The International Manganese Institute (IMnI) is a not-for-profit industry association that represents manganese ore and alloy producers, manufacturers of metallurgical products or chemical compounds, trading houses, industry service providers, companies involved in Mn business development, universities and research organizations around the world.

Founded in 1975, with headquarters in Paris, France, IMnI’s mission is to provide vision and guidance to the Mn industry by promoting economic, social and environmental responsibility and sustainability to all stakeholders.

INTERNATIONAL MANGANESE INSTITUTE

56 rue de Londres
75008 Paris, France
Tel: +33 (0)1 45 63 06 34
Fax: +33 (0)1 42 89 42 92

imni@manganese.org
www.manganese.org

TABLE OF CONTENTS

4. Message from the Chairman
6. Message from the Executive Director
8. IMnI in 2018
12. Manganese in 2018
16. IMnI Market Research
17. Message from the Statistics Committee Chairman
19. Manganese Market Overview
22. HSE Committee
24. Message from the HSE Committee Chairman
25. Update on HSE special projects 2018
26. Electrolytic Products Division (EPD)
28. Update on the China Committee
29. Annual Conference 2018 Kuala Lumpur
33. Annual Conference 2019 Vienna
34. IMnI Committees
36. IMnI Officers
37. IMnI Members
39. Contact us
MESSAGE FROM THE CHAIRMAN

“Demand for Manganese continued growing in 2018”

Esteban Rivero  
(Corporate Vice President of Autlán)  
was elected as IMnI Chairman in June, succeeding to Pedro Larrea (Ferroglobe).

First, on behalf of the IMnI I would like to thank Pedro Larrea for his leadership during the past two years. Building upon Pedro’s efforts, the IMnI continued to evolve, and 2018 proved to be a major milestone on the road towards the full development of this association.

The IMnI membership and organizational structure were strengthened through thirteen new members, a new Chairman, Vice-Chairman and Treasurer, as well as with a new member, Tshipi é Ntle Manganese Mining, at the Supervisory Board.

The Manganese industry benefited from rising demand in 2018 for both manganese ore and manganese ferroalloys. The growing steel production was the primary reason behind this healthy manganese demand, especially in Asia, Eastern Europe, Middle East and the Americas.

The positive panorama provided by global demand has been shadowed by oversupply and overcapacity in the Manganese industry. We are witnessing very low utilization rates in some regions, as well as oversupply in some products, which is unacceptable. If a negative shift is experienced in world steel production, the Manganese industry will face tough times because of its structural excess of capacity. IMnI Members are aware of this weakness and should work to tackle it as utmost priority.

On the other hand, several promising Manganese chemicals projects were recently announced in the USA, in Australia and in China to meet the growing needs for batteries for electric vehicles. The IMnI now counts 9 Members producing Mn chemicals for the battery industry and increased its coverage of this expanding sector by publishing new market research reports.

As for business networking and learning, the 2018 Annual Conference in Malaysia was a very successful event. More than 180 international delegates of the Manganese industry attended the IMnI Conference to learn from Manganese experts, network with clients and suppliers, and visit the 3 new Mn plants of Sarawak that recently started production (OM Sarawak, Pertama Ferroalloys and Sakura Ferroalloys).

IMnI’s 45th Annual Conference, scheduled from June 10 to 12, 2019, will gather the global Manganese community in Vienna, Austria, on the theme “Rethinking Manganese in Changing Times: New Directions in Europe.” Registration has started, and many delegates already booked their seat, so do not miss this opportunity to learn from industry experts, connect with the Mn community and visit Mn alloy plants in Western Europe.

Esteban RIVERO  
IMnI Chairman
At the end of 2018, IMnl represents 77 major companies of the Manganese sector, committed to develop their industry and promote the benefits of Manganese, while remaining proactive on compliance. Thanks to the active and dedicated engagement of its four Committees - HSE, Statistics, EPD and China - as well as the valuable involvement of its current staff, the IMnl continues to be the global voice of the Manganese industry. In this sense and given the importance of China in the Manganese industry, the IMnl hired in August 2018 Ms. Eva Yang as its China Representative, to facilitate the networking of Members with Chinese companies, and to manage the market research in China.

It is important to underline that IMnl Members benefit from the best information about Manganese in the world. With regards to market research, the IMnl provides its Members with the most accurate data available, as IMnl staff collects figures directly from the world’s biggest producers of manganese. As part of its mission to keep its Members updated on new projects and new Mn applications, IMnl also published a report in March analysing how Manganese is used as a component to produce efficient and competitive electric batteries, and new production figures of electrolytic manganese dioxide (EMD).

Another IMnl report covering Mn reserves and resources by country confirmed that 5.5 billion metric tons of ore in Mn content have been identified globally, 93% of which are concentrated in South Africa, Ukraine, Brazil, Australia and India. These resources are sufficient for over 3 centuries of Mn consumption.

In addition, in 2018, IMnl also commissioned several new scientific studies to fully understand the effects of Manganese exposure on humans and how to efficiently measure it. And last August, IMnl organised a Health, Safety & Environment (HSE) and Technical Workshop in Inner Mongolia, China, hosted by IMnl Member Chayoungi Mengfa, offering the opportunity to over 50 delegates from 10 countries to exchange about reduction of dust emission, personal protection equipment (PPE) and furnace efficiency.

The program included the visit to two Mn alloy plants in Inner Mongolia. In view of the success of this event, another HSE & Technical Workshop has been scheduled for September 2019 in Ningxia Province, China.

Regarding 2019, the IMnl is preparing several new projects to have an even closer relationship with its Members, so that they make the most of the market research statistics, HSE studies and regulatory reports published by the Institute.

Aloys d’HARAMBURE
IMnl Executive Director
IMnI in 2018

January – March

• IMnI hosts its 15th EPD (Electrolytic Products Division) Conference in Nanning, China, on Friday, March 16th, with its 3 Chinese industry organizations partners and the help of CITIC Dameng. The event is a major success once again, as it remains the premier global Mn Metal and Mn Dioxide Conference. The Conference is followed by a technical visit to CITIC Dameng’s operations (manganese mine, EMD & EMM plants).

• IMnI is again well represented at the Metal Bulletin’s 19th Asian Ferro-alloys Conference, held in Hong Kong. The Mn session, moderated by Executive Director Aloys d’Harambure, features James Choi, CEO & Chairman of Simpac, Carel Malan, CFO of Tshipi è Ntle Manganese Mining, Jennifer Bao, Vice Chairman of Mengfa Ferroalloys and Jian Zhou, IMnI China Representative.

• IMnI’s 11th Annual China Banquet attracts over 60 representatives from Chinese Mn companies come to meet Western producers in Hong Kong. This yearly event aims to improve ties between Members and allows IMnI to send a special message to the Chinese companies. This edition is hosted jointly by Asia Minerals/Kudumane, Autlan, Eramet Comilog Manganese, Glencore AG, Noble Resources, OM Holdings, Ore & Metal Company, South32, Tshipi è Ntle Manganese Mining and United Manganese of Kalahari.

• Maxtech Ventures Inc. joins as Ordinary Member while World Metals & Alloys (FZC), Minmet SAM (Monaco) and Primeore Ltd. join as Affiliate Members.

April – June

• IMnI’s 44th Annual Conference takes place in Kuala Lumpur. Structured around the theme “South East Asia, a new driver for the Mn alloys industry”, main speakers include: Andrew Staples, Global Editorial Director and Chief Economist for The Economist Corporate Network; Ahmad Khairuddin A. Rahim, Executive Director, Manufacturing Development (Resource), for the Malaysian Investment Development Association (MIDA) Giovanni Bruni, VP Asia for McKinsey Energy Insight, Shaoliang (Frank) Zhong, Chief Representative, Beijing Office, Advisor on Economics, Raw Materials and Market Development for World Steel Association, Kevin Fowkes of AlloyConsult, Hamish Bohannan, Managing Director & CEO for Gulf Minerals Corporation. Technical Tours to the 3 Malaysian manganese alloy smelters (Pertama Ferroalloys, Sakura Ferroalloys and OM Sarawak) and to the Samalaju port are a major success with 90 delegates from 22 countries who participate to the visit. Generous sponsors include Asia Minerals Ltd., Ferroglobe, Autlan, OM Holdings, Ore & Metal Company, Pertama Ferroalloys Sdn. Bhd., Sakura Ferroalloys Sdn. Bhd., Tshipi è Ntle Manganese Mining (Pty) Ltd and United Manganese of Kalahari (UMK).

• Four companies join as Ordinary Members: Element 25 Limited (Australia), Bryah Resources Limited (Australia), S.K. Sarawagi and Co. Pvt. Ltd. (India) and Inner Mongolia Ruihao New Material Technology Co., Ltd. Company (China), and BaoSteel Resources International Company Limited (China) joins as Affiliate Member. Pilbara Metals Group (Australia) joins the Chemical Products Division.
July – September

- IMnI organizes a 2-day HSE and technical workshop on August 8 & 9 in Jining, Inner Mongolia, hosted by IMnI Chinese member Chayouqianqi Mengfa Ferroalloy and attended by 22 companies. Discussions on health, safety and environment improvement at manganese alloy smelters along with the visit of two manganese alloy plants are part of the workshop program.

- IMnI partners with IFAPA to organize the 2018 International Ferroalloys Conference in New Delhi. Among the speakers, are Aloys d’Harambure, IMnI Executive Director, Gautam Kumar of Asia Minerals, Iyer Srinivasan of Elkem South Asia Pvt Ltd., T.K. Pattnaik of MOIL Ltd. and Peter Finnimore of South32.

- Eva Yang succeeds Jian Zhou as IMnI China Representative.

- Keras Resources Plc (U.K.) joins as Ordinary Member.

October – December

- Aloys d’Harambure, IMnI Executive Director, visits IMnI Members and meet potential members in Brazil.

- Aloys d’Harambure, IMnI Executive Director, moderates the Manganese session at Metal Bulletin 34th International Ferro-Alloys Conference in Lisbon. Two IMnI members are invited to participate to the panel: Thembelani Gantsho, Joint CEO, Kudumane Manganese Resources and Pedro Larrea, CEO, Ferroglobe.

- Guangxi Guikang New Materials Co., Ltd. (China) joins as Ordinary Member.
Manganese in 2018

January – March

- Gulf Manganese gets an environmental approval for its ferro-manganese smelter hub in Indonesia
- Korea’s Posco plans to build two facilities to produce materials for lithium-ion batteries in China
- Tata Steel to recover manganese from gas cleaning plant slurry in India
- Maxtech forms new division in Zambia to identify and acquire assets with high-grade manganese
- Congo exports manganese ore through port of Lobito in Angola
- India to revise high manganese royalty rates
- Euro Manganese targets high-purity Mn sulphate production in the Czech Republic
- BASF & Toda form US cathode materials joint venture to produce and sell nickel-cobalt-manganese
- Ngqura to be major South Africa Manganese export port
- South African Tshipi considers new manganese ore marketing structure
- Bryah Resources identifies high-grade manganese in Western Australia
- Keras Resources new Russell Lamming CEO focus on Nayega manganese project in Togo
- Atlas of Australia ore miner diversifies by exporting manganese
- South Korean Oceans to explore a manganese crust within the Magellan Mountains in the west part of the Pacific Ocean

April – June

- Giyani Metals identifies prospective manganese mineralisation locations in Botswana
- Indian Radhika Metals plans Mn beneficiation plant in Vizianagaram, Andhra Pradesh state
- Archer Exploration confirms EMD capability of Jamieson Tank manganese project in South Australia
- Eclipse Metals finds high-grade manganese in Amamoor forest in Australia
- US sanctions against Russian companies cause uncertainty in the manganese ferroalloy markets
- Maxtech files for two large-scale manganese exploration licenses in Zambia
- Sumit Ispat revives plans for ferro-alloy plant in India
- Transnet, Tshipi é Ntle sign long-term manganese contract in South Africa
- Gulf manganese ships FeMn furnaces from South Africa to its facility in Indonesia
- Kudumane to start manganese ore production from Hotazel mine in South Africa’s Northern Cape
- Maxtech Ventures casts its eye on Zambia in quest to uncover manganese
- Jayalakshmi Ferro plans manganese alloy capacity expansion in India
- South African manganese miner Tshipi exceeded production expectation
- Bryah Resources’ sampling reveals further high-grade manganese at Black Hill prospect in Australia
- Manganese flake rally heats up on China’s latest round of environmental inspections
**July – September**

- Metarolls Ispat plans to open a ferro-alloy plant in India

- **Transnet to operate inland manganese terminal at Lohatlha in the Northern Cape**

- Umicore to increase cathode output including nickel manganese cobalt (NMC) for electric vehicles

- **South African Tshipi’s Borwa manganese mine stoppage notice lifted**

- New manganese ore exploration licences validated in Zambia

- OM Sarawak ramps up Mn output with operation of 16th furnace in Malaysia

- Uzbek Metallurgical build a SiMn plant in the Tashkent region of Uzbekistan

- Pilbara metals manganese bankable sulphate feasibility study initial positive test work in Australia

- Keras Resources identifies new manganese outcropping in Togo

- **Canada’s Maxtech Ventures to expand footprint in Brazil with manganese joint venture**

- Boart Longyear secures three-year Mn drilling contract at Groote Eyland at mine in Australia

- Vuslat Bayoglu’s Menar enters the manganese market in South Africa

- Jupiter targets more manganese in South Africa

- Shree Bholey to increase SiMn capacity in India

- Giyani manganese 1.1 million manganese oxide estimated resources in Africa

**October - December**

- A large silicomanganese facility is commissioned at Uzbek Metallurgical Plant in Uzbekistan

- Keras to start bulk sampling testwork in early 2019 at Nayega manganese project in Togo

- Canadian Euro Manganese advance at manganese project in the Czech Republic

- Ziyang Xianggui suspends Mn flake production in northwestern China

- Global electric vehicles to grow NMC battery market tenfold by 2025

- **Meridian Mining move ahead at Espigão Manganese project in Brazil**

- Ferroglobe cuts manganese alloy production amid margin squeeze

- German chemicals BASF to increase its Mn proportion on EV batteries

- Ramakrishna Ferro Alloys to boost manganese-alloy capacity in India

- **Sail to increase output at its Chandrapur ferro-alloy plant in India**

- Element 25 produces first batch of high-purity EMM at its Butcherbird project in Australia

- Avinash Energy plans to build a SiMn/FeMn plant in India

- New equipment at Port Elizabeth to boost manganese export capacity in South Africa
IMnI MARKET RESEARCH

"IMnI provides the most comprehensive manganese industry market research available."

Circulated on a monthly basis, IMnI reports examine both production and consumption, and the balance between the two, looking at the industry from both sides of the supply demand equation. The primary objective of these reports is to offer an analysis of the immediate past, which can provide the basis for Members to develop a greater understanding of their business.

IMnI Executive Director Aloys d’Harambure examines manganese ore and alloy consumption as they relate to the steel industry with the application of an industry model. This systematic approach provides increased accuracy to better understand and anticipate changes in the industry. A detailed analysis of IMnI data is also published on a monthly basis.

Our China and Rest of the World Weekly Reports summarise the most important news of the industry.

IMnI also issues monthly trade matrices for Mn Ore, Alloys, EMM and EMD, steel production statistics by country, and a database of current and future manganese producers.

All IMnI data is available to IMnI Members via our website www.manganese.org

MESSAGE FROM THE STATISTICS COMMITTEE CHAIRMAN

"The quality of IMnI market research keeps improving, with new information being published for its Members"

IMnI statistics and market research reports represent one of the most important services IMnI Members benefit from. Our statistics are considered the most accurate in the manganese community, as they are based on data collected on a monthly basis from major manganese ore, alloy and metal producers. Confidentiality for producers is ensured with a 6-month time-lag in production data by country, but production figures by region are published with a data time-lag of only 1 month (i.e in January, December’s data is published). IMnI reports analyse production, demand, but also inventory and trade for all manganese products.

In 2018, we published a report explaining how Manganese is used in batteries, and how the growing demand for electric vehicles impacts the industry. Another report shed some light on the recent changes in the silico-manganese industry in China. We also published updated statistics for Electrolytic Manganese Dioxide (EMD) production, by grade (alkaline, lithium manganese oxide, and carbon-zinc grade), in China and in the rest of the world. Our Monthly Trade matrices are now much more complete, and allow IMnI Members to filter data to see import and export data of a specific country/region/product.

Our database of Manganese producers now includes information on more than 700 producers in 30 countries, and 200 future projects that could come on stream over the next few years.

Maps of Mn producers by country were also published. Monthly reports on Mn ore and alloys were improved as well, including China steel exports and stainless steel production figures and capacity utilisation ratios for 6 Manganese products. This monthly analysis is now translated into Chinese, and was discussed by IMnI Chinese Members during a monthly teleconference organised by our new China Representative, Ms. Eva Yang.

In the future, we plan to continue improving the quality of IMnI reports by publishing more information on Mn chemical producers, a growing sector of our industry.

Guillermo RECIO
IMnI STATISTICS COMMITTEE CHAIRMAN
STATISTICAL PACKAGES ARE AVAILABLE FOR NON-MEMBERS: ENQUIRE AT
stats@manganese.org

IMnl offers the most comprehensive and detailed statistics available on manganese.

Manganese production, demand and inventory statistics collected directly from IMnl Members on a monthly basis.

Monthly import and export data by country for manganese ore, silico-manganese, high-carbon and refined ferro-manganese, manganese metal and manganese dioxide.

Steel production report, country-by-country every month.

Complete database of manganese producers and future projects, with filter by product and by country, with capacity.

MANGANESE MARKET OVERVIEW

“2018 marked a new record high for Manganese alloy and ore production”

STEEL: Global steel production expanded in 2018, although Chinese steel mills cut output and exports, to the benefit of steelmakers in the rest of the world.

Global crude steel production continued increasing in 2018 for the third consecutive year, and its growth rate accelerated to 1.1% (from 0.9% in 2017, and 0.1% in 2016). The world’s output reached 1.75 billion mt in 2018, up by 1.1% from 1.73 billion mt in 2017, but still below the 2014 record of 1.76 billion mt. With almost 865 million mt produced according to CRU, China remains by far the world’s biggest producer, although its output continued contracting in 2018 for the fourth consecutive year.

It was 0.7% lower than the 871 million mt produced in 2017, because of China’s plan to cut steel capacity by 100 to 150 million mtpy by 2020. Government-ordered curbs on heavy industry continued to tackle air pollution and winter smog in northern China, although the restrictions were less severe in 2018 than during the previous year. Because of trade actions in Western countries, and as Chinese steelmakers focused more on their domestic market, exports from China continued reducing for a third consecutive year, declining by 9% YoY in the first 10 months of 2018, to 59 million mt. These lower shipments from China obviously benefited steelmakers in the rest of the world, where output increased by 3.1% in 2018, to 881 million mt, a new record high and representing 50% of global production.

Steel production statistics by country are available (for IMnl Members only).
Global SiMn supply continued increasing in 2018 for the third consecutive year, reaching 17 million mt in 2018, up by 23% from 13.8 million mt in 2017. The output growth was driven by China, Malaysia, India, Brazil, Norway and Georgia. Demand growth was driven by China, after new quality standards for reinforcing bar (rebar) steel have been implemented in 2018, increasing the minimum content of Mn in rebar steel to 1.5%, from 1.2% previously.

The world’s output of high-carbon ferro-manganese remained stable in 2018, around 4.1 million mt (-0.3% from 2017). Production increased in Asia by only 1%, as lower output in India (-24%) and Japan (-7%) and South Korea (-8%) was offset by higher production in China (+8%) and Malaysia (+19%). In the rest of the world, HC FeMn supply contracted in Africa (-4%), fell in Europe (-26%), but expanded in Oceania (+16%), the CIS (+1%) and South America (+2%), while remaining stable in North America.

Global production of refined ferro-manganese increased by 2% in 2018 to 1.6 million mt, from 1.58 million mt in 2017. Meanwhile, demand expanded by 1.5%, so extra supply continued to accumulate for a second consecutive year. China remains by far the world’s largest Ref FeMn producer, with an output close to 750,000 mt in 2018, representing 47% of global production. In the rest of the world, manganese metal supply expanded for the 5th consecutive year, by 2% from 2017, reaching a record high since 2012.

Manganese metal production declined significantly in 2018, to 1.59 million mt, down by 9% from 1.74 million mt in 2017. Chinese producers cut output by 9% on low prices, but China still represents 97% of global production. In the rest of the world, manganese metal supply expanded for the 5th consecutive year, by 2% from 2017, reaching a record high since 2012.

Mn Ore

The world’s output of Manganese ore reached 21 million mt (Mn content) in 2018, up by 13% from 18.6 million mt in the previous year. Low grade supply grew faster (+27%) than mid-grade (+12%) and high grade (+9%). The major contributor to this increase was Australia (+25% in 2018), followed by Ghana (+77%), India (+29%), Brazil (+12%) and Gabon (+6%). Production contracted in China, Kazakhstan and in North America.

Manganese metal production declined significantly in 2018, to 1.59 million mt, down by 9% from 1.74 million mt in 2017. Chinese producers cut output by 9% on low prices, but China still represents 97% of global production. In the rest of the world, manganese metal supply expanded for the 5th consecutive year, by 2% from 2017, reaching a record high since 2012.
HEALTH, SAFETY & ENVIRONMENT (HSE) COMMITTEE

“Always up-to-date with the latest science and Regulatory Affairs”

**IMnI Studies:** Due to the challenges facing the Mn industry, the IMnI HSE Committee decided to take a more proactive approach and commissioned two academic studies in 2018. Both ongoing studies will shed more light on biomarkers for manganese exposure. One of the greatest challenges the Mn industry is facing is that there are currently no reliable biomarkers for Mn exposure regardless if occupational or environmental, and current studies are misusing known inadequate biomarkers to make faulty conclusions. Both IMnI studies are slated to conclude in 2020 and should be available to regulators to make industry-impacting decisions, such as the upcoming U.S. Environmental Protection Agency’s Mn re-assessment. Due to the perceived threat of environmental Mn exposure to the general population, the HSE Committee will continue to proactively address the issue while maintaining value for Members of the IMnI.

**China Technical Workshop:** As regulators look to tighten environmental limits, the IMnI held a very productive workshop in Inner Mongolia, China, in August 2018, addressing furnace optimizations, safety and environmental issues, as well as dust control while handling Mn containing materials. IMnI Members were able to share knowledge while seeking and receiving advice to outstanding challenges. The workshop was hosted by IMnI Member Mengfa Ferroalloys and consisted of key presentations followed by breakout sessions and culminated with technical visits. Due to the great success and interest in the workshop, another workshop will be held in 2019, in Ningxia province, China.

**Mn Slag Webinar:** The multiyear Slag project came to an end in 2018 with an informative webinar detailing the benefits of Mn slag as well as possible methodologies of engaging regulatory authorities. To further help Members have their Mn slags classified as co-products, the IMnI will set up a slag database, giving Members a valuable resource when communicating with their regulators.

---

**HSE: Social Responsibility**

The mission of the HSE Committee is to develop the IMnI as the platform for providing the Mn industry with guidance, tools and information that will allow it to anticipate occupational health, environment and safety demands whilst improving worker safety, sustainability and ensuring industry profitability. To support this mission, the committee answers three main objectives:

- To identify those HSE topics that can impact on the Mn industry and to provide answers.
- To establish and employ a global network that can provide appropriate HSE expertise to IMnI, when necessary.
- To provide relevant information and support to members enabling them to promote and pro-actively ensure their interests when faced with new regulatory demands.
2018 was a very proactive year for the IMnI in general and naturally for the HSE Committee as well.

Although industry will be facing both the real and perceived threat of Mn environmental exposure on the community for many years to come, the HSE Committee took important steps in 2018 to help shield the industry. The Committee commissioned two new and highly relevant studies in 2018 and will look to commission a third in 2019.

Additionally, the IMnI is working hand in hand with the U.S.-based Manganese Interest Group (MIG) to directly engage U.S. regulators as the industry gears up for the Mn re-assessment, which entered the preliminary stages in November of 2018. A platform was also created for metal hygienists and health specialists to share their experiences and resources concerning workplace exposure and we will continue to expand the reach of this platform in 2019 together with other metal associations.

Despite the very concerning potential for Mn environmental exposure to negatively impact the industry, the HSE Committee remains forward thinking: it will commission a study in 2019 concerning the benefits of Mn in the renewable energy sector, and we will seek potential collaborations to not only increase potential uses of Mn but to also combat the misconceptions regarding Mn toxicity.

The HSE Committee will continue to improve the Mn industry’s image from an environmental perspective, while maintaining and improving value for IMnI Members.

In 2018, I was also honored, along with the rest of the Committee, of welcoming Jennifer Cronje of South32 as the new HSE Committee Vice-Chair.

The IMnI HSE Committee also commissioned 2 academic studies which began in 2018. “Hair Manganese accumulation as a novel biomarker for external Mn exposure” will provide validation to the usefulness of hair to determine exposure to Mn. The work will be carried out in a collaboration between Albert Einstein College of Medicine and Purdue University and is slated to run until end of Q2 2020.

The 2nd study “Can Toenail Mn levels predict Brain Mn levels?” will also be conducted by Purdue University and will look to determine if Mn levels in toenail can corroborate Mn levels in brain following exposure in welders. The study will use Magnetic Resonance Imaging (MRI). Hair will also be collected and compared with the results of the 1st study. This will provide the ability to read across the animal data. Professor Ulrike Dydak, who will be leading the MRI study, will present the initial results of the study at IMnI 2019 Annual Conference in Vienna. The project is slated to be completed Q1 2020.

Each project should provide relevant data for the U.S. Environmental Protection Agency’s (USEPA) Mn Integrated Risk Information System (IRIS) re-assessment and address issues concerning non-viable biomarkers for Mn.

MIG

The MIG IQ projects had a successful 2018. The original project has come back from the initial round of peer-review and final publication should be possible. If the next round of peer-review goes well, the manuscript can be expected to be published in February 2019. To bolster this success, the MIG along with the IMnI has commissioned follow up studies which will address further concerns left unanswered in the initial work.

The follow up work should result in 2 separate publications. All three publications will then be available for the Mn IRIS re-assessment which is already in the initial phase. MIG will also be directly engaging the USEPA to voice industry concerns as well as to provide this new data.
Global Electrolytic Mn Metal (EMM) continues to be almost exclusively produced in China, which accounts for over 97% of total world production. China produced an estimated 1.5 million mt of the metal in 2018 (-9% compared to 2017). Much of this output is used within the country to produce stainless steel 200 series (SS200) and specialty steel. China also exported around 408,000 mt of EMM in 2018, which is 14% less than in 2017. Other applications for which EMM is a vital ingredient include aluminium and high-strength steels.

Electrolytic Mn Dioxide (EMD) is a major raw material for the production of alkaline batteries, an essential part of our daily lives. The EMD industry is smaller than that of Mn alloys and EMM, but no less important. Total annual production capacity is roughly 478K mt. IMnI EMD Members are present throughout the world, supplying major battery companies like Energizer and Duracell. Members include Citic Dameng in China, MOIL in India, Prince/Erachem in the USA & China, and Tosoh in Greece & Japan. IMnI represents a forum where EMD members can work to strengthen the industry and ensure a sustainable future marketplace. At the beginning of 2018, IMnI published 2017 EMD production figures by grade and by country (for IMnI Members only), and an update with 2018 production figures will be published at the beginning of 2019.

The Electrolytic Products Division (EPD) hosted its 15th EPD Conference on Friday, March 16, 2018 in Nanning (Guangxi Province, China), with a technical tour to CITIC Dameng’s operations on Saturday, March 17. Once again IMnI partnered with three Chinese industry organizations and the event proved to be the largest global EPD conference of the year with some 170 delegates in attendance. The program was filled with first rate international and domestic speakers, who covered market dynamics and trends within these industries.

Major topics included:

• Environmental protection in China and its impact on the EMM/EMD industries
• NCM battery applications and market forecast
• Use of EMM, LC SiMn and M/LC FeMn in steel products
• China Mn ore industry update

For more information about IMnI conferences, contact us at: events@manganese.org
UPDATE ON THE CHINA COMMITTEE

The China Committee has 6 seats, and is chaired by Mr. Li Weijian, General Manager of Citic Dameng, who was elected in June 2017, in replacement of Mr. Jin Xiaoguang, Vice General Manager of Minmetals Development Co., Ltd.

With 3 new Chinese companies joining the IMnI in 2018, the China Committee now represents a total of 14 Chinese IMnI Members, including 6 producers of Mn alloys, 1 producer of electrolytic products and Manganese ore, and 7 major trading companies.

The Committee aims to assist IMnI in enlarging its membership base in China, to provide IMnI Members with accurate statistics on China, to facilitate the networking between Chinese companies and IMnI Members from the rest of the world, and to support Chinese Members in terms of HSE, market research and technical information.

In 2018, the China Statistics sub-committee organised monthly teleconferences, animated by IMnI China Representative Ms. Eva Yang, to discuss the latest IMnI statistics.

In August 2018, the China Committee organised a Technical & HSE Workshop, in Inner Mongolia, hosted by China Committee Member Chayoujiangi Mengfa and offering the opportunity to over 50 delegates from 10 countries to exchange about reduction of dust emission, personal protection equipment (PPE) and furnace efficiency.

The program included the visit of two Mn alloy plants in Inner Mongolia. In view of the success of this event, another HSE & Technical Workshop has been scheduled for September 2019 in Ningxia Province, China.

THE ANNUAL CONFERENCE
IMnI’s Premier Event

IMnI’s 44th Annual Conference took place in Kuala Lumpur on June 18-20, attracting over 180 delegates from 31 countries.

Structured around the theme “South East Asia, a new driver for the Mn alloys industry”, main speakers included: Andrew Staples, Global Editorial Director and Chief Economist for The Economist Corporate Network; Ahmad Khairuddin A. Rahim, Executive Director, Manufacturing Development (Resource), for the Malaysian Investment Development Association (MIDA); Giovanni Bruni, VP Asia for McKinsey Energy Insight; Shaoliang (Frank) Zhong, Chief Representative, Beijing Office, Advisor on Economics, Raw Materials and Market Development for World Steel Association; Aloys d’Harambure, IMnI Executive Director; Kevin Fowkes of AlloyConsult; Hamish Bohannan, Managing Director & CEO for Gulf Minerals Corporation; Patrick Sacco, Managing Director of Ore & Metal; Meg Postle for Risk & Policy Analysts; Brandon Cline, IMnI HSE & Regulatory Affairs Manager.

Two panel discussions were part of the program: on steel and macro-economy on the first day and on manganese on the next day.

After the conference, a technical tour to the 3 Malaysian manganese alloy smelters (Pertama Ferroalloys, Sakura Ferroalloys and OM Sarawak) and to the Samalaju port was a major success with 90 delegates from 21 countries who participated to the visit.

COMPANIES THAT JOINED US IN KUALA LUMPUR:

Access World Logistics (Singapore) Pte Ltd.
African Mining and Trust Co., Ltd.
Afro Minerals Trading AG
Alloys Consulting Luxembourg
Asia Minerals Ltd
Aultan
Ayush Barthia
Bhartia Non Conventional Products
Bryah Resources Limited
CCMA, LLC
Chayouqianqi Xinchuang Ferroalloy Co., Ltd
China National Minerals Co., Ltd.
CITIC Daming Mining Industries Ltd.
CRL
DaMeng Resources Limited
DB Metal
DBG Metal & Power Limited
Distribución de Polishing Refractarios y Ceramica S.L.
Eramet Comilog Manganese
Euro Manganese Inc.
Ferroglobe PLC
Full Comex Trading SA
Galmet SpA
Glencore International AG
GoodEarth
Guangxi Steel Raw-Material Trading Co.,Ltd
Gulf Manganese Corporation Limited
Gunvor Singapore Pte Ltd.
Hanwa Co., Ltd.
Harcan Engineering Co., Ltd.
Hascor Metals S.A de C.V
Huade Tiancheng Ferroalloys Co., Ltd
Inner Mongolia Chayouqianqi Mengfa Ferroalloy Co., Ltd
ISKY Chemicals Co., Ltd
Japan Ferroalloy Association
JFE Shoji Trade Corporation
JMD Ltd.
JSC «Zaporozhye Ferroalloys Plant»
Jupiter Mines Ltd
Kalahari Trading AG
Kallon Resources Pte. Ltd.
Karthik Alloys Limited
Kimpe SAS
Kudumare Manganese Resources
L&M Rohstoffhandelsgesellschaft mit beschränkter Haftung
Malaysian Investment Development Association (MIDA)
Manganese Metal Company (MMC)
Mizuho Ferri Mg Ltd S.A.
Marubeni Tetsugen Co., Ltd.
McKinsey & Company
Minerals U.S. LLC
Mimmo SAM
Mitra S.K. Private Limited
Mizushima Ferro-Alloys Co. Ltd.
MOIL Ltd.
Navodaya Trading Dmcc
Nippon Denko Co., Ltd.
Nizi International
Ntsimbintle Mining (Pty) Ltd.
OFZ a.s.
Oldendorff Carriers (Singapore) Pte Ltd
OM Materials (S) Pte. Ltd.
Omni Industries S.V.
Ore & Metal Company Ltd
Ore Alloy Department Corporation Ltd.
Pilbara Metals Group Pty. Ltd.
PJS&«Nikopol Ferroalloy Plant»
Prince
Production Innovation Trading LLC
PT Gulf Mangan Grup
QVC Exports Private Limited
Renova
Risks & Policy Analysts
Rony Limited
S.K. Sarawagi & Co. Pvt. Ltd
SAC Co., Ltd.
SESA Global Impex FZE
Shaanxi Siniar Metal & Mining Co., Ltd.
Shanghai Shengjia Industrial Co., Ltd.
Sharp Ferro Alloys Ltd.
Shyam Ferro Alloys Ltd.
Steele Metals and Energy Ltd
Simpac Metal
South12
Sumitomo Corporation
Syariat SESCO Berhad
Taekyung Ind. Co., Ltd.
The Economist
Tianjin Zhongjnu International Trading Co., Ltd
Transalloys (Pty) Ltd.
Traxys Europe S.A.
Tshipe Ntle Manganese Mining (Pty) Ltd.
Turges Alyaj Dis Ticaret Ltd
UHT - Uvån Hagfors Teknologi AB
United Manganese of Kalahari (Pty). Ltd.
Vietnam Hai Duong New Resources Metallurgy
Shareholdings Company
World Metals & Alloys (FZC)
World Steel Association
IMnI’s 45th Annual Conference, scheduled from June 10 to 12, 2019, will gather the global Manganese community in Vienna, Austria, on the theme “Rethinking Manganese in Changing Times: New Directions in Europe.” Registration has started, and many delegates already booked their seat, so do not miss this opportunity to learn from industry experts, connect with the Mn community and visit Mn alloy plants in Western Europe.

Sponsors to date for this event include Autlan, Eramet, OFZ, South32, United Manganese of Kalahari, Asia Minerals and Ore & Metal Company.

Optional Technical Tours to Eramet and Ferroglobe’s plants in Dunkirk will be organized on Thursday, June 13.

For more information about the IMnI and its Annual Conference, please contact: events@manganese.org or follow us on LinkedIn.
IMnI COMMITTEES

The life of the Institute is regulated by the work done by its committees. There are three standing committees: Health, Safety and the Environment (HSE), Statistics and the China Committee. They meet on average between two and four times a year, and are open to both Ordinary and Affiliate members. Each committee is chaired by a member, while the secretariat is handled by a permanent IMnI staffer. Each also has about a dozen members.

The China Committee has three Sub-Divisions: statistics, technical issues and regulatory affairs.

The Electrolytic Products Division (EPD) operates like a committee and is formed of producers of electrolytic manganese metal and electrolytic manganese dioxide.

Committees are the lifeblood of the IMnI, providing vision, ideas and direction to nourish its fundamental missions.

Statistics Committee

- Guillermo Recio (Chairman)
- Juan Bosco Álvarez
- Jay Cho
- Arnaud Vigier
- Antonio Salinas
- Toshiaki Abe
- Thembelani Gantsho
- Luis Pessoa
- Martin Levick
- Jeff Jiang
- Colin Ouwehand
- Andreas Schüssler
- Leslie Li
- Carel Marlan
- Aloys d’Harambure

- Autlán
- Asia Minerals
- Eramet Comilog Manganese
- Ferroglobe
- Japan Ferroalloy Association
- Kudumane Manganese
- Maringá Ferro-Liga S.A.
- OFZ, a.s.
- Oldendorff Carriers
- OM Holdings
- L&M Rohstoffhandels
- South32
- Tshipi é Ntle Manganese Mining
- IMnI

Health, Safety & Environment Committee

- Rocklin Reed (Chairman)
- Jenny Cronje
- Athena Keene
- Patrick Scheel
- Bernd Friede
- Cristina Rodriguez
- Francois Blond
- Rodrigo Junqueira Dos Santos
- Matej Sicilia
- Brandon Cline
- Aloys d’Harambure

- Ore & Metal Company Ltd.
- South32
- Afton Chemical Corporation
- Autlán
- Elkem a.s.
- Ferroglobe
- Ferroglobe
- Maringá Ferro-Liga
- OFZ, a.s.
- IMnI
- IMnI

China Committee

- Li Weijian (Chairman)
- Deng «Dan» Guohong
- Yang Bin
- Bob Qiu
- Zhan Haiqing
- Lei Fei
- Wu Shaokang
- Aloys d’Harambure
- Eva Yang

- CITIC Dameng Mining Industries
- Inner Mongolia Chayouqianq Mengfa Ferroalloy Co.
- Ningxia Shengyan Industry Group
- Tianjin Hoperay Mineral Co.
- CITIC Dameng Mining Industries
- Minmetals Development Co., Ltd..
- SPIC Jinyuan Suiyang Industrial
- IMnI
- IMnI

Electrolytic Products Division (EPD)

- Li Weijian (Chairman)
- Madelein Todd
- Philippe Bertrand
- Li Tongqing
- Hiromu Otsuka
- Aloys d’Harambure
- Eva Yang

- CITIC Dameng Mining Industries
- Manganese Metal Company
- Prince Erachem
- CITIC Dameng Mining Industries
- Tosoh Corporation
- IMnI
- IMnI
OFFICERS

Executive Board Members
Chairman
Esteban Rivero, Autlán

Members
Patrick Sacco, Ore & Metal Company Ltd. (Vice-Chairman)
Bransilav Klocok, OFZ, a.s. (Vice-Chairman)
Arnaud Vigier, Eramet Comilog Manganese (Treasurer)
Aloys d’Harambure, IMnl

Supervisory Board Members
Esteban Rivero, Autlán
Patrick Sacco, Ore & Metal Company Ltd.
Bransilav Klocok, OFZ, a.s.
Arnaud Vigier, Eramet Comilog Manganese
Li Weijian, CITIC Dameng Mining Industries
Guillaume Verschaeye, Eramet Comilog Manganese
Pedro Larrea, Ferroglobe
Ruan van Schalkwyk, Glencore International
Fei Lei, Minmetals Development Co., Ltd.
Mukund P. Chaudhari, MOIL Limited
Ngee Tong Low, OM Holdings Ltd.
James Jin Shik Choi, Simpac Metal
Andrea Cornwell, South32
Ezekiel Lothare, Tshipi é Ntle Manganese Mining
John Joseph Scholtz, United Manganese of Kalahari
Aloys d’Harambure, IMnl

Committee Chairmen
Statistics Committee
Chairman: Guillermo Recio, Autlán
Health, Safety & Environment Committe
Chairman: Rocklin Reed, Ore & Metal Company Ltd.
China Committee
Chairman: Li Weijian, CITIC Dameng Mining Industries
Electrolytic Products Division (EPD)
Chairman: Li Weijian, CITIC Dameng Mining Industries

Treasurer
Arnaud Vigier, Eramet Comilog Manganese

Executive Director
Aloys d’Harambure, IMnl

IMnl MEMBERS
Ordinary Members
Asia Minerals Ltd. - Hong Kong
Autfan - Mexico
Bryah Resources Ltd. - Australia
Consolidated Minerals Ltd. - Australia
Element 25 Limited - Australia
Eramet Comilog Manganese - France
Ferroguide - Spain
Georgian American Alloys, Inc. - USA
Glencore International AG - Switzerland
Guangxi Guikang New Materials Co. Ltd. - China
Hascor Group - USA
Inner Mongolia Chayouqianqi Mengfa
Ferroalloy Co., Ltd. - China
Inner Mongolia Ruiliao New Material Technology Co., Ltd. - China
Kalagadi Manganese Pty Ltd. - South Africa
Keras Resources Plc. - United Kingdom
Kudumane Manganese Resources (Pty) Ltd. - South Africa
Marina Ferro-Liga S.A. - Brazil
Mastech Ventures Inc. - Canada
Meridian Mineração Jaburí S.A. - Brazil
Minmetals Development Co. Ltd. - China
Mizushima Ferro-alloy Co. Ltd. - Japan

Affiliate Members
Afton Chemical Corporation - USA
ArcelorMittal - Luxembourg
Arizona Mining Inc. - Canada
Baosteel Resources International Company Ltd. - China
Cahiya Mata Sarawak Berhad - Malaysia
Centre de Recherches Metallurgiques (CRM) - Belgium
Citi Research - Australia
Dameng Resources Limited - China
Galnet S.p.A. - Italy
Guangxi Steel Raw Materials Trading Co., Ltd. - China
Hanwa Co., Ltd. - Japan
Harcan Engineering Co., Ltd. - China
JFE Shoji Trade Corporation - Japan
Kalon Resources Pte Ltd. - Singapore
L & M Rohstoffhandels GmbH - Germany
Marubeni Tetsugen Co., Ltd. - Japan
Mineracao Buritirama S.A. - Brazil

EPD Members
CITIC Dameng Mining Industries Ltd. - China
Manganese Metal Company (MMC) - South Africa
Tosoh Corporation - Japan

Chemical Products Division
Carus Corporation - USA
Elkem a.s. - Norway
Kimpe SAS - France
Pilbara Metals Group - Australia
INTernational manganese Institute

IMnI provides vision and guidance to the manganese industry by promoting economic, social and environmental responsibility and sustainability for all stakeholders.

YOUR CONTACTS AT IMnI

Aloys d’Harambure
Executive Director
mobile: +33 (0)6 33 47 42 10
email: adharambure@manganese.org

Brandon Cline
HSE and Regulatory Affairs Manager
mobile: +33 (0)6 52 31 77 96
email: bcline@manganese.org

Valérie Breliere
Assistant to the Executive Director
tel: +33 (0)1 45 63 06 34
email: valerie@manganese.org

Eva Yang
China Representative
mobile: +86 158 21169770
email: evayang@manganese.org

Events & Conferences
network during major events of the manganese industry

Market Research & Stats
get the best data available on the manganese market

Regulatory Affairs
stay up-to-date on compliance

Health, Safety & Environment (HSE)
improve your processes

Photo credits: Eramet Comilog Manganese - Autlán
Inner Mongolia Chayouqianqi Mengfa Ferroalloy Co., Ltd
Manganese Metal Company (MMC) - Vienna Convention Bureau