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@intlmag.org.

March 2015, Issue #3

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IMA Awards Program - Call for Entries Open

Each year IMA honors industry professionals by presenting awards in several categories to those who have demonstrated excellence in the use of magnesium or for exemplifying the industry's commitment of environmental responsibility. Judged by a panel of peers, the IMA Awards for Excellence and the Environmental Responsibility Award are wonderful opportunities for participants in the magnesium industry to showcase outstanding magnesium products and innovative manufacturing technologies, as well as recognizing those that have gone above and beyond in reducing the industry's carbon footprint. In its 48th consecutive year, these awards provide international, industry wide recognition for the accomplishments of the magnesium industry's best and brightest.

2014 was a stellar year for the awards. The Awards of Excellence competition was open to all companies demonstrating outstanding examples of magnesium's use, as well as magnesium products and manufacturing technologies in three categories: Design, Process, and Application. The Design Category includes subcategories for Cast and Wrought Products and the competition seeks unique, novel and creative designs and product developments. The winning entries in this category demonstrate design and engineering that is a significant advance over current practice. The Design Award in the subcategory for Cast - Automotive was awarded to Georg Fischer, GmbH & Co., KG for the second year in a row! Their work in this category has significantly impacted the industry in this market.

The Environmental Responsibility Award is based on the achieved and documented reduction of carbon dioxide equivalents (CO2eq), and is intended to include all aspects of the magnesium industry from primary production through to end-user industries. The IMA Awards of Excellence highlight how the magnesium industry is continually working to improve the manufacturing process and companies that provide innovative and improved products made from lightweight magnesium. Last year the award was presented to RIMA Industrial SA, Primary Magnesium Production Process. After presenting the paper "RIMA's Process: Green Magnesium From A Fully Integrated Plant" during 2011 IMA Annual Conference in Prague, German carmaker AUDI AG and RIMA Industrial decided to make a complete Life Cycle Assessment (LCA) of RIMA's primary magnesium process. PE International, a German consultancy for sustainability, conducted a comprehensive LCA that evaluated the environmental impact of the RIMA magnesium process, assessing not only the production process itself, but also the cultivation of eucalyptus, as well as the production of charcoal from wood used during magnesium production.

IMA believes that the best way to encourage advancement and change is to recognize those that are leading the way. IMA looks forward to seeing what amazing work has been done this year. The 2015 Awards of Excellence and the 2015 Environmental Responsibility Award will be presented at the IMA's 72nd Annual World Magnesium Conference. The Conference takes place in Vancouver, Canada, May 17-19, 2015. IMA has extended the deadline for submissions through March 27th. For information please visit the Awards section of IMA's website, or contact info@intlmag.org.

Help IMA Promote the Magnesium Industry

The IMA needs your help. The Industry Promotion team is working on putting together a promotional video for magnesium. These types of high quality, visually stunning videos are becoming very common; in fact you may have seen the video recently released by the Chromium industry. As the global voice of the magnesium industry, the IMA plans to create a video which provides information in a visually appealing format. To help us towards that goal, we are asking members for any video they may already have, or could obtain from a customer, that they would be willing to release for use to the IMA. Video would need to be HD quality, and could be of any phase in the production of magnesium or magnesium based products. Video clips of finished products, such as automobiles, would also be appreciated.

Please submit your videos via email to info@intlmag.org or if the files are too large for email submission, contact IMA for additional instructions. A release form can be found here and should be completed and returned along with your submission.

IMA 72nd Annual World Magnesium Conference Highlights

IMA's 72nd Annual World Magnesium Conference, in Vancouver, Canada May 17-19, 2015 will feature a variety of educational and networking opportunities. A true global event, this unique event offers presentations of papers featuring the latest industry technical innovations and business market developments, recognition of industry leaders, networking opportunities and social activities.

As always this year's opening reception is not to be missed. Join IMA President, Jan Guy, in kicking off the 72nd IMA Annual World Magnesium Conference at the Vancouver Aquarium! IMA will host a private reception in this unique venue. An excellent networking opportunity, this event is perfectly timed at the start of the conference to allow you to greet prior friends and acquaintances, as well as meeting new colleagues. Plus, you can check out all the aquarium has to offer. As Canada's largest aquarium, the Vancouver Aquarium connects hundreds of thousands of Aquarium visitors with the natural world. With over 50,000 animals and unique opportunities to come up close with some of the world's most elusive creatures, every visit is an unforgettable one.

The 2015 Conference has a wonderful line-up of speakers. The educational programming features experts from around the magnesium industry, including:
- Robert McHale, Alcoa Mill Productions Lancaster
- Alan Clark, CM Group
- Dr. Armin Plath, Volkswagen Group Research
- Jinxiang Xu, China Magnesium Association
- Daisuke Konishi, Japan Magnesium Association
- Tim Skszek, Magna International

Other conference highlights include:
- Magnesium processes
- Technological advances
- Innovative applications
- Emerging developments in the global marketplace
- Environmental concerns
- Attracts delegates from all aspects of the Magnesium industry
Chinese producers maintained operations during the Chinese New Year break (18-24 February), but buyers were absent. End-users from the magnesium alloy and powder sector have retreated to the sidelines and are opting to keep feedstock to a minimum level in the wake of sluggish business.

While producers in China operated at their usual run-rates, this resulted in an accumulation of stocks. But suppliers are trying to resist bargain hunters in the aluminium and titanium industries where demand has been weak recently for raw materials such as magnesium.

Fundamentals in the magnesium market are looking difficult in 2015 in light of an economic slowdown. China’s GDP growth slowed from 7.7pc in 2013 to 7.4pc in 2014, below the official target of 7.5pc, the first time this has happened since 1990. It was the slowest growth since 1990, but economists reckon that it has not yet reached rock bottom. Premier Li Keqiang said in the recent annual Government Work Report that China will see growth of 7pc in 2015.

China dominates world primary magnesium metal production, with the country’s production exceeding 730,000t in 2012, equivalent to above 75pc of total supply.

The magnesium metal market in the US has steadied recently but demand remains sluggish and holders of material are in no hurry to sell. Business activity on the spot market remains fairly limited, with only the occasional enquiry for small parcels being reported. Despite the flat trading conditions, holders of material appear unwilling to offload metal cheaply amid a growing belief that the market could pick up heading into the traditionally busier spring period. It also comes as the market awaits the outcome of strike action at Israel Chemicals Limited’s (ICL) Dead Sea Works (DSW), which makes potash. Although ICL’s Dead Sea Magnesium (DSM) subsidiary has not been impacted by the labour dispute, trade sources said the market is watching closely to see if the company resolves the issues. DSM is a magnesium supplier to

IMA will also be exhibiting at GALM London so stop by and see us at our new booth!

GALM Global Lightweight Materials Manufacturing Summit, GLMM, April 14-15, 2015 in Detroit, MI. Click here for additional details or to register now. IMA Members receive a 15% discount, use discount code: GLMMIMA

GALM 2nd Annual Global Automotive Lightweight Materials Summit, April 29th & 30th, 2015 in London. Click here for more information or to register now. IMA Members receive a 15% discount, use discount code: GALMIMA.
Domestic Magnesium Market - November, 2014

News in Japan

Fuji Light Metal and Parker Corporation jointly developed a maintenance cleaner for magnesium extruding

(Source: Altopia News 27th Nov., 2014)

Fuji Light Metal developed a maintenance cleaner for magnesium extruding "PK-MagneMelt Cleaner" in cooperation with Parker Corporation. The product is sold by Parker Corporation.

This is a maintenance cleaner which dissolves magnesium residues left in containers and dies after extrusion and clean up them. The cleaner can dissolve magnesium residues effectively and remove them from containers and dies without any harmful effects such as corrosion and deformation. In addition, it can secure the safety during the operation because its temperature does not change suddenly and it foams moderately. Concerning the safety, the influence on tools and workers are taken into consideration. The component to solve the magnesium residues are selected not to affect tools, and the special additive agents exert inhibiting effect on corrosion.

For workers' safety, the product is the low foaming type without a sudden temperature change.

NEC unveiled the actual equipment of the next "LaVie Z"

(Source: My Navi News 1st Jan., 2015)

NEC Personal Computer displayed actual equipment of next "LaVie Z" under development in Lenovo booth of CES (Consumer Electronics Show) 2015.

They are two laptops, 13.3 type mobile notebook and 13.3 type mobile notebook convertible to tablet notebook by rotating hinge. NEC claims they are the world’s lightest. Since these are handled as reference exhibition, they may be different from the final product version, and the release time in Japan is undecided, however the launch in this spring can be expected. The lightweight property and the high rigidity by applying magnesium lithium alloys will be continuously investigated.

Domestic Magnesium Market - November, 2014

Import

Based on Import/Export Statistics of November 2014, magnesium metal import was 2,922.6 tons (6.3% increase from the same month the year before), magnesium powder 293.4 tons (44.2% decrease), and other products 191.7 tons (36.1% decrease). Whereas magnesium metal showed healthy increase, powder category and other products which had showed large increase before now declined. The overall import in November was 3,407.7 tons (4.7% decrease).

The breakdown of the metal category was that the pure magnesium was 2,425.3 tons (8.9% increase), die-casting use was 491.0 tons (5.4% decrease), and casting alloys was 6.3 tons (80.6% increase). The pure magnesium showed stable increase, whilst casting alloys which had showed unstable trend reduced again. The average import price of pure magnesium had continually decreased in the past three months, and it was 277.1 yen/kg in November (6.2 yen/kg, 2.3% increase from the month before). The average import price of magnesium alloys also increased by 9.3 yen/kg from the previous month to 320.5 yen/kg.

The total imports of January-November 2014 consisted of 29,374.1 tons of magnesium metal (14.6% increase vs the same period the year before), 3,765.7 tons of magnesium powder (12.0% decrease), and 2,115.8 tons of other products (259.2% increase). Although severe situations had continued in the powder/grain category, the total became 35,255.5 tons (15.6% increase), and remained almost stable on the whole.

Export

In November 2014, 133.4 tons of magnesium alloys (227.7% increase vs the same period the year before) and 2.2 tons of other products (96.4% decrease) were exported. In these, export to China was 1.9 tons.

The total exports of January-November 2014 consisted of 566.8 tons of pure magnesium and magnesium metal/alloys (84.4% increase vs the same period the year before), 8.5 tons of magnesium powder (31.6% increase), and 83.4 tons of magnesium products (141.4% decrease).

February China Magnesium Industry and Market Bulletin

Qinghai Sunglow Group makes new progress in the export of magnesium products

Given the international market downturn and more competitive situation, Qinghai Sunglow Group, by special funds for international trade and the policy of export credit insurance, enhances export trade. At present, its products have been exported to Britain, Canada, Austria and India, with product quality higher than the American ASTM standard and 100% pass rate. In 2014, Sunglow Group realized over 30 min. USD of export value, up 35.5% y-on-y. Now, the H1(2015) sees 50% up in orders as compared with H1(2014).

Yunhai Special Metals ramped operating profit up by 8.5% y-on-y

Yunhai Special Metals recently released annual performance for year 2014. The annual report said the company, in 2014, seen operating income down 12% against in 2013; operating profit up 8.5% against in 2013; total profit up 1.81% as shown in the following table.

<table>
<thead>
<tr>
<th>Item</th>
<th>In 2014</th>
<th>In 2013</th>
<th>Change y-on-y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>3,273,421,919.8</td>
<td>3,719,968,155.8</td>
<td>-12.00%</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>12,645,951.9</td>
<td>11,655,262.1</td>
<td>8.50%</td>
</tr>
<tr>
<td>Total Profit</td>
<td>18,713,444.4</td>
<td>18,380,859.9</td>
<td>1.81%</td>
</tr>
<tr>
<td>Net profit attributable to shareholders</td>
<td>27,158,788.1</td>
<td>25,347,486.5</td>
<td>7.15%</td>
</tr>
<tr>
<td>Rate of return on net assets</td>
<td>2.97%</td>
<td>2.79%</td>
<td>0.18%</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2,729,481,151.3</td>
<td>2,753,277,877.2</td>
<td>-0.86%</td>
</tr>
</tbody>
</table>

The announcement said, shrinking revenue was mainly due to the influence of material prices, dropping product selling prices and corresponding change in sales structure. The growth in operating profit was mainly driven by: 1) Chaohu Yunhai Magnesium, the holding subsidiary, enters into production, which dilute the fixed cost by ramping up output, and 2) growing gain and profit from wholly owned subsidiaries, Nanjing Yunhai Light Metal Precision Manufacturing and Nanjing Yunkai Alloy.
**Eontec saw revenue from scientific segment up 10.98%, but net profit down 1.59% in 2014**

Eontec, a light metal die casting manufacturer, recently released 2014’ annual report. The report said Eontec achieved operating revenue of 514635500 yuan, up 10.98% y-on-y, and net profit of 48002800 yuan, down 1.59%. By year 2014, Eontec possessed 0.856 bln. yuan of total assets, while total liabilities 0.231 bln. yuan. Total sales of aluminum magnesium alloy die casting hit 77286442 pieces in 2014.

Year 2014 was of great significance to Eontec, in which Eontec established as development strategy the liquid metal, magnesium alloy automotive products and biodegradable medical magnesium alloy.

Eontec vigorously developed customer consumers from electronics field. Now, Eontec successfully enters the supply chains related to well-known customers such as Huawei, Lenovo, Samsung, Xiaomi, OPPO, and Vivo, and has laid a solid foundation for the long-term sustainable development in the future.

Eontec, from the long run, focuses on magnesium alloy auto parts for their R & D, production, sales, and technical innovation. Eontec performs very well by strong production capacity and complete industrial chain advantage. Eontec adheres to the core of large client strategy, and, by cooperating with the international well-known customers, adds vital momentum to self development. At present, Eontec joins with international well-known clients such as TKP, Tesla, HBA, and TRW.

Biodegradable medical magnesium alloy program, as Eontec’s one of the important development direction, combines with many well-known universities, research institutions and hospital and leads to the establishment of the first national medical magnesium alloy technology innovation alliance in China. In Nov.,2014, Eontec received the approval test report for its biodegradable magnesium bone internal fixation screw from Chinese Food and Drug Inspection Institute. This is a major breakthrough for Eontec’s biodegradable medical magnesium alloy project.

In 2014, Eontec invested 25737900 yuan on R & D, up 5.05% y-on-y. At the same time, Eontec paid attention to the protection of intellectual property rights, and received 4 patents.

<table>
<thead>
<tr>
<th>Main operating revenue profit by products (Unit: ‘000 yuan)</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>----------------</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Of Which:</td>
</tr>
<tr>
<td>Aluminum article</td>
</tr>
<tr>
<td>Magnesium Article</td>
</tr>
<tr>
<td>Bakedite article</td>
</tr>
<tr>
<td>Molded product</td>
</tr>
</tbody>
</table>

**Qinghai Salt Lake Magnesium will put phase I project into trial production in Jun.**

Source from Qinghai Salt Lake Magnesium said its phase I project, with 100kt/a of primary magnesium capacity, will come into trial production by June. Since 2016, large quantities of primary magnesium from electrolysis process will enter into domestic market and makes Qinghai Salt Lake Magnesium the largest magnesium producer worldwide.

The source also said the magnesium alloy production line, jointly established by Qinghai Salt Lake Magnesium and Magontec, will begin its construction following the production of primary magnesium.

In addition, Xining Telimei, dedicated to the production of die-casting alloy, a wholly owned subsidiary of Qinghai Salt Lake Industry Group and set up in Ganhe Industrial Park, Xining Economic Development Zone, Qinghai, in late 2009, has completed its construction project, and is currently looking for the market and technology.

The total magnesium-integrated project, carried out by Qinghai Salt Lake Magnesium, will boast 400kt/a of primary magnesium, 2000kt/a of soda ash, 2800kt/a of methanol, 2400kt/a of coke, 2400kt/a of polypropylene, 2000kt/a of PVC, and 100kt/a of calcium chloride, with heat supply facility. The investment will total 60 bln. yuan.

Currently, the early start-up projects, related to 27.8 bln. yuan of investment, include: 100kt/a of primary magnesium, 1000kt/a of methanol, 1000kt/a of MTO olefin, 160kt/a of polypropylene, 800kt/a of PVC, 100kt/a of soda ash, 2400kt/a of coke, 800kt/a of calcium carbide, 100kt/a of calcium chloride, and 2400T/H+320MW heat supply center.

**A comprehensive processing enterprise for magnesium alloy is seeking strategic investment and equity cooperation opportunities**

Sources from one magnesium company in the northern China said to Sunlight Metal that the magnesium company, dedicated to magnesium alloy processing through years’ persistence and accumulation, ushers in the fast-growing opportunity in 2015, and needs, through the expansion of production capacity and sufficient liquidity, to seize market and continue to take the leading role in magnesium industry. Therefore, they decide to adopt the open thinking and win-win philosophy to seek strategic investment and equity cooperation opportunities. They hope to look, through the platform by Sunlight Metal, for potential partners.


At present, the company’s more than 100 products, spanning 5 series with 50kt/a of comprehensive capacity, cover magnesium and magnesium alloy bar, sacrificial anode, die casting, extrusion and sheet, and, into over 30 countries and regions including North America, Europe, Japan, South Korea, and Middle East, find wide application in anti-corrosion, B & C, automobile, high-speed train, motorcycle, bicycle, aerospace, computer, household appliances, mobile phone, LED, and military machinery. Its customers include Foxconn, general motors, Beijing Hyundai, A.O.Smith, Ricoh, Hitachi, and Ariston.

According to the latest audit results, the company, from year 2011 to 2013, realized 0.186 bln. yuan, 0.216 bln. yuan and 0.26 bln. yuan of revenue from main operations, respectively, while net profit for year 2011, 2012 and 2013 hit 18.49 mln. yuan, 25.9 mln. yuan and 28.68 mln. yuan, respectively. By Oct 31, 2014, the company realized 0.172 bln. yuan of revenue from main operation, 27.32 mln. yuan of profit from main operation and 18.1448 mln. yuan of net profit.

It is reported that the company, at present, has 0.407 bln. yuan of assessed value, much higher than the book value of the net assets, mainly contributed by fixed assets and intangible assets.

Managerial source from the company said to Sunlight Metal that the company issued a letter of intent, is not to withdraw from the magnesium industry. On the contrary, the company hopes to continue to strengthen its magnesium alloy processing facility lasting for more than 10 years. Recently, regional financial institutes continuously
Mr. Dongchunming, GM of Sunlight Metal, said that the development of magnesium alloy application enters a new round of growth period, but China magnesium industry and other industries are facing the shortage of funds. Entity enterprises suffer from insufficient funds, and financial cost is higher for private enterprises. At this time, it is wise for the company to decide to go through the path of property rights cooperation to seek greater development space. Investors and entrepreneurs are looked forward to, given the development potentials for magnesium industry in China, and appreciate the potential value of manufacturing companies with scale and operating years.

Any enterprises interested in this cooperation program can contact Sunlight Metal for further information.

### Export of magnesium products closed in December 2014 in China (Unit: t)

<table>
<thead>
<tr>
<th>Item</th>
<th>Magnesium unwrought (min.99.8%)</th>
<th>Other magnesium and alloy unwrought</th>
<th>Waste and scrap</th>
<th>Magnesium rasps/turnings/granules according to size &amp; powders</th>
<th>Magnesium wrought</th>
<th>Magnesium articles</th>
<th>Monthly total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS code</td>
<td>81041100</td>
<td>81041900</td>
<td>81042000</td>
<td>81043000</td>
<td>81049010</td>
<td>81049020</td>
<td>81049010</td>
</tr>
<tr>
<td>Jan. 2014</td>
<td>21732</td>
<td>12595.3</td>
<td>242.4</td>
<td>3904.7</td>
<td>490.1</td>
<td>476.2</td>
<td>44840.7</td>
</tr>
<tr>
<td>Feb.</td>
<td>11844.3</td>
<td>5898.5</td>
<td>209.7</td>
<td>3911</td>
<td>209.8</td>
<td>393.9</td>
<td>22467.2</td>
</tr>
<tr>
<td>Mar.</td>
<td>24607.2</td>
<td>9323.1</td>
<td>447.8</td>
<td>8858.7</td>
<td>512</td>
<td>389.5</td>
<td>44138.3</td>
</tr>
<tr>
<td>Apr.</td>
<td>20023.5</td>
<td>8624</td>
<td>147.9</td>
<td>9074.5</td>
<td>319.8</td>
<td>843.2</td>
<td>38833</td>
</tr>
<tr>
<td>May</td>
<td>16793.5</td>
<td>9041.1</td>
<td>433.7</td>
<td>7373.1</td>
<td>190.3</td>
<td>963.2</td>
<td>34740.9</td>
</tr>
<tr>
<td>Jun</td>
<td>16949.8</td>
<td>9323.1</td>
<td>447.8</td>
<td>8858.7</td>
<td>512</td>
<td>389.5</td>
<td>44138.3</td>
</tr>
<tr>
<td>Jul</td>
<td>18445.9</td>
<td>9232</td>
<td>147.9</td>
<td>9074.5</td>
<td>319.8</td>
<td>843.2</td>
<td>38833</td>
</tr>
<tr>
<td>Aug.</td>
<td>17975.3</td>
<td>8024.9</td>
<td>211.8</td>
<td>8858.7</td>
<td>337.2</td>
<td>832.5</td>
<td>34037.8</td>
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<tr>
<td>Sept.</td>
<td>19593.69</td>
<td>8249.17</td>
<td>0</td>
<td>9172.33</td>
<td>329.1</td>
<td>592.53</td>
<td>35484.81</td>
</tr>
<tr>
<td>Oct.</td>
<td>16676.4</td>
<td>7655</td>
<td>327</td>
<td>7278.9</td>
<td>196.9</td>
<td>507.8</td>
<td>34740.9</td>
</tr>
<tr>
<td>Nov.</td>
<td>18134.2</td>
<td>7210.3</td>
<td>327</td>
<td>7278.9</td>
<td>196.9</td>
<td>507.8</td>
<td>34740.9</td>
</tr>
<tr>
<td>Dec.</td>
<td>24588.7</td>
<td>10427.4</td>
<td>307.2</td>
<td>7949.7</td>
<td>253.5</td>
<td>376.9</td>
<td>43933.6</td>
</tr>
<tr>
<td>Jan. 2015</td>
<td>22710.5</td>
<td>9921.8</td>
<td>304.3</td>
<td>8881.3</td>
<td>186</td>
<td>544.8</td>
<td>42348.7</td>
</tr>
</tbody>
</table>

(Source: China Customs)
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 5 years running. For more detail and inquiry, pls. contact us at info@chinamagnesium.net