

IMA News

Below are articles and summaries of magnesium related stories. IMA Member companies are asked to distribute the IMA News to their employees. IMA member company employees wishing to receive the monthly IMA News issues should send their email addresses to the IMA World Headquarters. We appreciate all member company press releases and announcements for inclusion in the monthly IMA News issues. Please send your news to info@intlomag.org.

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Mark Your Calendars for the 2016 World Magnesium Conference

The International Magnesium Association's 73rd Annual World Magnesium Conference, May 15-17, 2016 at A. Roma Lifestyle Hotel, Rome, Italy. This valuable Conference will provide magnesium industry professionals with the latest information and advances on magnesium processes, applications, technology and environmental concerns. The program includes:



- Technical Sessions
- Current Industry
- Updates
- Awards of Excellence
- Presentations
- Exhibit Showcase featuring magnesium industry suppliers
- Networking Events
- Sponsorship Opportunities
- Opening President's Reception, and more!

Who should attend?

Magnesium industry professionals who are primary producers of the metal, recyclers, foundries, fabricators, end-users and suppliers can all benefit from attending this conference. The program is designed to appeal to a wide variety of magnesium industry professionals.

For more information on the conference visit www.IMAworldconference.org.

Reserve Your Room Now!

IMA's 73rd Annual Magnesium Conference will be held at A. Roma Lifestyle Hotel in beautiful Rome, Italy. A block of rooms is being held until **February 12, 2016** for the special rate of €140,00/night, single or double, plus tax. After this date, group rates can no longer be guaranteed and rooms will be available on a space-available basis at the standard rate. Please click [here](#) to reserve your room today! Use the promo code **IMARATE** in order to secure the group rate. You may also call the hotel at +39 06 87 812 821 in order to make your reservation. Make sure to mention that you are attending IMA's World Magnesium Conference in order to secure to group rate.

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IMA's 2016 Call for Abstracts

The IMA's Annual Conference is the premier international magnesium industry conference highlighting technological advances, innovative applications, and emerging developments in the global marketplace. This valuable conference will provide magnesium industry professionals with the latest information and advances on magnesium processes, applications, technology and environmental concerns.

Be among the best and the brightest in the industry-share your expertise and knowledge by presenting a paper at the IMA Conference. You'll be helping to advance the industry and have an unparalleled opportunity to address magnesium professionals, industry leaders, and decision-makers, who seek cutting-edge information and problem-solving resources.

The IMA Program Committee is pleased to invite abstracts of no more than 150 words for a proposed presentation. Abstracts are invited from practitioners and researchers from in and around the aluminium extrusion industry.

How to Submit

Abstracts can be submitted in electronic format through the IMA online Abstract Collection Portal at www.imaworldconference.org. Abstracts are due no later than **December 7, 2015**.

For complete details, download the [Call for Abstracts](#) or go to www.imaworldconference.org and choose "For Authors".

The official language of the Conference will be English. ALL abstracts and final selected manuscripts need to be submitted in English.

Click [here](#) to submit your paper via the online portal.

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BuhlerPrince, Inc. partners with Mercury Marine to deliver the largest high pressure die casting machine built in North America



Holland, MI (9/28/2015) - BuhlerPrince, Inc. is excited to announce that Mercury Marine, the world-leader in marine propulsion systems, has chosen the BuhlerPrince 4575CCA high pressure die casting machine to support increased volume of its sterndrive engine platform. This mega-machine will be supplied to Mercury Castings at its global headquarters in Fond du Lac, Wisconsin, in June 2016.

The BuhlerPrince model 4575CCA die casting machine features 75 inches of free space between the tie bars. Mercury Castings will use this additional tie bar space to help expand its in-house capability. The die casting industry is experiencing strong growth due to ongoing OEM light-weighting initiatives to fulfill stringent government mandates. These mandates dictate either fleet vehicle carbon reductions, better fuel efficiency or both. Auto producers have therefore realized the fastest way to reach these directives is by replacing steel structures with lightweight materials; especially aluminum. This high tonnage, large frame die casting machine gives Mercury Marine the capabilities needed to produce the largest structural parts for automotive and other industries on a machine size like no other in North America.

"Buhler is very proud to partner with Mercury for their expanding die casting equipment requirements," said Mark Los, president and CEO BuhlerPrince, Inc."Continued

investment in equipment and people allows BuhlerPrince, as the only die cast machine builder in North America, to provide innovative products to our customers, enabling them to be competitive on a global basis."We are excited to bring this new machine into our portfolio," said Samir Mesanovic, director of Mercury Castings."It will be a welcome addition to our production and increase our capabilities to produce largest and most complex parts for both Mercury Marine and other customers."

About BuhlerPrince, Inc.

BuhlerPrince, Inc., based in Holland, MI USA is an integral part of Buhler Die Casting, Uzwil, Switzerland. As one of (3) manufacturing locations for Buhler worldwide, BuhlerPrince is North America's leading die casting machine manufacturer. Their products cover machines from 200 up to 4,500 tons of clamping force, a broad range of services for retrofit and/or remanufacturing, local spares parts stock and unsurpassed service and support all catered to the die casting industry.

About Mercury Marine

Headquartered in Fond du Lac, Wis., Mercury Marine is the world's leading manufacturer of recreational marine propulsion engines. A \$2 billion division of Brunswick Corporation (NYSE: BC), Mercury provides engines, boats, services and parts for recreational, commercial and government marine applications, empowering boaters with products that are easy to use, extremely reliable and backed by the most dedicated customer support in the world. Mercury's industry-leading brand portfolio includes Mercury and Mariner outboard engines; Mercury MerCruiser sterndrive and inboard packages; MotorGuide trolling motors; Mercury propellers; Mercury inflatable boats; Mercury SmartCraft electronics; Attwood marine parts; Land 'N Sea marine parts distribution; and Mercury and Quicksilver parts and oils. More information is available at mercurymarine.com.

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Critical Raw Materials Seminar, Stuttgart

by Tamara Alliot, MMTA

Critical Raw Materials (CRMs) are increasingly being referred to in political policy. The MMTA and the IMA (International Magnesium Association) organised a seminar in September kindly hosted by the German Aerospace Center's (DLR) Institute of Vehicle Concepts, Stuttgart aiming to inform and educate Members and Associates on what the European CRM list means for their businesses.

Maria Cox, MMTA General Manager, introduced the seminar and placed it within the context of the role of the MMTA to inform and educate on the topical issues affecting the minor metals sector, as well as to participate in the debate around future CRM policy developments. Christian Payn from IMA then gave an introduction to magnesium, its uses and supply issues. During 2014, for example, there was around 900,000 tonnes of primary production with 84% produced in China.

From the DLR, Simone Ehrenberger introduced this German national research institute which is engaged in projects relating to transport and aerospace, including new materials and concepts for road vehicles and railway. Areas of research interest include new technical solutions including economic and environmental assessments, as well as sources of the raw materials employed in developing vehicle solutions.



The German political approach to the importance of CRMs

Dr. Christian Kühne of the Ministry for Environment, Climate and Energy, Baden-Württemberg stressed the importance of critical raw materials for Germany, and for the region in particular. Manufacturing is a significant contributor to Germany's GDP, at around 22%, a much higher percentage than for most European countries, with the figure for Baden-Württemberg being even higher, at 35%.

Within that figure, material costs make up 43% of the manufacturing cost, therefore there is a keen interest in maintaining the supply of those critical raw materials essential to the German and Baden-Württemberg manufacturing sector.

There has been a massive increase in the number of elements used over the past century and by 2030, there will be a need for in excess of current world supply in many elements, for example gallium and indium, in order for technology to develop and meet its potential in the way they would like. There is high raw material demand for emerging technologies, so lots for photovoltaics and permanent magnets. If there is a shortage of raw materials for these applications then technological innovation will be impeded. Therefore government policy needs to consider this.

The German government currently has several programmes on raw materials including the government's Raw Materials Strategy, using policy instruments, encouraging material efficiency and establishing a specific mineral resource agency, the 2012 Resource Efficiency Programme, which helps German companies secure supply of raw materials.

The Baden-Württemberg region itself has done a strategic study on material flows for companies based in the region categorising their relevancy for the local economy. The region has identified 29 economically relevant raw materials. The resource strategy for the region is to decouple economic growth from resource consumption and to establish secure and sustainable materials supply. Strengthening the Circular Economy is also a focus, Baden-Württemberg has already engaged in stakeholder dialogue and workshop on the subject.

EU Policy and CRMs

Alexis Van Maercke from DG Grow talked about the EU policy towards CRMs highlighting that the German approach just covered by Dr Kühne holds many similarities.

The third CRM list will start to be prepared next year with a methodology review scheduled. It seems likely, however, that in order to compare all the lists that there will not be any major changes. Alexis explained how the CRM list is used as a policy tool and has been an inspiration for similar lists in other European countries as well as Japan and the U.S.A. The audience were informed that funding from Horizon 2020 has a category on new technologies for the enhanced recovery of by-products 2016.

The audience posed some questions to Alexis, Martin Tauber, President of the CRM Alliance asked for clarification on whether 'Associate' countries would be treated like EU Members in terms of funding. It was confirmed that Associate countries, such as Norway, Turkey and Serbia can apply for equal to EU-member states funding. Another participant asked about the EU's approach to the Circular Economy. Alexis was able to confirm that the EU Commission is coming up with a proposal towards the Circular Economy by the end of the year, with legislation expected within one to two years. Supply risks and economic importance



Looking more deeply at the CRM methodology was Dr. Frank Marscheider-Weidemann from the Fraunhofer-Gesellschaft in Germany. The Institute worked on the previous CRM list methodology and have studied dynamic materials flow modelling including how technical changes influence demand for raw materials.

Dr. Marscheider-Weidemann explained why materials move on and off the CRM list. These include:

- Changes in the end-use structure (or end-use data)
- Changes in the 'value added' assigned to the mega sectors
- Changes in Supply risk / closing, re-opening and establishing of primary production
- Changes in the concentration of production
- Changes in governance / environmental performance rating of producing countries
- Changes in recycling rates
- Changes in assessment of substitutability

He was also able to give conclusive advice on what the list does and does not do in terms of how it should be viewed and used. The list provides transparent estimates for the relative ranking both in supply risk and economic importance but only gives a relative ranking at one point in time. Raw materials are considered on the basis of

their economic benefit to society and it considers all the uses of the raw material. Secondary raw materials are explicitly acknowledged for their contribution to society. A controversial point for the audience was the emphasis on the importance of substitution.

The list does not provide a view into the future, consider the effect of market size (e.g. scale of problem and rate of change of indicators) or explicitly consider the interdependence between different metal markets (both on the supply and the demand side).

Christian Payn asked Dr. Marscheider-Weidemann about the substitution of magnesium in some aluminium alloys and the effect of this on the industry. The response acknowledged the difficulties on taking into account the quality of a material and the possibility of looking deeper into this.

The final speaker in the morning session was Heleen Vollers, the coordinator from the CRM Alliance. Heleen explained the role of the stakeholder group in promoting and protecting the interests of those involved in CRMs. The group works together to provide relevant information to the EU policy makers on CRMs, such as the European Commission, Members of the European Parliament, important mining country representations to the EU and downstream users of CRMs. The Alliance has organised events on how CRMs should be considered in terms of industrial and trade policy and REACH. The group now covers 15 of the 20 CRM materials and has been granted observer status at various EU raw material groups. The EU needs input from industry to make the right decisions and the Alliance is working hard to achieve this.

Afternoon panel session

During the afternoon, companies had the chance to explain what it meant to them to produce or use materials that are classified as critical. Martin Tauber called for consideration of the end uses of these materials and how they contribute to peoples' lifestyles. He also encouraged the audience to reflect on how innovation might have developed if primary production and a secure supply of these often extraordinary materials had been supported and established in Europe.

The case studies looked at different elements of supply risk and economic importance for Europe. European primary production of Mg in Turkey was looked at first with Eczacibasi ESAN, a new Turkish Magnesium producer that has recently started production talking about having a supply of this critical material from Europe, reducing the reliance on China and other regions. Turkey is associate EU member, with shorter transport distance meaning lower emissions and material from an ISO certified site. Ilhan Goknel mentioned that the first CRM report in 2010 triggered their magnesium project in Turkey.

Mark Saxon from Tasman Metal, the Swedish rare earths project talked about the difficulty of developing primary production in Europe. He said that the rare earth industry has had far too much attention in comparison to its size in recent years with the rare earth crisis being a political issue and not to do with the supply in the ground. The aim of Tasman is to establish a secure and stable REE supply in Europe away from the dominance of China where the quality of the product may be low and the environmental impact high. Traditional mining investors have moved on to tech and pharmaceutical start-ups. In Europe land access is a huge issue as well as poor shareholder returns. In order for Europe to stay competitive they need to be active in small high value markets.

Armin Buschhausen, MD, Cellmark Metals Germany gave the attendees a unique perspective of criticality from a trader's point of view. He talked about supply risks including the pricing of materials in USD and the volatile small markets of many of the CRMs. Most metals and indeed commodities in general have low prices at the moment but Armin also believes that there are more opportunities than risks working with China. He also highlighted some specific examples of trade issues and restrictions such as EU anti-dumping on silicon being very beneficial for some local producers.

Claire Mikolajczak from Indium Corp looked at the state of the indium market. 90% of the ITO (indium tin oxide) market is in Asia, so Indium Corp have a factory in Asia,

Claire talked about free trade and fair trade in terms of indium. She also talked about the opaqueness of the industry and the scarcity of information available to policy makers meaning that they have to make decisions on limited and incomplete data that is sometimes out of date. Claire was clear that consultation with industry is essential.

A closing question from the audience focused on whether the Earth can provide the resources we need into the future? The panel agreed that generally higher prices lead to more sources as they become economically viable and that shortage of supply is generally due to prices rather than lack of resources in the ground.

The MMTA and IMA would like to thank all the speakers and attendees at this seminar; we look forward to welcoming you again to another insightful and informative event on prominent issues affecting your businesses.

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CRM Alliance - EU Policy update - October 2015

- DG Grow-MIIT (China government delegation)
- Raw Material Supply Group Meeting
- CRM Alliance up-date



DG Grow-MIIT (China government delegation)

DG Grow-MIIT Dialogue and Consultation Mechanism on Industrial Sectors
5th Meeting of the Raw Materials Working Group; Brussels, 12 October 2015

Focus on statements and information from the China delegation:

China industry is changing from "speedy" to a new area of development, where innovation, sustainability and quality play the major role. Europe has undergone this process during a long time, but China is facing this challenge in a much shorter period. Therefore, Europe has also a comprehensive set of rules and regulations in place.

China sees great potential in sourcing from secondary raw materials, which will be first main direction to achieve circular economies.

Today, China leads in 200 different products on a global level and intends to move that leadership from raw material to high quality downstream manufacturing. In May 2015, China issued a 3x10 year plan to implement "Made in China 2025". Within the first step about 1/3 of the GDP should be realized through such initiatives. The second step is dedicated to high quality development and the third will enable China being a green manufacturing powerhouse.

Within the different raw materials/products, China set-up 3 different categories of important and subject for regulative policies. (1) Basic materials (2) Strategic materials and (3) Frontier materials. Non-Ferrous metals are clustered under category (1).

China has started to address the issue of industry overcapacity in 2013. There are several aspects in that policy, such as regional effects, environmental standards, and also addressing active downsizing. Big and key industry segments are subject of direct regulation, such as flat-glass, steel, shipbuilding and also primary Aluminium. Other industries (most of the CRMs except coal) will be addressed by incentives and environmental policies, but it was stressed that in such cases mainly market mechanism will "have to solve" the problem of overcapacity. It is seen no different for private than for state-owned companies.

The topic of over capacity is also addressed in an international way, and China is looking for win-win situations in the "One belt & one road" initiative for green, low-carbon and circular economies.

Additional Information:

Economist on OBOR: "It has been indicated that up to 60 countries may be included in OBOR with stops across three different continents. In addition to political objectives, OBOR brings a strategic focus which encourages Chinese firms to go abroad in search of new markets or investment opportunities."

CLSA: The project aims to redirect the country's domestic overcapacity and capital for regional infrastructure development to improve trade and relations with Asian, Central Asian and European countries.

Good overview of Made in China 2015:

http://www.chinadaily.com.cn/bizchina/2015-05/19/content_20760528.htm



Raw Material Supply Group Meeting

The new assessment method for CRMs is on its way, and 6 working packages have been approved and partly worked out. By 24th December, the final draft report including methodology recommendations for 2016 CRM implementation is scheduled, with main adaptations compared to the 2014 list:

- Economic importance: go from mega sectors to 6 subsectors
- Supply risk: increases when export restrictions in place. Supply risk based on global supply, which is not accurate. Example: magnesite (import dependency less than 5%).
- World Government Index: as it is now is the best approach.
- Only 32 countries are covered, not convinced about the quality (EITI) RGI 58 countries, quality OK
- JRC: improve the transparency of the recycling rates used to estimate supply risk old data from UNEP report

Use of CRM list:

- contribute to the implementation of the EU industrial policy
- incentivize the EU production of CRMs and facilitate the launching of new mining activities
- monitor issues of CRMs to identify priority actions (trade, legislation, research, funding)
- policy actions not limited to CRM exclusively, such as ERECON initiative



CRM Alliance update

CRM single factsheets:

Originated from an Indium example, the Alliance will publish its first individual material related document, mainly covering the main policy issues of each CRMs. This will form an excellent base for stakeholder information and is the next step after finding the 5 Key recommendations. Now published; <http://criticalrawmaterials.org/wp-content/uploads/2015/10/Fact-Sheets-CRM-Alliance-September-2015.pdf>

CRM Alliance member meeting:

The member meeting was held on 22.9 in Brussels. Enlarged budget for 2016 was approved and board will remain also for 2016.

CRM Alliance additional lobbying actions:

The member meeting confirmed two additional lobbying programs, one for REACH and other for TRADE, which will start beginning of next year.

Up-coming events & meetings:

3-4.11.2015 CRM Alliance presentation at ARGUS MP Conference in Düsseldorf

https://www.argusmedia.com/Events/~/link.aspx?_id=57B1D604AFD9499DAE21B6983C176089&_z=z

17.11.2015 EU conference: Which policies stimulate demand for innovation in times of budgetary consolidation?

11.12.2015 EU: Ad-Hoc Working Group on Raw Materials (closed meeting)

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Member Authors Needed

Calling all writers!! IMA needs your help. We are looking for IMA Members to submit articles for the IMA newsletter. Content can be about any industry topic or event - so long as it relates to Magnesium! The IMA wants to know what you think, what you're working on, or what you would be interested in reading about. Whether it's an update for the member news section, or an article on the effects of the climate change on magnesium production, we are happy to have your input For more information, please contact us [here](#) for more information. IMA is Listening!

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JMA Magnesium Newsletter Japan

Vol 36. Covering the news for September 2015

[The Japan Magnesium Association](#)

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News in Japan

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Audio-Technica unveiled the monitor headphone having 53mm dia. driver for high resolution

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Macrw developed multicolored magnesium stick "Flamingo"

Mitsuwa Electric Industry started mass production of magnesium parts for automobiles

Yoshizuka Seiki displayed magnesium wheelchair at welfare devices exhibition

News in Japan

Domestic Magnesium Market July, 2015

Sony released the information about the body case and the small tripod for a7 II as the camera accessories

(Source: "My Navi News" 6th October, 2015)

Sony released the information about body case "LCS-EBF", soft carrying case "LCS-FEA1", tripod "VCT-P300" and eye piece cup "FDA-EP16" as the camera accessories for a7 II on 6th October.

"VCT-P300" is a portable small tripod to be easily carried. The structure of folding back the legs at 180 degrees is adopted, and the length of the folded state does not reach 30cm. The number of the steps of the legs is 6, and its quick locking mechanism enables quick setting. The split angle (three phases) is adjustable at 24/45/75 degrees.

A magnesium alloy is applied to the material and it is lightweight.

Audio-Technica unveiled the monitor headphone having 53mm dia. driver for high resolution

(Source: "My Navi News" 8th October., 2015)

Audio-Technica Co., Ltd. unveiled the art monitor series headphone "ATH-A1000Z", "ATH-900Z", "ATH-500Z" on 8th Oct. The launching is 13th Nov.

"ATH-A1000Z" is a monitor headphone enabling reproduction of high resolution sounds. It has high purity aluminum housings and magnesium baffles to suppress unnecessary noises.

Ten small and medium sized companies such as Hashimoto EG in Hamamatsu area produce wheelchairs made of magnesium

(Source: "Keikinzoku Tushin" 8th October., 2015)

Hashimoto EG Inc., a manufacturer of automobile parts, developed the wheelchair "MC-X" which is the world's lightest in metal wheelchair. By using lightweight material such as magnesium, CFRP and titanium, the weight saving was achieved by 6.1kg. It was displayed at welfare devices exhibition held at Tokyo Big Site from 7th Oct. The price is ¥350,000 to ¥450,000 (exclusive of tax), and the launching is the beginning of 2016. The unit sales is planned 1,000 for the first year.

"MC-X" made of multi-material being aimed at the world's lightest, magnesium is applied to the box-frame which is used in racing motorbike, and the side surface is formed dimple.

To develop multi-material ultra-light weight wheelchair, they collaborated with ten small and medium sized companies which produce parts of two-wheeled and four-wheeled vehicles, and applied new forming technologies, and realized ultra-light structure and low cost manufacturing. The state-of-the-art technology "Magnesium box frame" is adopted to which longtime experiment in motorbike city Hamamatsu is applied and magnesium is adopted as the main material. They derive magnesium's lightweight property by enlarging the rectangular cross section, and aim at lightweight wheelchair enabling reducing the load for users.

Macrw developed multicolored magnesium stick "Flamingo"

(Source: "Altopia" October Issue)

Macrw Co., Ltd. developed recently high strength magnesium alloy stick "Flamingo" of which type of color is raised up to six, and started to sell through website. This stick was launched in January 2015.

Its strength supporting up to 300kg in spite of the weight of 230g was well received, but users requested the variation in color. Therefore the company has added new colors, white, black, gray, brown and light yellow, in addition to the current flamingo pink.

The major specifications are as follows; size: S 78cm, M 83cm, L88cm (custom order is also available), weight: S 230g, M 234g, L 238g, price: ¥8,800.

Mitsuwa Electric Industry started mass production of magnesium parts for automobiles

(Source: "Sokeizai Tushin" 1st October., 2015)

Mitsuwa Electric Industry Co., Ltd., Habikino City, Osaka, will install a forming machine with the mold cramping force of 650 ton based on the future expansion of the market of magnesium parts for automobile. The installation will be next March. They plan to increase the order for automobile parts while they produce camera bodies.

The company produces magnesium products at the main plant in Habikino and Thailand plant, and accepts the orders of camera bodies from seven major Japanese camera manufacturers and supplies them solely. In particular, orders for magnesium camera bodies increased beyond the expectation due to upgrading of mirror-less cameras. Three forming machines in Thailand are operating 24 hours a day except maintenance period. The shortfall is compensated by shipping the products from Japan.

At this point, the wind is changing to the slightly increasing direction due to the design for weight saving of automobiles by using magnesium parts. Having the properties that the change in dimension is small by aging and thin wall casting is available, application of magnesium to high grade cars as the starter is progressing because the dimensional accuracy is more important for the digital meters showing the speed and the fuel level. The company started to produce of them.

Yoshizuka Seiki displayed magnesium wheelchair at welfare devices exhibition

Yoshikawa Seiki Co., Ltd. displayed a magnesium wheelchair at welfare devices exhibition held from 7th October. The weight of magnesium wheelchair is 6.5kg, and the structure is solid part structure and welding is not applied. The ride quality is improved by absorbing the vibration from the road due to the adoption of the own frame structure and magnesium which has vibration damping property.

Domestic Magnesium Market - August, 2015

(Source: August issue of Import/Export Statistics (customs clearance basis) of METI - Compiled by The Japan Magnesium Association)

Import

Based on Import/Export Statistics of August 2015, magnesium metal import was 2,277.1 tons (3.0% decreased from the same month the year before), magnesium powder 313.3 tons (2.5% decrease), and other products 263.2 tons (15.3% increased). Metal, powder decreased and the other products increased on a year-to-year basis.

The metal category consisted of 1,761.1 tons of pure magnesium (2.9% decreased), 499.2 tons of die-casting alloys (6.1% decreased). As for the die-casting alloy, the import from Thailand which continued for 7 months from February became zero. The import of high purity magnesium was zero. Magnesium alloys for casting showed significant increase up to 16.8 tons (344.4% increased), and it was only one category which increased on a year-to-year basis.

The average import price of magnesium metal decreased again to 264.9 yen per kg, compared with July 2.3 yen per kg, 0.8% decrease, despite it increased in June, but the downward trend did not change. The average import price of magnesium alloy was 324.9 yen per kg (2.0 yen per kg, 0.6% increased from the past month).

As for the total amount of import from January to August 2015, magnesium metal was 21,459.9 tons (4.0% increased from the same period the year before), magnesium powder was 2,820.4 tons (4.4% decreased), and the other was 1,447.7 tons (6.5% decreased). But all categories seemed to be on a gradual recovery trend, magnesium metal was going to be positive and the rate of decline of powder and the others decreased like the past month.

Export

In August 2015, export of pure magnesium was zero again, and export of magnesium alloy largely decreased to 96.7 tons (398.9% increased on a year-to-year basis). The reason of decreasing from July was that for U.S.A was only 19.0tons.

Powder and granular was 0.05 tons (97.7% decreased) for Taiwan and the other was 0.5 tons (188.4% increased). The amount of the others for China was 0.4tons.

As for the total amount of export from January to August 2015, pure magnesium was 13 kg (70.5% decreased), magnesium alloy was 909.2 tons (206.4% increased), powder was 3.3 tons (47.6% decreased), and the other was 21.5 tons (15.8% increased).

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September China Magnesium Industry and Market Bulletin

The Sixth China Magnesium Expo initiates the development of magnesium industry in both civil and military segments

On September 11th, the Sixth China Magnesium Expo, organized by Henan Provincial Industry and Information Technology Commission, National Defense Science and Technology Industry Bureau of Henan Province, Hebi municipal government, and China Magnesium Association, was kicked off in Hebi, Henan province.

It was attended by Mr.Chenquanxun, president of China Nonferrous Metals Industry Association, Mr.Fan Xiufang, Hebi Municipal Party secretary, Mr. Tang Yuanyou, mayor of Hebi city, Mr.He Jilin, academician of Chinese Academy of Engineering, Mr.Panfusheng, director of National Engineering Research Center for Magnesium Alloys, and Mr. Xujinxiang, Chairman of China Magnesium Association. The expo attracted over 300 participants who came from State Administration of Science, Technology and Industry for National Defence of PRC; Chinese PLA General Armament Department PRC; Chinese PLA General Logistics Department of PRC; Air Force of CPLA; Naval Force of CPLA; Ministry of Industry and Information Technology of PRC; China Shipbuilding Industry Corporation; Aviation Industry Corporation of China; China North Industries Group; key institutes and universities; and top magnesium and magnesium alloy producers.



The two days' Expo, with civil-military integration and building magnesium dream as the theme, focused on promoting the application of magnesium alloy in the military field, breaking the bottleneck of industrial development, and actively exploring the development of civil and military integration and development of the domestic magnesium industry.



Mr.Miao Changxing, deputy director of Industrial Policy Department of Ministry of Industry and Information Technology of PRC, said that the Expo, with civil-military integration and building magnesium dream as the theme, closely linked to the national military and civilian integration strategy, based on the development of new materials, promoted magnesium application in military field, and opened new way in the magnesium industry development of civil-military integration. He hoped that the majority of magnesium producers, research institutes and universities, and military units can take this expo as an opportunity to promote the use of

magnesium alloy in the military field, accelerate the pace of magnesium enterprises to join military segment, improve the level of defense equipment, and contribute to national defense science and technology.

Mr.Chenquanxun, president of China Nonferrous Metals Industry Association, said that global magnesium market, at the beginning of this century, realized about only 400kt, but by 2014, it reached about 1000kt. The Expo highlighted the combination of magnesium in the field of defense science and technology, and the integration of the military and civilian resources. It will promote magnesium industry development, and has a very important significance to construct China as the world's power in magnesium industry.



At the Expo, the agreement was signed between National Defense Science and Technology Industry Bureau of Henan Province, and Hebi municipal government. Zhengzhou University, Shanghai Jiao Tong University and other research institutes joined strategic cooperation agreements with local magnesium enterprises in Hebi. The Expo also saw the establishment of the Hebi Civil-Military Integration Industrial Park, and the establishment of Magnesium Industry Alliance of Henan Province.

Mr. Pan Fusheng, Director of National Engineering Research Center for Magnesium Alloys, presented academic report and hoped the military segment opens the door to promote the application of magnesium alloy in the military field.



At present, Hebi has national-level quality supervision and testing center for magnesium and magnesium alloy products, and the center, as magnesium processing industry demonstration base appointed by China Nonferrous Metals Industry Association, ranks top as largest production base for magnesium (chip and grain) processing and export base, magnesium wrought material and alloy anode. Since 2009, Hebi, with more than 30 magnesium related enterprises, has been holding magnesium product application and new technology Expos for five times.

Expo, at the same time, kicked off the exhibition for magnesium alloy products which attracted a large number of delegates.

The Expo was a joint effort by Hebi Municipal Industry and Information Commission, Henan Magnesium, Hebi Industry Association, Zhengzhou University, National Engineering Research Center for Magnesium Alloys, National Engineering Research Center for Light Alloy Precision Forming, and Sunlight Metal.

Hebi Economic and Technological Development Zone will layout magnesium processing industry

On September 15th, reporter from www.cnmn.com.cn communicated with Mr.Huhongjun, director of Hebi economic and technological development zone, and visited some local magnesium producers.

Mr.Huhongjun told reporter that "Hebi economic and technological development zone, by now, attracts over 30 magnesium-related enterprises, and 12 of them are key ones who include Jianglang Metal, Mingmei Magnesium Technology, Jinshan Magnesium, and Wandefu Magnesium. It has become the domestic largest production and export base for magnesium powder, chips, granule processing, and sacrificial anode.



In 2014, Hebi Economic and Technological Development Zone boasted nearly 140kt of integrated processing capacity for magnesium, of which 60kt for magnesium powder and chips, accounting for about 70% of national total output, 20kt for magnesium sacrificial anode, 40kt for magnesium alloy, and 20kt for magnesium alloy extrusion, die-casting deep processing. In 2014, the zone achieved annual sales income of 5.6 bln. yuan from magnesium industry, up 12.8%, and 50.3 mln. yuan of exports, up 25%.

The reporter visited the Hebi Jianglang Metal, a producer for magnesium powder and chips that, in 2014, realized sales income of 0.25 bln. yuan and 15 mln. yuan of exports, and Mingmei Magnesium that recently develops high strength and high toughness of superplastic magnesium alloy for military and rail transportation segments.

The development Zone is characterized by distinctive processing producers in magnesium segment, involving magnesium alloy die-casting, sacrificial anode, automotive steering wheel skeleton, extrusion profiles, LED heat sink, alloy frame, magnesium alloy bicycle and electric bicycle, and small power generating units driven by gasoline and diesel.

Mr.Huhongjun finally told reporter that, through 3-5 years' efforts, the development zone will promote the transformation of magnesium industry in Hebi, and construct an influential production base provincially and nationally.

Qinghai establishes Magnesium Industry Alliance of Qinghai Province

On September 18th, approved by the Qinghai Provincial Science and Technology Department, Magnesium Industry Alliance of Qinghai Province was established by 16 units including Qinghai Sunglow Magnesium, Salt Lake Magnesium, Qinghai Saline Lake Institute of Chinese Academy of Sciences, and Qinghai Western Magnesium.

The alliance consists of domestic enterprises who engage in R & D, production and sale for magnesium, magnesium compound and magnesium building material, and advanced level of academic and research institutions. It, market-oriented with key magnesium enterprises as the main body, and combination of scientific research and production, will organize scientific research on technical bottleneck, and accelerate the sharing and transformation of research results.

The congress passed the articles of Confederation, established the first board of directors and expert committee of 18 experts. Following the scene vote, Mr.Pangquanshi, GM of Qinghai Sunglow Magnesium, will act the president of the alliance.

Fugu Jingfu Coal & Chemical may further enhance the output of magnesium

On September 17, news from Fugu JIngfu Coal & Chemical said its magnesium output, following the technical update on semi-coke project with environmentally-friendly layout, may further increase from current 70t to 85t daily.

Located in Xinyao, Fugu JIngfu Coal & Chemical was established and integrated by 18 small-scale semi-coke producers in Fugu County. Upon 1.3 bln. yuan of investment by Fugu JIngfu Coal & Chemical, it possesses comprehensive facilities with semi-coke production as key upstream operation. Based on development plan, it will construct 960kt/a of semi-coke, 1200kt of coal, 30kt of magnesium, 2 x 25MW/ coal gas power generation, 4 x 30000 KVA of calcium carbide, 4 x25000 KVA/ of ferrosilicon, and 300kt of lime kiln.

Looking promising for magnesium alloy in military segment

On September 11th, Prof. Wuguohua, deputy director of National Engineering Research Center for Light Alloy Forming, made report during the Sixth China Magnesium Expo.

In his report Application Status and Prospect of Magnesium Alloy in Military Field, Prof. Wu said the research begins, with the improvement in magnesium alloy strength, heat resistance and corrosion resistance, for magnesium alloy engine case, high-speed missile cabin, airborne equipment and important weapon structure, and the transition toward main bearing-load structural parts.

In his view, magnesium alloy, in the lightweight of the weapon and equipment, provides related opportunity.

He said, from the long run, the application and development of light-structure materials such as magnesium alloy are mainly driven by the lightweight of weapon equipment. To research and develop high strength and high toughness magnesium alloy, heat resistant magnesium alloy and its surface protection technology consists with the lightweight trend of weapon equipment. It is irreversible to develop high-performance magnesium alloy for military segment.

Mr.Dongchunming, GM of Sunlight Metal said magnesium industry in Hebi should be more specific, larger and stronger

On September 11th, Mr.Dongchunming, GM of Sunlight Metal, during the Sixth China Magnesium Expo, made report and said magnesium industry in Hebi should be more specific, larger and stronger.

In his report named development status and prospect of magnesium industry in new economic normal in China, Mr.Dong, through a comprehensive analysis of statistical results, pointed out that the development of magnesium industry has entered a new normal. In the first half of this year, magnesium industry, market and product price were once sluggish, with overall over capacity and many difficulties, while the traffic light weight demand, environmental pressures and other factors added sustainable drive for magnesium industry. Many enterprises from top 500 enterprises worldwide have extended their operation into magnesium alloy segment, while production, consumption and export still remains growing trend.



He said magnesium enterprises must always be to improve product performance and put cost-effectiveness in the first place.

He believes that the development of magnesium industry in Hebi has six advantages: the government attaches great importance to planning guidance; enterprises focus on market and research; investment environment and service system improves gradually; leading effect of large enterprises, and platform influence from holding magnesium expos.

He said magnesium industry in Hebi should be more specific, larger and stronger. The development of magnesium industry has developed from the industrial competition to the national energy strategy, the national defense strategy. Only by enhancing the level of magnesium alloy development can meet the needs of higher defense strategy. Mr.Dong Chunming said magnesium alloy, in World War II, has shown its power as cannon shell, and the application of magnesium in defense is not just to help lightweight.

The application of magnesium will usher in the outbreak period of rapid growth

On September 11th, Mr.Xiaoyang, director of Light Metal Department of Zhengzhou Light Metals Research Institute of Chinalco, said during the Sixth China Magnesium Expo, that introduced the R & D of super-light Mg-Li alloy, and application of magnesium alloy in military and new manufacturing at home and abroad.

He believes that magnesium smelting process, as compared with aluminum smelting, is of more advantages in China. The theoretical cost of magnesium smelting is less than that of aluminum. Through a series of techniques related to magnesium smelting scale, equipment automation and intelligent management of progress and energy saving measures, magnesium ingot production cost, within five years, can be reduced to 10000 yuan, and be lower than that of aluminum ingot.

At the same time, with the application of magnesium alloy processing technology, stainless magnesium alloy will be developed and magnesium material can be easily processed. This will make transfer from cast magnesium alloy to wrought magnesium alloy. Mr. Xiao Yang believes that the application of magnesium will usher in the outbreak period of rapid growth, first in the military field, and then followed by the lightweight trend in traffic area.

Henan Province establishes Magnesium Industry Alliance of Henan Province

On September 11th, Henan Province established Magnesium Industry Alliance of Henan Province. Mr. Yuanqifa, director of National Defense Science and Technology Industry Bureau of Henan Province, addressed the initiating ceremony.

Under the support and guidance of Industry and Information Committee of Henan Province, National Defense Science and Technology Industry Bureau of Henan Province, and Hebi municipality, the alliance is launched by Henan Magnesium and Zhengzhou University, and has 26 units including key magnesium enterprises, and high-learning institutes.

Alliance plays a key role in integrating related enterprises and higher learning and scientific research institutions in the magnesium industry, establishing platform for technology service and innovation, implementing technology transfer, and promoting actively exploration among administration agencies, enterprises and scientific institutes. The initiation of the alliance has very important significance in developing, under the new economic normal, new material products in Henan Province.

Three partners join efforts to establish 1 bln. yuan of purchasing fund for magnesium in Shaanxi Province

Three partners in Shaanxi, including Shaanxi Financial Holding, Shaanxi Branch of China Construction Bank and Shaanxi Magnesium Industry Association, reached consensus to establish magnesium product purchasing fund.

Recently, Mr. Quan Yongsheng, chairman of Shaanxi Financial Holding, Mr. Zhang Geng, vice governor of Shaanxi Branch of China Construction Bank and representatives from Shaanxi Magnesium Industry Association talked together and decided to launch 1 bln. yuan of purchasing fund for magnesium products, and the reserve fund will be implemented by Shaanxi Nonferrous Metals Trading Center.

Shaanxi is rich in mineral resources, especially in the Northern Shaanxi region, where is abundant in coal, gas, oil and other important energy resources, as well as molybdenum, titanium, magnesium, mercury and other non-ferrous metals. For the effective running of the fund, research team of Shaanxi Nonferrous Metals Trading Center visited a number of non-ferrous metal production and processing enterprises in Yulin city, entered into Fugu County to conduct in-depth research on three typical magnesium production enterprises, and did comprehensive understanding of market situation, downstream enterprise cooperation and development status.

The industry chain finance project is the key point of the business for Shaanxi Nonferrous Metals Trading Center in the present stage, and the center carries out strategic cooperation of the financial industry based on the spot trading platform. The research for magnesium product purchasing fund by the center has laid a solid foundation for its implementation. In the future, the trading center will create a set of spot trading platform, release industry information, supply financing chain for small and medium enterprise, and provide internet financing with full range of e-commerce platform, in order to promote the optimal allocation and rational use of magnesium resources in Shaanxi and provide better service to the real economy.

Kashui Group joins China Northern Rare Earth Group for magnesium alloy motor shell project

On September 14th, Kashui Group and China Northern Rare Earth Group signed agreement and both parties will join efforts for the R & D and production of magnesium alloy motor shell used in energy saving electric cars.

Founded in Hongkong in 1980, Kashui is an industry leader for the production of magnesium, aluminum, zinc alloy die-casting and injection molding, with product related to 3C electronics, automotive and household furniture. By advanced production equipment and high-quality products, Kashui wins the international trust and support for its well-known brands in different areas. China Northern Rare Earth Group is the only private-owned producer, in China, for the R & D of rare earth application development with domestic first-class laboratory equipment and professional research personnel, and it establishes cooperative relationship with Changchun Institute of Applied Chemistry, Kazakhstan Institute of technology, and Beijing Iron and Steel Research Institute.

The JV, which is planned to begin construction in 2016, will attract 0.2 bln. yuan of investment.

Chongqing Shengmei Magnesium won China Innovation Contest prize for medical magnesium alloy

On September 17, Chongqing Shengmei Magnesium, during the final contest of fourth China Innovation Contest for new material industry, won, among fierce competition with other producers, won excellent award for its deep processing project of medical magnesium alloy.

The final contest, under the guidance of Ministry of Science and Technology, Ministry of Education and Ministry of Finance of PRC, was co-organized by Torch Center of Ministry of Education, Innovation Fund Management Center of Ministry of Education, Science and Technology daily, Modern Science and Technology Entrepreneurship Foundation of Shaanxi Province, and Beijing Science and Technology Innovation and Development Foundation for Small and Medium Enterprises.



Project advantage and application

Biodegradable magnesium alloy will benefit patients of bone disease

At present, the internal fixation materials used in clinical operation of orthopedics are mainly made of stainless steel and titanium alloy. Such materials are not degraded in the human body, and patients also need to go through the second surgery. Shengmei Magnesium is expected to change clinical surgery employing stainless steel and titanium alloy as the main materials, and alleviate patients' pain and burden by its R & D on medical deep processing for magnesium alloy.

The gospel of cardiovascular patients

As one of the lightest metal, magnesium alloy can be used in the treatment of cardiovascular diseases, in addition to the treatment of patients with bone plates and bone screws. Biodegradable magnesium alloy stent is implanted in human body, which, with the completion of vascular structural remodeling, can be completely degraded in vivo by slow corrosion and no toxic effects, and avoid the current clinical use of stainless steel and titanium alloy stents that retain longer in blood vessel wall and cause intimal hyperplasia and restenosis.

A revolution of medical implantation materials

After many years of technical experience, Shengmei Magnesium has studied the corrosion properties and surface modification of medical magnesium alloy, along with feasibility as biological materials. Its success will lead to the complete transformation of medical implantation materials.

Shengmei Magnesium is an integrated magnesium alloy processing enterprise with alloy, extrusion, casting, rolling, machining and surface treatment production lines. With the establishment and development of medical magnesium alloy alliance, Shengmei Magnesium, by bringing together many forces which gradually transform into the advantages of product, will promote the application and popularization of medical magnesium alloy technology in China.

Output of primary magnesium by Aug., 2015

Output by Geography (Unit: kt)

Region	July	August	Jan. - Aug.	Jan. - Aug. Change%
Shaanxi	30.8	34.1	245.8	-1.25
Shanxi	16	13.5	139.4	-11.86
Ningxia	17	17.5	66.2	2.97
Xinjiang	2.4	3.3	22.8	-17.88
Henan	9.1	2.5	27	-20.27
Qinghai	-	-	9.8	77.71
Sichuan	0.4	0.4	3.1	-6.11
Inner Mongolia	1.7	1.8	8.3	204.23
Lioning	0.7	0.7	4	-31.09
Jilin	-	-	0.3	-93.22
Total	78	73.8	525.7	-5.12

Exports of Magnesium Products closed August in China (Unit: t)

Month	Magnesium Unwrought (min. 99.8%)	Other Magnesium and Alloy Unwrought	Waste and Scrap	Magnesium raspings/turnings/granules according to size & powders	Magnesium Wrought	Magnesium Articles	Monthly Total
January	22710.5	9921.8	304.3	8681.3	186	544.8	42348.7
February	16121.9	8309.7	107.2	7885.7	405.5	452.2	33282.2
March	16046.9	8809.4	147.1	6315.1	197.5	387.8	31904.3
April	19652.5	9830.7	107.4	7799.3	438.5	446.1	38274.5
May	17992.7	9677.8	187.6	5220.2	329.7	456.9	33864.9
June	19215.7	8715.1	94.7	5709.1	254.7	398.2	34387.4
July	14775.9	10068.7	-	5319.1	280.0	482.9	30926.8
August	13789.6	8327.6	157.4	4070.2	83.8	348.9	26777.5
Total	140305.9	73661.3	1105.6	50999.9	2175.8	3517.9	271766.4

Magnesium Ingot Price by Sunlight Metals (Unit: Yuan/t)

	Fugu	Wenxi	Ningxia

Sep-1	12400-12500	12700-12800	12550-12750
Sep-6	12400-12500	12700-12800	12550-12750
Sep-8	12400-12500	12700-12800	12550-12750
Sep-9	12400-12500	12700-12800	12550-12750
Sep-11	12450-12550	12700-12800	12600-12700
Sep-15	12450-12550	12700-12800	12600-12700
Sep-17	12450-12550	12750-12850	12600-12700
Sep-21	12450-12550	12750-12850	12600-12700
Sep-24	12450-12550	12750-12850	12600-12700
Sep-28	12450-12550	12750-12850	12600-12700
Sep-29	12450-12550	12750-12850	12600-12700

Sunlight Metal collects and publishes daily ingot quotation and FOB price from key magnesium production regions objectively, independently and systematically. Being taken into account the viewpoints from both supplier and consumers, Sunlight Metal price, rationally reflecting the change in market, is the most authoritative in domestic magnesium sector. For more detail and inquiry, pls. contact us at info@chinamagnesium.net

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 1000 Westgate Drive, Suite 252, Saint Paul, Minnesota 55114 USA
 Phone: +1 651-379-7305 | Fax: 1 651-290-2266 | Email: info@intlimg.org

