



## IMA News

August 14, 2013

Issue: 05

### IMA Executive Committee:

Karl Kainer	<a href="mailto:ima.magnesium@hzg.de">ima.magnesium@hzg.de</a>	Nic Andrews	<a href="mailto:nic.andrews@magontec.com">nic.andrews@magontec.com</a>
Ronald Chang	<a href="mailto:c.j.chang@foxconn.com">c.j.chang@foxconn.com</a>	Jan Guy	<a href="mailto:JGuy@amacor.us">JGuy@amacor.us</a>
Tom Heider	<a href="mailto:tomh@tcdcinc.com">tomh@tcdcinc.com</a>	Anthony LoCoco	<a href="mailto:tlococo@cwmtl.com">tlococo@cwmtl.com</a>
Walter Treiber	<a href="mailto:wtreiber@cwmtl.com">wtreiber@cwmtl.com</a>		
Ken White	<a href="mailto:ken.white@magnesium-elektron.com">ken.white@magnesium-elektron.com</a>		

Below are articles and summaries of **magnesium** related stories. IMA Member companies are asked to distribute the update to their employees and if their employees wish to receive the monthly IMA News issues, please send their email addresses to the IMA Head Office. The IMA appreciates all member company press releases and announcements for inclusion in the monthly IMA News issues.

### INDUSTRY CALENDAR

#### IMA Events

October 28 – 29, 2013

#### [IMA North American Applications Seminar](#)

BuhlerPrince, Inc.  
Holland, Michigan, USA

December 5 – 6, 2013

#### [IMA European Health & Safety Seminar](#)

Leonardo Hotel Köln  
Cologne, Germany

June 1 – 3, 2014

#### [IMA 71st Annual World Magnesium Conference](#)

Westin Grand  
Munich, Germany

#### Industry Events

August 21 – 22, 2013

Global Automotive Lightweight Materials Detroit  
2013  
Detroit, Michigan, USA  
<http://www.global-automotive-lightweight-materials-detroit-2013.com>

September 3 – 5, 2013

Euro LightMAT 2013  
Bremen, Germany  
<http://www.dgm.de/dgm/lightMAT2013/>

October 6 – 8, 2013

[5th Asian Symposium on Magnesium Alloys](#)  
Toki Messe  
Niigata, Japan

### Contact IMA

#### Mike Schultze, Executive Vice President

E-mail: [mschultze@tso.net](mailto:mschultze@tso.net)

#### Ann Scheible, Director Member Services

E-mail: [ascheible@tso.net](mailto:ascheible@tso.net)

IMA staff can also be reached at:  
International Magnesium Association  
1000 N. Rand Road, Suite 214  
Wauconda, IL 60084 USA  
Tel: ++1-847-526-2010  
Fax: ++1-847-526-3993  
E-mail: [info@intlmag.org](mailto:info@intlmag.org)  
Website: [www.intlmag.org](http://www.intlmag.org)

**Asian Director:** Shanel Tsai  
IMA Asia Representative Office  
7F No.12-2 Alley 658 Jinzhong Road  
Changning District  
Shanghai, China 200335  
Phone: +86 (21) 6402 2930  
Email : [shanel@intlmag.org.cn](mailto:shanel@intlmag.org.cn)

**European Director:** Christian Payn  
IMA European Representative  
343 Chemin de Durban  
84190 beaumes de Venise  
France  
Phone: +33 (0)6 79 91 44 37  
Email: [Christian.payn@gmail.com](mailto:Christian.payn@gmail.com)

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## ASSOCIATION NEWS

**IMA Announces the North America Magnesium Applications Seminar & Exhibits**

**Please Join Us for the 71st Annual World Magnesium Conference in Munich, Germany**

**IMA 70<sup>th</sup> Annual World Conference: [Conference Highlights!](#)**

**2013 Annual World Magnesium Conference Proceedings and other IMA Publications Available for Sale**

**IMA Announces Newly Designed Website Release**

**IMA Staff Changes**

**[Articles follow below](#)**

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## INDUSTRY NEWS

**Prof. Karl Kainer and Prof. Horst E. Friedrich's Presence at The International Congress on Light Materials Science and Technology (LightMAT2013)**

**August Magnesium News Summary from Metal-Pages**

**Norsk Hydro ASA: Hydro and Serenity Sign Agreement for Possible Restart of Magnesium Production at Herøya**

**Automotive Lightweighting and China Growth Driving Demand for Magnesium**

**Jaguar Land Rover Focuses on Lightweighting to Meet Mileage Goals**

**[Articles follow below](#)**

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*EDITOR'S NOTE: IMA makes every possible effort to substantiate the articles which appear in the Update. However, as this is not always possible IMA does not warrant the details nor accuracy of any given article. Please keep in mind that materials are attained through press releases, outside articles from numerous sources and publications. Such materials often contain opinions which are not that of the association nor should they be construed as such. We realize that in the case of some materials, the translations might often lead to less than perfect grammar, etc. It is our position however to print as submitted rather than take upon ourselves the editing of such materials which would entail potential changes unwanted by any given author.*

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## ASSOCIATION NEWS

### IMA Announces the North America Magnesium Applications Seminar & Exhibits

The International Magnesium Association (IMA) and its North America Committee Chair, Mr. Tom Heider, are pleased to announce that it will again offer its Magnesium Applications Seminar & Exhibits to be held on Tuesday, October 29, 2012 at the facilities of long-time IMA member, BuhlerPrince, Inc., in Holland, Michigan, USA. There will also be an optional BuhlerPrince, Inc., plant tour on Monday, October 28. Please save the dates on your calendar!

The Magnesium Applications Seminar was established to educate participants about the versatility of this lightweight alloy. This year's agenda offers a global perspective of **magnesium's** application within multiple industries, along with an analysis of current research and trends. At the event, there will also be opportunity to collaborate with professionals in the industry, and visit the exhibit hall to speak directly with recyclers, foundries, and fabricators of **magnesium** products.

This seminar is FREE to attend. **Magnesium** topics tentatively included are relative to:

- Applications
- Technology
- Productivity
- Quality
- Green
- Support and Research Presentations

On behalf of Tom Heider and the IMA North America Committee, we hope you are able to take advantage of this comprehensive and FREE opportunity! Additional details regarding attending and exhibiting will be available soon at: [www.IMAseminar.org](http://www.IMAseminar.org).

### Please Join Us for the 71st Annual World Magnesium Conference in Munich, Germany

The World Magnesium Conference is scheduled for June 1 – 3, 2014. This event is the premier international **magnesium** industry conference that highlights the latest technological advances, innovative applications, and emerging developments in the global marketplace. The conference combines informative technical sessions, exhibits, networking and social opportunities for a well-rounded industry experience.

- Industry Updates
- Technical Program, provides a wealth of information for **magnesium** industry professionals and addresses topics ranging from an overview of the current state of the **magnesium** industry to **magnesium** process breakthroughs, applications, and business management issues.
- Social Program
- Exhibit Showcase and Sponsorship Opportunities
- Awards of Excellence, IMA's competition recognizing outstanding **magnesium** products and innovative manufacturing technologies
- International Environmental Responsibility Awards
- IMA Annual Membership Meeting
- Spouse Program

Munich is, "a city of contradictions that somehow create an intriguing blend of old and new; Lederhosen and the latest designer outfits, traditional beer gardens and stylish clubs, historical buildings and the most modern architecture - all stand proudly side by side."

But Munich is not only the capital of Bavaria, it is home to the world's largest festival "Oktoberfest," Bayern Munich and BMW. Discover this pulsing city, and beyond, offering treats such as:

- A city of culture, Munich offers about 40 theatres or smaller stages, 50 museums and collections, different opera houses, old buildings like the 500-year old church “Frauenkirche”, the Marienplace with the new Neo-Gothic Town Hall and famous parks like the English Garden and the Olympic Park.
- Outside Munich, on the way to the Alps, there are plenty of beautiful lakes and castles just waiting to be discovered, among them the fairytale castle “Neuschwanstein.”
- Find out more about the medieval cities of Nuremberg and Augsburg, Roman architectural ruins in Regensburg and Passau, the salt mines in Berchtesgaden and the majesty of the Zugspitze, Germany’s highest peak near Garmisch-Partenkirchen.

Munich is unique in combining modernity with tradition. Please mark your calendar and watch for upcoming details at [www.ima-world-conference.org](http://www.ima-world-conference.org)!

### **IMA 70<sup>th</sup> Annual World Conference: *Conference Highlights!***

The 70th Annual IMA World Conference in Xi’an, China brought together professionals from around the world to discuss and promote the magnesium industry. A record number of 628 registered representatives from 23 countries attended the international conference featuring 26 industry speakers and five award winners, whose presentations spanned three days of sessions, a variety of networking opportunities and an exhibition.

Aside from the Awards of Excellence, several IMA volunteers were honored for their work during the conference. The IMA presented awards to Zisheng Zhen for outstanding service as the 2013 Conference Program Chair, and to Martin Tauber for outstanding service as the 2013 Awards Committee Chair.

#### **2013 Awards of Excellence**

The IMA was pleased to award innovative designers and engineers in the 2013 Awards of Excellence competition at the IMA’s 70<sup>th</sup> Annual World Magnesium Conference in Xi’an, China. The awards competition was open to all companies demonstrating outstanding examples of magnesium’s use as well as magnesium products and manufacturing technologies. Award winners were:

- Design Cast Product Commercial Category - Fujifilm Sonosite Inc. & Twin City Die Castings Co, for their “M2” UltraSound System.
- Design Cast Product Automotive Category - Georg Fischer GmbH & Company, KG, for their Convertible Roof Top Casting.
- Design Wrought Product Category - Nippon Kinzoku Company, Ltd. for the world’s first practical use and mass production technology of LZ91 Alloy.
- Process Category - Jiangsu RM Wheel Company, Ltd. for their Superplastic Monoblock Forged Molding Magnesium Wheel Technology.
- Application Category - Pan Asia Technical Automotive Center in cooperation with General Motors Corporation for their industry-first application of magnesium sheet in a structural and functional application of a Magnesium Intensive Decklid.

Additional information can be found here...

<http://www.intlmaq.org/2013AwardsOfExcellencePresentedInXian.html>

#### **Annual Group Meeting**

The 2013 Annual Meeting took place on Tuesday, May 21, 2013 at the 70<sup>th</sup> Annual World Conference in Xi’an. IMA President Karl Kainer presided and called the meeting to order at 8:00 AM. The agenda included a treasury report, membership report, and annual conference report. At the meeting, IMA Membership unanimously supported the slate of Officers and Directors as proposed. Professor Karl Kainer will continue as President of the IMA for the 2013-2014 term year, and Ms. Jan Guy was appointed First Vice President.

To read more, please access this website or copy the URL into your web browser:

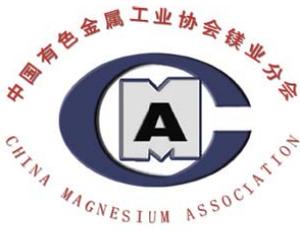
[http://www.intlmaq.org/assets/pdfs/IMA\\_Annual\\_Membership\\_Meeting\\_Minutes\\_2013-05-21.pdf](http://www.intlmaq.org/assets/pdfs/IMA_Annual_Membership_Meeting_Minutes_2013-05-21.pdf)

**THANK YOU!**

We would like to thank everyone who attended and supported the International Magnesium Association's 70th Annual World Conference in Xi'an from May 20 – 22, 2013. We hope that your experience was both valuable and fun!

A very special thank you goes to our IMA Conference partners and co-organizers: the Shaanxi Magnesium Industry Group Co., Ltd., the China Magnesium Association, the People's Government of Shaanxi Province and the People's Government of Yulin City.

*The IMA Thanks our Conference Partners and Co-organizers*

<p style="color: orange; font-weight: bold;">The People's Government of Shaanxi Province, China</p>	 <p style="font-size: small;">中国有色金属工业协会镁业分会 CHINA MAGNESIUM ASSOCIATION</p>	<p>Magnesium Industry Association of Shaanxi Shaanxi Magnesium Industry Group Co., Ltd.</p>
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We especially would like to thank our Exhibitors and Sponsors for their generous support of the 2013 conference:

*The IMA Thanks Our 2013 Annual World Conference Individual Event Sponsors*

 <p style="font-weight: bold; font-size: large;">W. PILLING</p> <p><i>Pearl Level Sponsor</i></p>	 <p style="font-weight: bold; font-size: large;">Magnesium Elektron</p> <p style="font-size: x-small;">SERVICE &amp; INNOVATION IN MAGNESIUM</p> <p><i>President's Reception &amp; Closing Banquet</i></p>	
 <p style="font-size: x-small;">TWIN CITY DIE CASTINGS CO. Since 1919</p> <p><i>Spouse Welcome Reception</i></p>	 <p style="font-size: x-small;">posco</p> <p><i>Lanyards</i></p>	 <p style="font-weight: bold; font-size: large;">RIMA</p> <p><i>Closing Banquet</i></p>

*The IMA Thanks Our 2013 Annual World Conference Exhibitors*



**IMA Asia Reports Success of 70<sup>th</sup> Annual Magnesium World Conference**

The 70th Annual World Magnesium Conference of the International Magnesium Association (IMA) was held from May 19 – 22, 2013 in Xi'an, Shaanxi Province, China.

The International Magnesium Association, China Magnesium Association and Shaanxi Provincial Government, together, hosted the conference which was jointly sponsored by the Shaanxi Magnesium Association in China and Magnesium Elektron, POSCO, RIMA Industrial S/A, Twin City Die Castings Co., and W. Pilling Kesselfabrik GmbH & Co. KG.

There were 24 papers presented, 13 of which from the Asia region.

The conference was kicked off by the China Magnesium Association's report for 2012 industrial development in China that was presented by CMA President, Mr. Jinxiang Xu. It was followed by Mr. Delong Xu on the strategy of boosting the Shaanxi Magnesium Industry with Science and Technology. Mr. Xu has a highly respected profile in the Chinese Non-Ferrous metal industry, currently chairing the Xi'an University of Architecture & Technology (XAUAT) and State Key Laboratory of Architecture Science and Technology in West China, Xi'an.

Kashui Holdings, devoted supporter of the IMA and **magnesium** industry presented "Newest Research & Development Technology of Magnesium Alloys," followed by four (4) technically profound papers:

- "Hot Tearing of Magnesium Alloys," Magontec Group
- "Effect of Li Addition on the Mechanical Behavior and Texture," by Dr. Bin Jiang and Dr. Fusheng Pan
- "Development of High Performance RE Containing Magnesium Alloys," by Dr. Xiaoqin Zeng of Shanghai Jiaotong University
- "The Establishment of High Mass Production Technology regarding KUMADAI Magnesium Alloy," from the International Magnesium Research Center, Kumamoto University

The General Manager of the Beijing-based Consulting Company, Mr. Chunming Dong, participated by revealing his views on new opportunity and market for enlarging global **magnesium** applications.

Executives from the recently spotlighted, "Electrolysis Production Project: Qinghai Salt Lake Magnesium Co., Ltd." in China had Mr. Guoli Yu deliver "Qinghai Salt Lake Magnesium Project and Its Influence on the Magnesium Industry," which attracted audiences and industry participants, while Mr. Kangming Xie, CEO, remained at a low-profile throughout conference.

IMA 2013 Award winner, Jiangsu Rongmei Wheel Co., Ltd., jointly presented the “Process and Property Study on Mould Forged Magnesium Alloy Wheel Hub” with Dr. Gaofeng Quan, an expert of design and development on land transport vehicles.

Luoyang Copper Group, an influential Non-Ferrous Metal Manufacturer, dispatched Mr. Jinghua Zhang for his presentation on “Research and Development on Continuous Casting and Rolling Process of the Deformed Magnesium and Wrought Magnesium Alloy Sheet.”

Dr. Zhongling Wei, young academic and a hands-on researcher on **magnesium** surface treatment, shared with us his exploration on the “Synergistic Coating Solutions on Magnesium Product and its Application.” Mr. Makoto Hino, Hiroshima Institute of Technology, Japan, with his profound experiences in **magnesium** research, wrapped up the conference with “Laser Application for Recycling of Magnesium Scraps,” following Dr. Haberling’s presentation for AUDI AG.

Please click here to see images of the 2013 Exhibition. <http://sdrv.ms/ZdQ3zA>.

If you wish to obtain more photos, information or details, please contact IMA Head Office [info@intlmag.org](mailto:info@intlmag.org) or [asia@intlmag.org.cn](mailto:asia@intlmag.org.cn) for Japanese and Chinese translation assistance.

*Reported by IMA Asia office on August 12, 2013*

### **2013 Annual World Magnesium Conference Proceedings and other IMA Publications Available for Sale**

The Proceedings from the 70<sup>th</sup> Annual World Magnesium Conference in Xi’an, Shaanxi Province, China are now available for purchase on the IMA website in both the book and CD format. Please click here for information on how to place an order: <http://www.intlmag.org/publications.html>.

In addition to Proceedings (with the exception of 2009 which is sold out in both formats), the IMA has other publications for sale, such as the popular “Safe Handling of Magnesium” brochure and CD. The brochure comes in German and Chinese as well. You can review our entire catalog here: <http://www.intlmag.org/publications.html>.

### **IMA Announces Newly Designed Website Release**

The IMA is pleased to announce that we will be launching our new and improved website in the fourth (4th) quarter of 2013. The new website will include updated **magnesium**-specific information relevant to the industry and end-users, as well as website enhancements, including an improved *Buyers' Guide* section with expanded member detail. In addition, the website will feature a more appealing design with easy-to-use navigation providing a better overall user experience.

As part of the redesign, we will be updating the website with images showcasing the uses and advantages of **magnesium**.

If your company has any images that showcase the uses and advantages of **magnesium** which you are willing and able to have posted on the IMA website, please let us know. We will give your company credit on the website for photo use. The categories for which we need images include:

- Magnesium Raw Materials
- Magnesium Primary Production
- Magnesium Alloys
- Magnesium Fabrication & Finishing
- Magnesium Applications
- Magnesium Projects
- Sustainability

Thank you in advance for any image contributions your company can provide.

If you have any questions, please do not hesitate to contact the IMA Head Office at [info@intlmag.org](mailto:info@intlmag.org).

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## INDUSTRY NEWS

### Prof. Karl Kainer and Prof. Horst E. Friedrich's Presence at The International Congress on Light Materials Science and Technology (LightMAT2013)

Prof. Karl Kainer, IMA President, and Prof. Horst E. Friedrich, current member of the IMA Board of Directors, will have a presence at the upcoming International Congress on Light Materials Science and Technology (LightMAT2013) being held in Bremen, Germany from September 3 – 5, 2013. Prof. Kainer is a plenary session Chair on day one of the congress in which Prof. Friedrich will be presenting, "Lightweight Design: The Vanguard of Automotive Engineering Strategies for Materials and Construction Methods."

LightMAT2013 provides a platform for academic and industrial researchers, scientists and engineers to present and discuss the recent development and progress made in Magnesium, Aluminium and Titanium and their alloys. The sessions are organized beyond pure metal issues, but address common processes and main applications, intended to provide comparison and cross fertilization, giving a wide overview of individual advances, problems and high-lights, covering:

- Conventional and advanced light weight applications and products in automobiles, aerospace and other relevant transport and building systems
- Fundamental aspects of the three light weight metals and their alloys, their processing and (physical) metallurgy issues involved
- Microstructure evolution, related properties and advanced simulation
- Industrial fabrication, processing and joining issues

The LightMAT2013 addresses industry as well as academia and emphasizes the strong connection between the two. It also encourages participation and acquainting of young engineers and students.

Source: [www.dgm.de/dgm/lightmat/](http://www.dgm.de/dgm/lightmat/)

### August Magnesium News Summary from Metal-Pages

LONDON (Metal-Pages) 05-Aug-13. **Magnesium** prices have trended lower since the start of the year due to offers from cheaper producers like Russia and Kazakhstan amid a drop off in demand in Europe, and trade sources have reported a slowdown in the earlier part of July as the summer break takes hold. Although spot demand for material remains sluggish, underlying demand is underpinned by solid volumes into end markets like automotive, steel and can sheet.

"Our contract demand has been stronger than expected all year and it doesn't seem to be changing for the summer. We are not experiencing the normal summer slowdown as our contract customers are buying at the same rate as they have been for the first half of the year," said one US trade source, noting that shipments in July could actually be slightly stronger than the past six months. "We're actually not seeing a pullback in aluminium, auto and extruding. Some of that requirement may have also come from people needing more **magnesium** than they expected because of the tightness in aluminium scrap so they've been buying more primary metal, which means they need more alloying ingredients."

The source reported a lingering softness in the spot market, however and some consumers that usually buy material on the spot market switched to long-term annual deals this year, which has helped squeeze spot trading so far in 2013. But market participants remain hopeful that business could improve later in the year as some consumers did not fully cover their requirements for the second half.

But elsewhere **magnesium** prices in China have taken a turn upwards after nearly four months of declines as supply remains tight in the market.

The Chinese **magnesium** metal market in particular has shown signs of stabilising after falling as stocks have been cut due to summer equipment maintenance. "Generally speaking, demand for **magnesium** metal has not improved, and the price increase has been just driven by a relatively supply shrink," a producer source from Shanxi said. Demand in the export market has been down to the weakest of the year as many importers have left for summer vacation.

The alloy market in China has been flat due to weak downstream consumption, and alloy prices have been driven down by **magnesium** metal.

Export business has been flat in the past second quarter, and the dull situation is expected to continue into the summer lull.

A trader from Shanghai reckoned that **magnesium** alloy consumption may be curbed by poor performance of the local automobile industry. In addition, China is likely to introduce restrictions for private cars in more cities in the second half of this year due to pollution and traffic congestion. The source worried that the new policy will weaken demand from the automobile industry. According to data from China's auto industry association, China produced 1.67 million cars in June, down 5.97% compared with May. Sales reached 1.75 million, off 0.42% monthly.

In China, the Ministry of Industry and Information Technology (MIIT) has published a list of 12 **magnesium** producers meeting the "Magnesium Industry Access Conditions". The conditions were introduced on March 7, 2011 by MIIT, and clarified production capacity, technology, **magnesium** metal quality, raw material and resources consumption and environmental protection measures that **magnesium** producers should follow. The conditions aim to standardise **magnesium** industry investment behaviour, stop blind investment and repeated low level construction, and accelerate the development of the Chinese **magnesium** industry. It will also speed up the adjustment of industrial structure, and strengthen environmental protection and the comprehensive utilisation of resources, said MIIT.

For the latest **magnesium** news and prices visit [www.metal-pages.com](http://www.metal-pages.com), to subscribe at the special IMA membership rate mail us at [info@metal-pages.com](mailto:info@metal-pages.com).

### **Norsk Hydro ASA: Hydro and Serenity Sign Agreement for Possible Restart of Magnesium Production at Herøya**

Norsk Hydro ASA and Serenity Capital Pte. Ltd have signed an agreement that could lead to Serenity's Norwegian subsidiary SilMag International AS restarting **magnesium** production at Herøya, Norway.

Under the agreement, Hydro, which closed down its **magnesium** production there in 2002, will provide production assets and technology, as well as lease of land and other infrastructure at the Herøya Industrial Park, which is a fully owned subsidiary of Hydro.

The agreement is conditional on Serenity securing necessary financing to fund the project.

Hydro's history at Herøya started in 1928, when the company began producing fertilizer, and later PVC and **magnesium**.

The **magnesium** production ceased in 2002, while the fertilizer business was demerged in 2004, creating Yara as a stand-alone global fertilizer giant. With the divestment of Hydro Polymers in 2008, Hydro had no remaining industrial production at Herøya.

Source: <http://www.4-traders.com/> (05-Jul-2013)

### **Automotive Lightweighting and China Growth Driving Demand for Magnesium**

Consumption of **magnesium** reached a new peak in 2012, a new analysis suggests, with demand having grown by 5.5 percent per year over the last decade.

That is the thumbs-up news from a comprehensive report titled, "Magnesium Metal: Global Industry Markets and Outlook," authored Roskill Information Services, a London-based research leader in international metals and minerals.

In the 388-page study, Roskill confirms that **magnesium** consumption tallied 1.1Mt worldwide and that the largest end-uses for **magnesium** are die-cast **magnesium** and aluminum alloys, each accounting for a third of total consumption.

The transportation industry is the largest consumer of die-cast **magnesium** and the second largest consumer of aluminum-**magnesium** alloys behind packaging, surveyors say.

## China Leading the Way

The **magnesium** industry, according to the study, has benefited from a rise in automotive output, led by China.

Another boost has been increases in specific consumption of **magnesium** per vehicle as manufacturers seek to comply with government-imposed emission reduction targets and the rising cost of fuel affecting consumer-buying trends.

Likewise, continued lightweighting efforts mean growth in **magnesium** consumption is set to continue, at 5 percent per year through to 2017. Die-cast **magnesium** use is likely to rise faster, at 6.5 percent annually, but the market will be tempered by lower rates of growth in steel desulphurisation and iron nodularisation, officials say.

Growth in Chinese consumption has more than offset a slight fall in the rest-of-world in consumption since 2007, the report explains. Asia now accounts for 43 percent of the global total, up from 35 percent.

North America, meanwhile, represents a further 20 percent of consumption, and Europe 15 percent. India and South Korea show strong growth over the last five years, but from a low base in volume terms.

Meanwhile, Russian consumption has almost doubled, owing to increased titanium production. Asia, more specifically China, will continue to exhibit the highest growth in demand for **magnesium** on a regional basis through to 2017.

## Internal Competition

Production of primary **magnesium** continues to be dominated by China, which Roskill estimates accounted for 75 percent of global output in 2012.

Russia and the U.S. together represent a further 16 percent, followed by smaller contributions from Israel, Kazakhstan, Brazil, Serbia, and the Ukraine.

Malaysia and South Korea have entered the market in recent years, albeit on a small scale, but these and some limited expansions at existing operations have done little to dampen China's growing share.

Secondary **magnesium**, output of which totaled 211kt, is sourced mainly from die-cast scrap. For secondary material, North America is the main contributor to secondary supply, followed by Europe, as these regions remain large **magnesium**-based product users.

China's leading position in primary **magnesium** output reflects the domestic availability and low cost of ferrosilicon and energy – in the form of coal, coke and electricity – which are the main inputs to the energy-intensive, thermal Pidgeon process favored in China.

Nevertheless, faced with rising energy prices and government pressures to lower emissions, Chinese **magnesium** companies have invested in process optimization to lower costs. Although China is often viewed as one entity when considering **magnesium** supply, internally the industry is also highly competitive, with recent increases in coke-gas availability resulting in a shift in domestic output to Shaanxi, thus limiting growth in Shanxi and Ningxia and resulting in the loss of output elsewhere.

The low CAPEX of Pidgeon process plants means a shift in domestic output from province to province is relatively straightforward, organization officials say. It has resulted in significant overcapacity.

Roskill estimates Chinese primary capacity at 1.3Mt, but of that only 0.8-0.9Mt is utilized; the remainder is mothballed or uneconomic. This trend caused at least one major producer in China to shutter output in 2012. Likewise, it is a factor driving industry consolidation.

Despite cost competitiveness and overcapacity in China, a new 100ktpy electrolytic plant in Qinghai is due to open during 2013, which could further alter the domestic landscape. Several companies using new processes, or variations on existing electrolytic and thermal methods, also continue to investigate primary **magnesium** production in other countries, especially Australia and Canada.

However, unless these projects can compete with Chinese Pidgeon process costs and be economic at current and forecast near-term pricing levels of US\$2,500-3,000/t, China looks set to increase its share of the market as demand grows.

Source: <http://www.Industrytoday.co> (22-Jul-2013)

## Jaguar Land Rover Focuses on Lightweighting to Meet Mileage Goals

2013 CAR Management Briefing Seminars

The only way for Jaguar Land Rover (JLR) to meet fuel-economy goals with its big cars and SUVs is to make them as light as small cars, says Mark White, the man in charge of JLR's vehicle bodies.

For the U.K.-based auto maker, that means switching materials from steel to aluminum, and the new Range Rover Sport is the sixth all-aluminum model from the company since the '02 Jaguar XJ.

JLR wanted to use its existing facilities – press, paint and body shops – and switching materials from steel to aluminum fit the bill.

For the current Range Rover model, the change is easily measured. The old one in steel weighed 5,688 lbs. (2,580 kg), while the aluminum vehicle tips the scales at 4,762 lbs. (2,160 kg). The body is more than half the weight of the vehicle, when trim, mechanical parts and closures are added, he says.

The Range Rover body is 441 lbs. (200 kg) lighter than its predecessor and the chassis is 220 lbs. (100 kg) lighter. Another 265 lbs. (120 kg) was saved because the lighter body and chassis permit downsizing of the engine, brakes, fuel tanks and other systems.

White says the ride and handling and noise, vibration, harshness are all improved.

The changes result in a 25% fuel-economy improvement. In the case of the Range Rover Sport, the old one was emitting 230 g/km of carbon dioxide. With a diesel-hybrid powertrain to be launched later this year, the new one will be at 165 g/km. The hybrid powertrain also will be available on the Range Rover.

White, who was made responsible for the body-in-white at Jaguar in 1998, now is in charge of the Body Complete Business Unit, which treats the body as a system, rather than as a collection of components.

In addition to the on-road savings, JLR is working on its lifecycle CO2 emissions, calculating, for example, that virtual testing of the new Range Rover saved 750,000 miles (1.2 million km) of test driving and 320 tons (290 t) of CO2.

Another aspect is the use of recycled aluminum, which is now at more than 50%. Working with supplier Novelis, recycled aluminum content will increase to 75%-80% by 2020.

Unlike General Motors, which prefers spot welds for its aluminum joining, JLR uses only bonding and rivets. The steel Range Rover had 6,000 spot welds, says White, while the aluminum one has 3,800 rivets.

White says the goal for 2030 is to reduce the weight of JLR's SUVs from 4,400 lbs. (2,000 kg) to 3,300 lbs. (1,500 kg) and that of its large sedans from 3,300 lbs. to 2,200 lbs. (1,000 kg).

"That won't happen just by using light metals," he says, but will require part reduction and other efficiencies. Already JLR uses some **magnesium**. As for composites, sheet molding compounds and natural fibers, "you will see more in the future."

Source: <http://www.WardsAuto.com> (05-Aug-2013)

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