris 8-10 April 2019

#### The premier meeting place for the industrial minerals market













Powder engineering









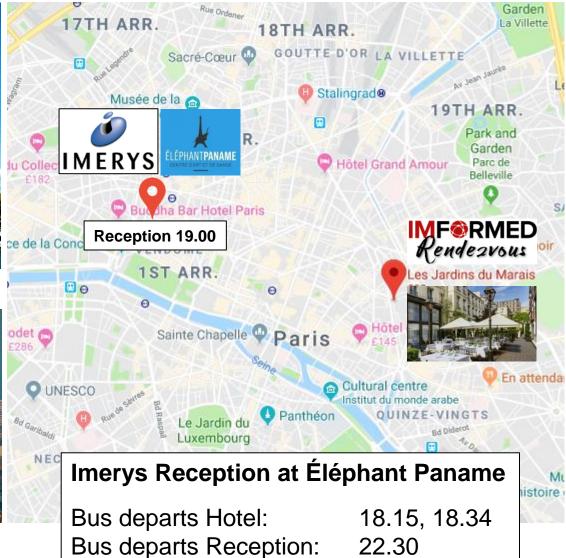




# IMF®RMED Welcomes you to Paris









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#### **SUPPORTING PARTNERS**















## Why?



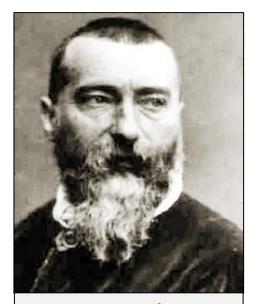












Jean-Baptiste
Alphonse Karr
1808-1890
Epigram written in
July 1848 issue
Les Guêpes
("The Wasps")

#### "Plus ça change, plus c'est la même chose"

"The more things change, the more they stay the same"

18 LES GUÈPES.

— avec l'aide successivement de tous ceux seulement parmi lui qui se montreront capables de mettre la main à l'œuvre — par l'intelligence et la probité, — et aussi par les lumières acquises.

Vous êtes au peuvoir, restez-y. — Que les médiocres se serrent un peu et fissent quelque part aux capacités. — Élevez vos esprits, n'agissez plus dans l'intérêt de petites coteries.

— Ne faites pas dire: Plus ca change, plus c'est la même chose. Pt la France peut encore reprendre son rang, — redevenir heureuse et fière; mais il est temps de le vouloir. — Allons, — du courage, — de l'énergie, — de la loyauté, — de la boune foi; — que chacun pe cherche son bien que dans sa

JUILLET 1848.

379

tout à fait tant de sabres aux affaires. — Aujourd'hui disons avec l'Assemblée nationale : — « Il a bien mérité de la patrie! »

Conuméro devait parattre il y a plus d'une semaine, il n'a pu être imprimé; — on sait pourquoi. — Accouru à Paris dans la nuit du samodi, j'ai déchiré ensuite quelques pages afin d'avoir un peu de place pour du e qualques mots des tristes événements qui viennent de se passer.

Ce qui sait était écrit avant l'insurrection et le changement de gouvernement qui en a été la suite ; j'ui en la faiblesse de faire grâce à mes vers. — La ragacité de mes lecteurs saura distin-





# "Without a market, an industrial mineral deposit is merely a geological curiosity"

Peter Harben, Industrial Minerals Consultant







New generation markets: smart devices, new energy, plastics

















## **Future & Fundamentals**

"The more things **change**, , .... the more they stay the **same**"





#### **Strengthening Trends**

- Critical and strategic minerals evolving to meet new demand
- 2. Chinese mineral supply reliance exposed
- 3. Recycling mind set steadily emerging
- 4. Processing and logistics innovations and developments paramount



Major changes in corporate landscape











Continuing interest of Private Equity groups













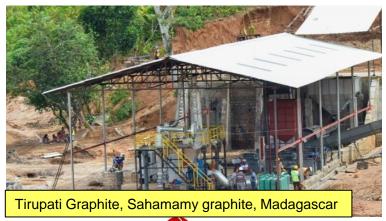
- Exciting new supply source developments
  - > "Established" markets: fluorspar, magnesite, frac sand, anorthosite, bauxite





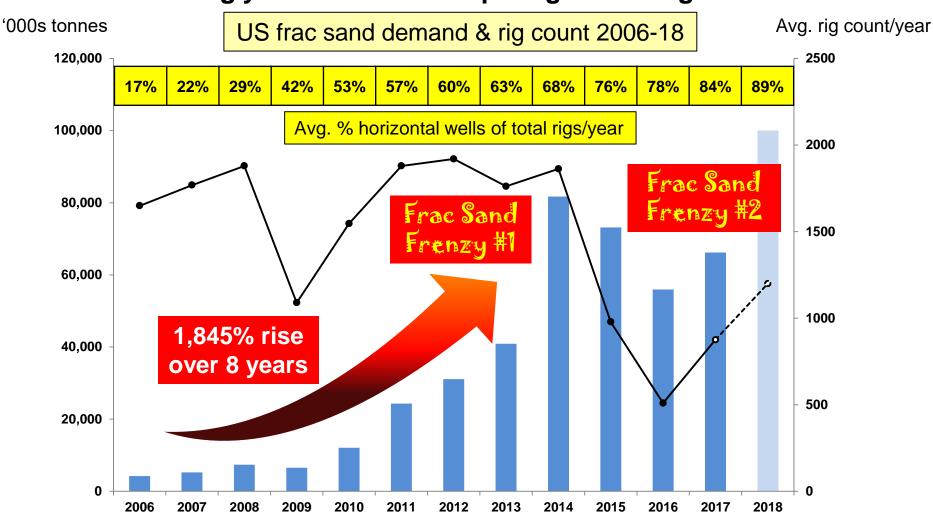
> New markets: lithium, graphite, HPQ, HPA





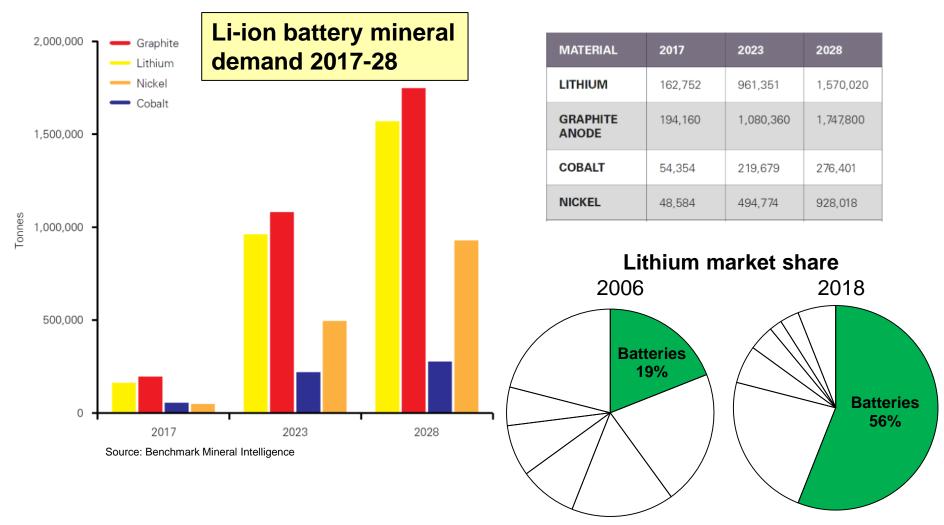


Knowing your market: anticipating the next growth trend





Knowing your market: anticipating the next growth trend





#### **Programme – Tuesday Morning**

#### KEYNOTES 1: THE STATUS & FUTURE OF THE INDUSTRIAL MINERALS INDUSTRY

- 08.30 Introduction
  Ismene Clarke, Director & Mike O'Driscoll, Director, IMFORMED, UK
- 08.45 Mineral innovations for extreme environments
  Chris Parr, S&T Director Refractories, Abrasives & Construction,
  Imerys, France
- 09.15 The consumer's viewpoint: taking innovation to 1,200°C and beyond
  Gustavo Franco, Chief Sales Officer, RHI Magnesita, Austria
- 09.45 **Trends, challenges, and issues for the industry**Catherine Delfaux, President, IMA-Europe & Provençale SA, France

#### 10.15 COFFEE



#### **Programme – Tuesday Morning**

#### **KEYNOTES 2:**

OUTLOOK FOR FINANCING, NEXT GENERATION MARKETS, PROCESSING

- 11.15 The investment and financing climate in industrial minerals: challenges & opportunities a private equity perspective
  Ryan Bennett, Partner, Senior Advisor, Resource Capital Funds, USA
- 11.45 Critical, strategic and industrial the minerals leading the next production revolution

  Dr Richard Flook, Managing Director, Mosman Resources Ltd, Australia
- 12.15 Industrial mineral processing evolution and trends
  Dietmar Alber, Business Development Director, Minerals & Metals
  Division, Hosokawa Alpine AG, Germany

**12.45 LUNCH** sponsored by





#### **Programme – Tuesday Afternoon**

**OPTIONAL INFORMAL CONCURRENT ROUNDTABLES & BRIEFINGS SESSIONS** 

**Themed & Hosted Roundtable Networking** Antibes 1&2

#### Financing/Investment

Ryan Bennett, Partner, Senior Advisor, Resource Capital Funds, USA



#### Recycling Dr Aurela Shtiza, Policy Director, IMA-Europe, Belgium



China Alison Saxby, Director, Roskill Holdings, UK













**IMF®RMED** 



#### **Programme – Tuesday Afternoon**

14.30 OPTIONAL INFORMAL CONCURRENT ROUNDTABLES & BRIEFINGS SESSIONS

14.30 Industrial mineral market basics: an executive primer Mike O'Driscoll, Director, IMFORMED, UK

14.55 Industrial mineral resource exploration and evaluation Anton Geldenhuys, Principal Resource Consultant, CSA Global Pty Ltd, South Africa

15.20 Reporting industrial mineral exploration results and resources according to according to the JORC Code Dr Andrew Scogings, Executive Consultant, Snowden, Australia

15.45 All you ever need to know about industrial mineral logistics
Clive Kessell, Director, Coastalwise, UK

16.10 Common Incoterms mistakes and the risks to a mineral purchase John Newcaster, Director Southwest Region, The Cumberland Group, USA Basics Briefings

Biarritz Meeting Room

#### IMF®RMED Rendezvous Les Jardins du Marais, Paris

#### **Programme – Tuesday Evening**



Bus departs Hotel: 18.15 & 18.45 Bus departs Reception: 22.30 19.00 Reception at Eléphant Paname sponsored by Imerys



The Art & Dance Centre in the heart of Paris, a historical building from the time of Napoleon III offering a unique and warm ambiance, dedicated to emotion and beauty



#### **Programme – Wednesday Morning**

#### TRADING | LOGISTICS | PROCESSING

09.00 The evolving role of the industrial minerals trader for tomorrow's markets

Alex Aizpurua, Raw Materials Business Unit Director, Midegasa, Spain

- 09.30 Mineral logistics developments & innovations
  Dave Chanet, Commercial Manager, Control Union, Belgium
- 10.00 Fine grinding & classifying: a new concept in mobility & modularity

Jean-François Maréchal, Managing Director, Poittemill, France

#### **10.30 COFFEE**

#### MINERAL MARKETS 1: REFRACTORIES | GLASS

11.30 Survival of the fittest: alumino-silicate minerals & their role in refractories

Phil Edwards, Refractory Market Manager, Refractories, Abrasives & Construction, Imerys, France

12.00 Glass mineral demand evolution and outlook

Tim Smith, Lead Technologist - Refractories, Raw Materials and Compositions, NSG Pilkington, UK



#### **Programme – Wednesday Afternoon**

#### MINERAL MARKETS 2: BATTERIES | PLASTICS | PAPER

- 14.00 Battery evolution & supply chain what does it mean for industrial minerals?
  - Simon Moores, Managing Director, Benchmark Mineral Intelligence, UK
- 14.30 Calcium carbonate fillers and the outlook for plastics and coatings markets
  - Samantha Wietlisbach, Principal Analyst Chemicals, IHS Markit, Switzerland
- 15.00 Mineral demand outlook for global paper & packaging markets
  Dr Ian Wilson, Consultant, UK

#### 15.30 CLOSE OF CONFERENCE



#### New for this year...

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#### Attending Companies

IMF®RMED Rendezvous Los Jardins du Marais, Paris Sun Andi 2000

Agrolats Mineral

Almatis GmbH

Anglo Pacific

Benchmark Mineral Intelligence

Coastalwise UK

Cofermin Rohstoffe GmbH & Co KG

Consultant

**Control Union** 

CSA Global

Dadco (Suisse) S.A

DAL Mining Investment Co. Ltd

**Euronordic Logistics** 

GanMag Minerals

**Grinding Solutions** 

Harbison Walker International

Hosokawa Alpine Aktiegesellschaft

Hudig & Veder

I.H.S Markit

**IMA** Europe

IMA-Europe & Provençale SA

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**IMPACT Minerals LLC** 

**Industrial Minerals Consultant** 

Interminex

Kaolin EAD

Kaolin Endustriyel Mineraller

**LKAB Minerals** 

Maharashtra Minerals Corp. Ltd

Mayerton Refractories

Mazhar International

Midegasa

Monarch International

Mosman Resources Ltd

**NSG** Pilkington

Omya

Omya International AG

OVET BV

Poittemill

Port of Amsterdam Authority

Port of Sillamäe

Quarzwerke GmbH

Resource Capital Funds

**RHI** Magnesita

**Roskill Information Services** 

Saint-Gobain

Squared Energy & Minerals

Traxys Europe S.A

Traxys France





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There is high demand for a forum such as this for both established participants and for newcomers to the industry covering both new and established minerals and markets. Richard Flook, Mosman Resources, Australia

The content and scope of the presentations were excellent and I was able to make some good contacts.

Rory Allen, Managing Director, Anglo Pacific Minerals, UK

This conference was highly informative as well as important from the standpoint of networking with adjacent industry peers. We got some commercial leads, but more importantly we got some important market intelligence beyond our local markets. Aditya Newalkar, Executive Director, Maharashtra Minerals Corp. Ltd, India

Excellent programme and organisation, perfectly balanced for a newcomer like myself learning about the business and meeting players.

Andre Tahon, Exploration Manager, Dal Mining Investment Co. Ltd, Sudan

Excellent programme for a new person in the procurement process of a consuming company. The Briefings on Basics flowed very well, excellent overviews of each step in the process.

Glenn McIntyre, Managed Fire Shape Technology, HarbisonWalker International, USA

Theme was excellent and well constructed. Very informative and engaging. Presentations were excellent, extremely topical and thought provoking.

Mick, Commercial Director, LKAB Minerals, UK





Networking and knowledge for the industrial minerals business







- Launched in January 2015
- Extensive experience & reputation
- Specialising in conferences & market research in:
  - Magnesia
  - > Refractory Minerals
  - > China
  - Mineral Recycling
  - > Fluorine
  - > India
  - Oilfield Minerals

#### Coming up in 2019





Magnesium Minerals & Markets Conference Occidental Bilbao, 13-15 May 2019

## OILFIELD MINERALS & MARKETS FORUM HOUSTON 2019

Hilton Houston Post Oak, Houston, 10-12 June 2019

### FLUORINE FORUM 2019

Alcron Hotel, Prague 21-23 October 2019



# INDIAN MINERALS & MARKETS FORUM 2019

JW Marriott Mumbai Juhu, 18-20 November 2019 (Field Trip 21-22 November 2019)



#### **Sponsorship & Exhibit Opportunities**





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

																												es Jardins du Marais, Paris
												MAD	KETS <sup>2</sup>															8-10 April 2019
MINERAL¹ *Derivative **Synthetic		and divers	Softbent's	Sunarket S	deries Cer	nent ce	artics Che	nikais con	Stuctor Cost	net's peterpt	ants dectron	nie steletrice	it don't laiff	ador dant's retardant's	oundry E-	etion Gip	55 Metr	ile 94 Office	of States	a Grants	Papet Papet	de fractor	and the same	MINERAL* 'Derivative "Synthetic	MAIN RAW MATERIAL FEEDSTOCK(S) <sup>3</sup>	KEY SPECIFIED CHEMICAL COMPONENT(S) <sup>4</sup>	WORLD PRODUCTION <sup>6</sup>	MAIN SOURCE COUNTRIES <sup>6</sup>
ALUMINA*	•	Ė		Ť	•	•	•			0	1		•	5		0				0 0				ALUMINA*	Baudte	Al <sub>2</sub> O <sub>2</sub>	6,000	China, USA, Germany
ANDALUSITE	0					•																		ANDALUSITE		Al <sub>2</sub> O <sub>3</sub>		South Africa, France, Peru
ANTIMONY TRIOXIDE*				•		•	•						•			•								ANTIMONY TRIOXIDE		Sb <sub>2</sub> O <sub>3</sub>		China, Russia, Tajikistan
ASBESTOS					•			•							•					•				ASBESTOS	Chrysotile	n.a.		Russia, China, Brazil
ATTAPULGITE BADDELEYITE		•	•			•	•				•	•		0		•			•					ATTAPULGITE BADDELEYITE		n.a. ZrO <sub>2</sub>		USA, Senegal, Spain
BARYTES (BARITE)					0	•	•		0				0	0	0	0			:	(	•	0		BARYTES (BARITE)		BaSO.		China, India, Morocco
BAUXITE	•				•		•					•		0		Ŭ		•	•			Ĭ	0	BAUXITE		Al <sub>2</sub> O <sub>2</sub>		China, Guyana, Greece
BENTONITE	_	•	0		-	0	0		0					0				•	0	0 0				BENTONITE	(also Hectorite serves similar markets)	n.a.		USA, China, India
BORATES			•			•	•	0		• (			0 1	0		•	0	0			0			BORATES	Borax; Colemanite; Kernite; Ulexite	B <sub>2</sub> O <sub>3</sub>		Turkey, USA, China
BROMINE			•	0			•		0		•			0				•				0		BROMINE	Brines; Seawater; Salt lakes	n.a.		Israel, USA, Jordan
CALCIUM CARBONATE	0		•		•	•	•	•	0		•	•		0		•				• (		•		CALCIUM CARBONATE	Limestone; Dolomite; Marble; Chalk	CaCO,	≥12,000,000	
CELESTITE						•	0				-			0	-	•	0			0	-	-		CHROMITE		SrSO <sub>4</sub>		China, Spain, Mexico South Africa, Turkey, Oman
DIAMOND (INDUSTRIAL)	•					0	•							•			•	-	•	0	•			DIAMOND (INDUSTRIAL)		Cr <sub>2</sub> O <sub>3</sub>		DR Congo, Russia, Australia
DIATOMITE	0	•	0		0			•	0					2				0	•	•			0	DIATOMITE		SiO,		USA, China, Denmark
DOLOMITE	0	_	•			•	•	•	-		-			2		•	•	_		0			_	DOLOMITE		CaO:MgO	≥2,000,000	
FELDSPAR	0					•										•			•	•				FELDSPAR		Al <sub>2</sub> O <sub>2</sub> K <sub>2</sub> O <sub>2</sub> Na <sub>2</sub> O		Turkey, Italy, China
FLUORSPAR					0	0	•									0	•						0	FLUORSPAR		CaF <sub>2</sub>		China, Mexico, Mongolia
GARNET	•											•												GARNET		n.a.		India, China, Australia
GRAPHITE GYPSUM			0	•		0				(			0	•	•		•	0		0	•			GRAPHITE	Anhydrite	CaSO.		China, Brazil, India China, USA, Iran
LMENITE	0		•		•	0	•	•	0	0	_			0		0	0	^		0		0	0	ILMENITE	Anhydrite	TIO,		Australia, South Africa, China
IODINE			•			0	•				) (			•			0		0	•		_		IODINE	Brines: Caliche nitrate	1603		Chile, Japan, USA
IRON OXIDE	0		_		•			•				•		0					•					IRON OXIDE	Haematite; Goethite; Magnetite; Micaceous IO; Ochre; Umber	Fe.O.		India, Pakistan, Spain
KAOLIN			0		•	•		•	0					0		•		0	•	• (				KAOLIN	Kaolinite; Halloysite	AJO,: SIO,	44,0000	USA, Germany, China
KYANITE	0					•							0		0				0				0	KYANITE		Al <sub>2</sub> O <sub>3</sub>		USA, India, Brazil
LIME*			•				_	•			•	•		0		•		0		(	)			LIME*	Limestone; Dolomite; Chalk	CaO		China, USA, India
LITHIUM				•		•	0			_				0	•	•	0	_		0		0		LITHIUM	Spodumene; Petalite; Lepidolite; Brines; Salt lakes; Hectorite; Zinnwaldite		(Li <sub>2</sub> CO <sub>2</sub> equiv.) 170	Australia, Chile, China
MAGNESITE MAGNESIA'		0	•		•	•	-	•					•	2 0		0	0			0 0		0		MAGNESITE MAGNESIA*	Magnesite: Serpentinite: Brucite: Dolomite: Seawater: Brines	MgCO <sub>3</sub>		China, Russia, Turkey China, Russia, Turkey
MANGANESE			0	•		0			0					0 0	0	0		0		0 0	,	0	0	MANGANESE	Pyrolusite: Psilomelane	Mr: MnO.		China, Russia, Turkey  China, South Africa, Australia
MICA				-	•		-		0	-				0	0					•			0	MICA	Muscovite; Philogophie	n.a.		China, Russia, USA
MULLITE"						•																		MULLITE"	Alumina; Bauxite; Kaolin; Kyanite; Pyrophylite	Al <sub>2</sub> O <sub>3</sub>		USA, China, Brazil
NEPHELINE SYENITE	0					•	0	0								•	0		•	•		0		NEPHELINE SYENITE		Al <sub>2</sub> O <sub>3</sub> ; K <sub>2</sub> O; Na <sub>2</sub> O		Russia, Canada, Norway
NITRATES			•			0								0		0	0							NITRATES	Caliche ore: Nitratine	NaKNO,		Chile
OLIVINE PERLITE	•		0			0		•		_		0		•			•		0		•			OLIVINE PERLITE	Dunite; Serpentine	MgO		Norway, Japan, Spain China, Greece, Turkey
PHOSPHATE	0	0	•			0	0	•			-	•	0	0		0	0	-	•	•	0			PHOSPHATE	Fluoranatite	n.a. P <sub>2</sub> O <sub>4</sub>		China Momoro USA
POTASH	0		•	0			•	0		0				2				0						POTASH	Carnalite; Kainite; Langbeinite; Sylvite	K,O		Canada, Russia, Belarus
PUMICE	•	0						•				0							0	0				PUMICE		n.a.	17,400	Turkey, Italy, Saudi Arabia
PYROPHYLLITE			0		0	•		0											0	0 0		0		PYROPHYLLITE		n.a.	1,000	South Korea, Japan, Pakistan
QUARTZ*						•				•						•	•			•	0			QUARTZ*		SIO <sub>2</sub>		USA, China, Norway
RARE EARTHS	0			0		•	•			•	)			0		•	•							RARE EARTHS	Bastnaesite; Monazite; Xenotime; Ionic clays	RE oxides		China, Australia, USA
RUTILE						0	0		0	0				0			0		•	• •			0	RUTILE	Halife	TIO,		Australia, Sierra Leone, South Africa China, USA, India
SEPIOLITE		•	0				•				•	0		•			0	0	0	(	,	0		SEPIOLITE	nake	NaCl n.a.		China, USA, India Spain, Turkey, USA
SILICA SAND	•	Ť	ŭ		•	•	•	•				•				•		•		•				SILICA SAND	Quartz	SIO,		China, USA, Italy
SILICON CARBIDE**	•					•						0					•				•			SILICON CARBIDE**	Silica+Coke	SIC	1,000	China, Norway, Japan
SILLIMANITE	0					•								0										SILLIMANITE		Al <sub>2</sub> O <sub>3</sub>		India
SPINEL"						•					) (					0			0					SPINEL"	Magnesia+Alumina	MgO; ALO,		China, Germany, USA
SODA ASH			0				•			•	(			0			0			(				SODA ASH	Trona; Nahcolte	Na <sub>2</sub> CO <sub>3</sub>		USA, Turkey, China
SODA ASH" SODIUM SULPHATE			0				•			•	(	0		0		•	0		0	0				SODA ASH** SODIUM SULPHATE	Salt+Limestone+Coke Mirabilite: Thenardite	Na <sub>2</sub> CO <sub>3</sub>		China, Russia, Germany China, Spain, Mexico
SULPHUR			•				•	0		•				0		-	0		0	-	-	0		SULPHUR	Pyrites; Recovered as by-product; Native sulphur	Na <sub>2</sub> SO <sub>4</sub>		China, Spain, Mexico China, USA, Russia
TALC			0			•		•	•			2		0	0				•	• •	0			TALC	. ,	n.a.		China, India, USA
VERMICULITE		•						•					0		0		0	0		0	0			VERMICULITE		n.a.		South Africa, USA, China
WOLLASTONITE			0			•		•								0			•	•			0	WOLLASTONITE		n.a.		China, India, USA
ZEOLITES <sup>11</sup>	0	•	•		0			0		•	•									- 0				ZEOLITES*	Clinoptilolite; Chabazite; Mordenite	n.a.		China, South Korea, USA
ZIRCON	•					•	•									0								ZIRCON		ZrO <sub>2</sub>		Australia, South Africa, China
ZIRCONIA*		_				•	•						0		_		0				•			ZIRCONIA*	Zircon; Baddeleytte	ZrO <sub>2</sub>		China, USA, Japan
NOTES  1. main industrial minerals and rocks, as walke; also included and indicated as	d comme	cial terms	ig asbęst	os, borafesi	which are	traded for	that ron-ro	notallungital					nt spedified in o hooks which reb							9. high 9. in as	qualty p-96 dBen, abou	en soja tan ba s	nigh purity p nthetic Ma <sub>s</sub> SC	199.99% 90.) quarts O, es by-product from rayon , borates, it in oldges processing the service in agritamises. Charactel termies by processed trond production is about 4,400m caret	trium, HD production Creator & Editor: Mike O'D	tscoll - mike@tmformed.com   Ac	lvertising/More copies: Ismana C	llerke - tsmone@imformed.com
value; also included and indicated as (eg. stumbs, time), and synthetic min	stown an	leading in	neral products on retrieval	ucts derived is, recks, er	by proces d other ma	sing from e durisis jug.	ntherals and stilcon carb	d recks alde, spinelj		Sources Indu	ding US61	of armus work 5, 865, Rockt I,	d production lan MFOEMED acts of non-metallur action	own in 2015 to mates	r non-metal	icese; Prod	ction data t	ion a rang	e of	10.e3 ft 11. nat.	rms of sulpt rai za elitos;	ur, HONE : high walus	reswared from yethodic soo	m olitiges processing illus are used in agrimentats, chamicals	detergents, environment Mineral Market Matrice CIMFCFMED 2011	i. All rights reserved. No part of the	is chart may be reproduced, sto	red, transmitted, in any form or by any means the chart is in violation of copyright law.
<ol> <li>major (*) and retror (O) retrieval con- specific to certain retreats.</li> </ol>	inhçm	stata by va	tame; not e	ochanative,	There are a	nary other	maculano	OUI EDED		the three less abundant an refers to iron	widespr	ucing countries and world prod	or non-rividitur uction	pra galas, r	amond 11 days	can early one	ar of output	G1000 F	nnones	12.0uc 13.nat	a process of Industria	clamond;	about 25m t yethatic dan	commiss is processed mond production is about 4,400m carat	Outstant Prior Written Consult from a Deduction Hand Make Natur (Midd) is based as published	ne Overeill. Or all the residence of an interest of the time. MED stack that all list fly to may present or organization.		the crisit is in violation of copyright law.
3. If applicable, the main feedstock row in	nasiya	tnerds							_ · ·	Territ is the	unas pg	mans only													or solved by acceptant BECO	NO thinks of thirty is my jesse or organis	in concerning any consequence what come to sub-	area ques Melit à sobrir or report.

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

PICK UP YOUR COMPLIMENTARY COPY AT OUR STAND TODAY !!









## PRIMARY WORLD SOURCES & PRODUCTION CAPACITY OF KEY REFRACTORY MINERALS

#### PICK UP A COPY AT OUR STAND

KEY - see notes below

ALUMINA

**FUSED ALUMINA** 

ANDALUSITE

BAUXITE

**CHROMITE** 

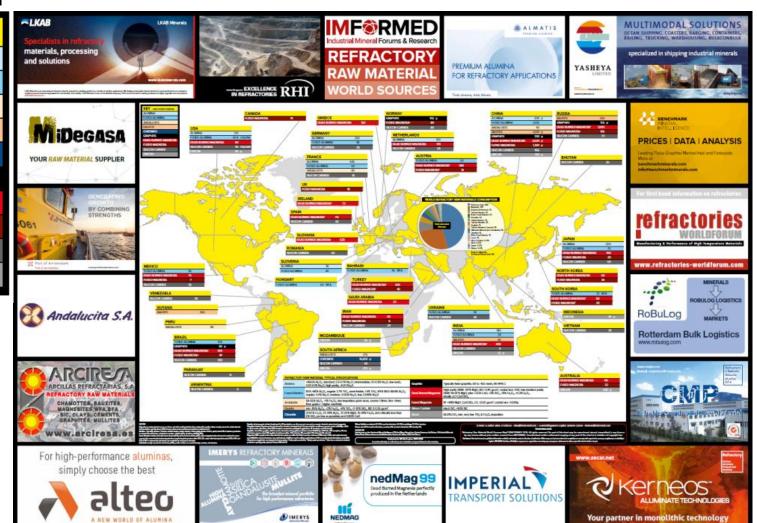
GRAPHITE

DEAD BURNED MAGNESIA

**FUSED MAGNESIA** 

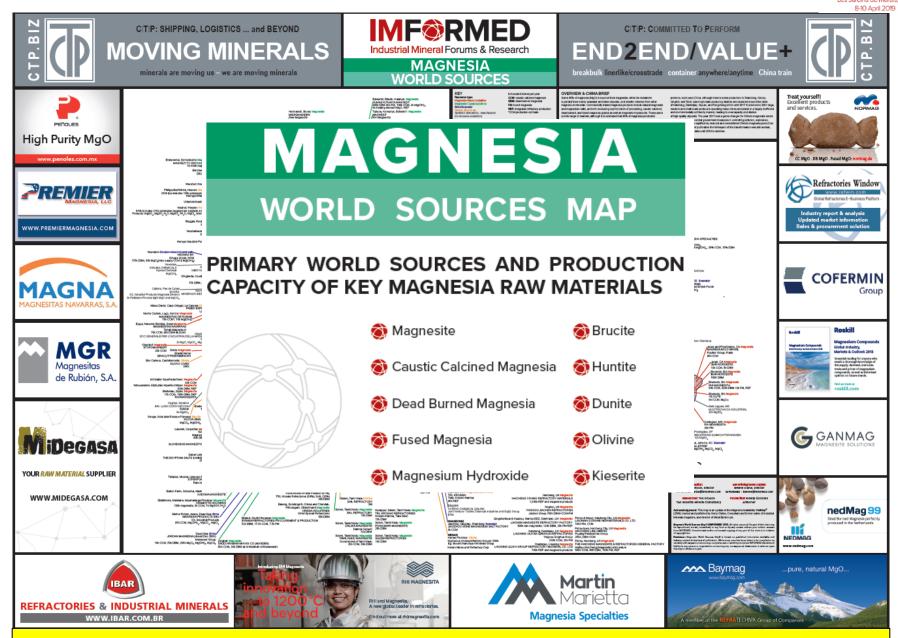
SILICON CARBIDE

ZIRCON













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