Below are articles and summaries of magnesium related stories. Members are asked to distribute the update to their employees – if their employees wish to receive the IMA Weekly Update, please send their email addresses to the IMA Head Office. We appreciate your company press releases and announcements for inclusion in the Weekly Update.

INDUSTRY CALENDAR

July 8 – 12, 2012
9th International Conference on Magnesium Alloys and their Applications
Vancouver, Canada
www.magnesium2012vancouver.com/welcome.html

August 21 – 22, 2012
Global Automotive Lightweight Materials
Detroit, Michigan, USA

September 27 – 29, 2012
Calcium and Magnesium in Groundwater - Distribution and Significance International Seminar
Katowice, Poland
http://camgseminar.pgi.gov.pl

September 30 – October 3, 2012
COM 2012
Niagara Falls, Ontario, Canada
http://www.cim.org/com2012/

May 19 – 22, 2013
70th Annual IMA World Magnesium Conference
Xi'an, China
www.IMAworldconference.org
ASSOCIATION NEWS

IMA Member Survey and CM Group’s 2011 Global Mg Industry Update

Desulfurizing Steel: Magnesium is the Reagent of Choice in “Mg Showcase” – Spring 2012 Edition

Articles follow below

INDUSTRY NEWS

Magontec Limited Announces Qinghai Magnesium Project
www.magontec.com (20-Jun-2012)

AgustaWestland’s Latest Helicopter Adopts Cutting Edge Lightweight Technology to Boost Performance
www.magnesium-elektron.com (19-June-12)

Articles follow below

CHINA’S LATEST

China Magnesium Industry Market Bulletin
www.chinamagnesium.net (14-Jun-2012)

Articles follow below

EDITOR’S NOTE: IMA makes every possible effort to substantiate the articles which appear in the Weekly 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.
ASSOCIATION NEWS

IMA Member Survey and CM Group’s 2011 Global Mg Industry Update

All IMA Members who attended the International Magnesium Association’s 69th Annual World Conference in San Francisco had the opportunity to hear Alan Clark of CM Group, provide a 2011 Mg Industry Update. As part of the post-Conference survey, these members were asked to provide feedback regarding their experience at the event. They also were asked for feedback about IMA membership and informed about a possible partnership with CM Group to provide IMA membership with Mg Industry analysis at a discount.

So that all IMA members have the opportunity to provide their feedback about IMA membership and be informed of the possible opportunity with CM Group, here is a modified Survey for you to complete.

http://www.surveymonkey.com/s/2012_IMA_Member_Survey

Thank you in advance for your candid feedback.

Desulfurizing Steel: Magnesium is the Reagent of Choice in “Mg Showcase” – Spring 2012 Edition

In the process of steelmaking, removing excess sulfur from the hot metal is key to creating high-quality structural steel. Why control sulfur content? In many applications, sulfur content control is critical, since sulfur in the form of iron sulfides (FeS) can lead to structural failure. Steel mills use a variety of materials and technologies to remove sulfur from steel, because structural steel applications demand low sulfur levels in order to achieve the highest quality structural steel, with optimal strength, forming and joining characteristics.

To read more, please access this website or copy the URL into your web browser: http://intlmag.org/showcase/MgShowcase_spring2012_web.pdf

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INDUSTRY NEWS

Magontec Limited Announces Qinghai Magnesium Project

www.magontec.com (20-Jun-2012)

QSLM has acquired the decommissioned Norsk Hydro electrolytic pure magnesium smelter and relocated this facility from Becancour in Canada to Golmud in Qinghai Province, Prc. The Canadian plant is one of the most technologically advanced electrolytic plants in the World and is currently being modified to suit its new environment in Qinghai Province. The Canadian engineering company, Hatch Ltd, has been commissioned to lead the reconstruction of the Norsk smelter and to increase output capacity from 40,000 mtpa of pure magnesium to 100,000 mtpa (stage 1) and then to 150,000 mtpa (stage 2).

It is agreed between the parties that MGL will take up to 56,000 mtpa of the initial production of the 100,000 mtpa of pure magnesium from the Golmud smelter. This off take will be dedicated to the manufacture of magnesium alloys for distribution through the MGL global sales and marketing platform. The balance of production is to be sold directly into the pure magnesium market.

The Golmud project is expected to develop two additional 150,000 mtpa electrolytic magnesium smelters (stages 3 and 4) in close proximity to the first smelter. Collectively, the Golmud project will have a production capacity, at completion, of 450,000 mtpa of pure magnesium. The project will be the largest pure magnesium manufacturing facility in the World with an annual output equivalent to 64% of current global pure magnesium production in China.

Under the agreement between the parties MGL will be the exclusive manufacturer of magnesium alloys derived from both the first facility (when capacity at the QSLM plant will be 100,000 mtpa) and from subsequent Golmud pure magnesium production facilities.
The MGL magnesium alloy cast house, adjacent to the Qinghai smelter, will receive a continuous supply of liquid pure magnesium for its alloy production activities directly from the electrolytic smelter. The manufacture of alloys directly from liquid pure magnesium will avoid significant transport and power costs currently borne at MGL’s existing manufacturing plants where alloys is manufactured from pure magnesium ingots.

The development of a major magnesium project at Golmud reflects the aspirations of the Chinese’s Government’s 2011-2015 Five-Year plan. The Chinese industry and environmental authorities are seeking to improve the environmental footprint of the industry and have introduced new limits on new coal powered, small-scale magnesium production units and high pollution emission plants.

MGL has appointed a team to oversee the construction of the new magnesium cast house, lead by Dr. Matthais Gruber (who oversaw the construction of the MGL’s Romanian magnesium alloy recycling facility), Dr. Martin Tauber, Vice-President Business Development and Tong Xunyou, the President of Magontec Asia.

MGL will also work closely with Hatch Ltd and SAMI (Shenyang Aluminum and Magnesium Engineering and Design Institute), the engineering groups appointed by QSLM for the construction of the pure magnesium smelter and the pure magnesium ingot production facility.

**Background on Qinghai Salt Lake Industry Company Limited (QSLI)**

QSLI is the parent company (89.4% shareholder) of QSLM. QSLI was founded in 1952 and listed on the Shenzhen stock exchange in 1997 (Code:000792.SZ). In December 2011 QSLI recorded annual revenues of RMB 6.78 billion (A$1.07bn) and Earnings Before Tax of RMB 3.35 billion (A$531m). The company employs 9,200 people and has a current market capitalization of RMB49.6 billion (A$7.87bn).

QSLI’s largest shareholders are the Qinghai State Owned Assets Bureau (31%) and China Chemical Group (%15). Another 8 shareholders, including Chinese SOEs and commercial enterprises, own a further 28.6% of the company.

QSLI is a diverse chemicals manufacturer. It has been mining potash from the Qinghai salt lakes since the 1950s and is today an established, successful and highly respected Chinese corporation. The company has embarked upon a multi-industry development of the region’s salt lakes. QSLI’s strategic plan seeks to exploit this 60 billion tonne resource to develop China’s largest potassium chloride company and the World’s largest producer of pure magnesium. In addition to magnesium and potash, QSLI will develop associated facilities to produce carbinal, methyl rhenium tri-oxide (MTO), polypropylene, polyethylene, PVC, sodium hydroxide, coking coal, calcium carbide, calcium chloride and a power station.

Co-locating the MGL alloy cast house in Qinghai provides Magontec with access to the many advantages offered to industries in this region including preferential tax rates, preferential labour costs and access to the region’s abundant, low cost, hydroelectric and natural gas energy sources.

**Positive Environmental Impact**

Through this project, MGL has established a foundation on which it can build to become the World’s largest producer of magnesium alloys. The advent of a large scale and environmentally friendly production facility is expected to address two of the magnesium industry’s critical consumer concerns – environmental footprint and supply chain consistency.

Magnesium alloys produced by MGL and QSLM smelter will have a carbon footprint that will be considerably smaller than any other current producer in China.

A recent analysis conducted for the International Magnesium Association by the German Aerospace Center indicates that the Life Cycle Analysis (LCA) for magnesium produced using a continuous electrolytic process is approximately 12 tonnes of CO2 per tonne of magnesium produced. This is equivalent to the CO2 footprint for aluminum and considerably lower than the CO2 footprint for pure magnesium produced using the conventional Pidgeon process. The analysis estimates that Pidgeon plants generate an average of 26 tonnes of CO2 per tonne of pure magnesium produced. Some older plants generate up to 40 tonnes of CO2 per tonne of Mg.

The production of pure magnesium using an electrolytic smelter in China is a significant departure for the Chinese and the global magnesium industries. China currently manufactures over 80% of the World’s pure magnesium. All of this is currently manufactured using the Pidgeon process. At completion
(of stages 3 and 4) the QSLM plant will have a capacity equivalent to more than 80% of all current pure magnesium production in China.

While electrolysis is not a new technology, its demise in the early part of this century in the face of Chinese Pidgeon plant production represented an environmental challenge for magnesium alloy consumption within the automotive sector (around 80% of magnesium die cast alloys are used in the auto sector). The Golmud plant will benefit from a number of cost advantages that were not available to electrolytic plants at other locations and the comparative cost advantages of Chinese Pidgeon production have been eroded in recent years as energy, labour and environmental costs have risen. The Golmud facility will benefit from a low cost resource in the form of magnesium chloride waste from the historical potash manufacturing process and access to a source of low cost power.

While the Golmud electrolytic process will have many advantages over similar technologies at other locations, a key variable is the power source and the energy requirements of the process. At Golmud 75% of the energy will be sourced from hydroelectric power which will further improve the CO2 footprint of the alloy produced at that plant. Additional improvements in the CO2 footprint will be derived from the process; at Golmud MGL will take hot (liquid) metal and will not be required to re-melt its raw material supply. This provides power input and transport cost advantages that cannot be accessed by alloy plants, which can only access raw material in solid (ingot) form.

Financial Projections

Co-locating the MGL alloy cast house in Qinghai provides Magontec with access to the many additional advantages available to industries in this region including preferential tax rates, preferential labour costs and access to the region’s abundant low cost energy sources.

MGL will finalize the off-take pricing structure with QSLM over the coming weeks. The company’s expectation is that the cost per metric tonne of magnesium alloy produced at the Golmud cast house will be very competitive with the current average cost of alloy produced at Chinese plants which use solid pure magnesium ingots from a supplier using the Pidgeon process.

The marginal cost improvements will primarily come from:

- The avoided power cost of melting solid pure magnesium ingots;
- The avoided cost of transporting solid pure magnesium ingots from the manufacturer to the alloy plant;
- Reduced materials handling and storage costs;
- Reduced residual power costs;
- Reduced labour costs;
- Reduced income tax imposts; and
- “spin-off” benefits associated with being part of a major industrial complex

An increase in annual revenue is expected to arise from:

- Part or full utilization of a net increase in the range of 10% to 30% in the Group’s overall production capacity compared to the long term capacity available on the current plant configuration; and
- A greater ability to attract buyer demand because of improved cost competitiveness.

As a result of an increase in annual revenue, debtors may also increase depending upon market forces at the time.

It is anticipated that gross profit will increase as a result of:

- The higher level of sales; and
- Improved margins resulting from the marginal cost improvements identified above.

However, with off take pricing arrangements still to be finalized and the commissioning of stage 1 of the project to occur sometime before July 2014 the Company will delay releasing forecasts until time and circumstances offer greater certainty.
The four stages of development of the Qinghai electrolytic smelter have been described earlier.

Magontec and QSLM expect to commence construction of the 56,000 mtpa cast house in the fourth quarter of calendar 2012 and to complete the project prior to the end of the commissioning phase of stage 1 of the smelter (expected to be sometime prior to July 2014).

MGL expects to raise new capital to fund the acquisition and installation of plant and equipment for its Golmud magnesium alloy cast house. The company estimates the cost of plant and equipment for the alloy cast house will be up to $14m.

The company is currently discussing funding strategies with stakeholders and advisers regarding a fully underwritten capital raising proposal to be offered to shareholders. The Board and management of MGL will communicate the outcome of their deliberations to shareholders in the near future.

Initial equity capital raised from the QSLM placement will be applied to partly finance the cost of plant and equipment for the Golmud cast house and the working capital requirements of the Company.

**AgustaWestland's Latest Helicopter Adopts Cutting Edge Lightweight Technology to Boost Performance**

[www.magnesium-elektron.com](http://www.magnesium-elektron.com) (19-June-12)

The latest high performance helicopter models from AgustaWestland, a Finmeccanica company, will offer significantly improved flight dynamics through its adoption of Elektron 21, the very latest lightweight magnesium casting alloy technology. The AgustaWestland helicopters are the first non-US helicopters to go into production with Elektron 21 castings with first deliveries planned for mid 2012. AgustaWestland has worked together with Magnesium Elektron in the UK, a world leader in the development of magnesium alloys, to integrate Elektron 21 into its product range. The Elektron 21 castings were developed and are now successfully being produced at AgustaWestland’s own foundry in Benevento, Italy. Elektron 21 represents the latest in magnesium casting alloy technology, combining excellent mechanical properties up to 200°C, good flammability resistance, ease of casting, and very good corrosion resistance.

The use of Elektron 21 in AgustaWestland helicopters represents the culmination of many decades of a successful supplier relationship between AgustaWestland and Magnesium Elektron, where AgustaWestland has continually utilised the very latest lightweight magnesium technologies offered by Magnesium Elektron to ensure their helicopters are world class.

Elektron 21 achieved an Aerospace Material Specification (AMS 4429) a full year ahead of expectations, and is the first and only magnesium casting alloy to be included in the MMPDS handbook with full A and B basis design allowables. The USA based MMPDS handbook (formerly known as MIL-HNDBK-5) is accepted worldwide as the aerospace designers’ preeminent source for aerospace component design allowables.

Magnesium Elektron is a world leader in the production of high performance magnesium alloys and products. The company began production of magnesium in 1936 at its Manchester, UK plant and subsequently developed a wide range of magnesium alloy systems and products. Elektron 21 is the latest stage in this ongoing development. The company is part of the Luxfer Group, an international materials technology company specialising in the design, manufacture and supply of high performance materials and components to the environmental, healthcare, protection, and speciality markets.

For further information please contact Anke Bockhorn Product Group Manager Powder & Sand Cast Alloy Services Tel: +44 (0)161 911 1355 Email: anke.bockhorn@magnesium-elektron.com
Market Focus

Magnesium Market Stabilizes Continually This Week

From May 11th to June 15th, ex-works quotations for 99.9 minimum ingots from leading production bases slightly increased as indicated in Shanxi from 17,500 – 17,600 yuan, Shaanxi from 17,200 to 17,250 yuan and Ningxia from 17,500 – 17,600 yuan. Export prices stayed at 3,100 – 3,150 US dollars.

In Yucheng, Shanxi, one source reported that there were not much stocks, and most of the deals were done at 17,500-17,600 yuan (Ex-plant, unpackaged). “I think for the future, price is impossible to decrease, but mostly possibly to rise a little, because there were not much stocks.”

In Fugu, low prices ingot is hard to find, contracts were prevalently done at 17,150-17,250 yuan. The main reason for the quite stable prices is low production and limited stocks in Fugu.

Industry News

Gonleer Won 2012 IMA Awards of Application Category

During the 69th annual conference of IMA, First Place for Application was awarded to Beijing Guangling Jinghua Science and Technology Company, Ltd., Beijing, China, for its Application of Magnesium Alloy Handrail in City Bus.

According to Sunlight Metal, this is the first time for Chinese magnesium company to win the category in Chinese history so far. So the award means splendidly for China.

The Application Category recognizes significant advances resulting in a large volume potential for magnesium. The lightweight effectiveness of the product saves the weight by almost 40% compared to aluminum alloy handrail. The total weight of magnesium alloy handrail for one bus is 24.48kg, compared to 40.9kg for aluminum alloy.

IMA Awards of Excellence started since 1962, covering magnesium products, process and application. For Application award, it faces all related companies of the world, especially focusing on the innovation which has better demonstration effect. This year’s competition for the award is quite intense. Beijing Guangling Jinghua Technology, on its handrail, won the award for its innovative development and its potential application prospects. Mr Chunming Dong, president of Sunlight Metal states that the award for Chinese company is just right on time. It will promote the joint effort for developing new magnesium alloy products to accelerate the process for automobile lightweight.

Magnesium alloy handrail, Gonleer's proprietary product, is one of the commercial products applying in the city bus. As against aluminum alloy handrail, magnesium alloy handrail saves the weight by almost 40%. Customers, highly speaking of our product, cover such key city bus producers in China as Yutong, Zohonghtong, Ankai and Foton. As estimated by Sunlight Metal, for 2011, output of city bus in China was around 2.35 mln. Units, which shall open up a much bigger market for magnesium alloy handrail and other magnesium alloy profiles.

Qinghai Salt Lake Industries Limited (QSLI) Frame Co-operation Agreement announcement to the Shenzhen Stock Exchange

Qinghai Salt LakeMagnesium Co Limited (QSLM), and Australian company Magnotec Limited (MGL) signed a Frame Co-operation Agreement. The Agreement refers to the downstream activities of the Qinghai magnesium project and was signed at the 2012 China Qinghai Green Economy Investment and Trade Fair. The Agreement is called “Magnesium Alloy Production Cooperation and Downstream Technology Research Project”.

MGL and QSLM have signed a Frame Co-operation Agreement and both parties will discuss cooperation in greater detail. This Agreement is not the final agreement. The company will announces to the market further progress regarding the agreement in due course.

Content of the Agreement

QSLM will provide MGL with the land to build a magnesium alloy cast house with a capacity of 56,000 mtpa. The cast house will be located to the QSLM magnesium foundry. The capital needed for the cast...
house equipment will be provided by MGL. The magnesium material for the cast house will be provided to MGL based on the market price. Under the Agreement MGL will establish a new company to operate the cast house. The cast house buildings belong to QSLM and will be rented to MGL. QSLM will also supply MGL with access to utilities.

Under the agreement

- The plant and equipment within the alloy cast house will be an investment by MGL and will reduce the operating risk of the project to QSLM.

- QSLM will be able to quickly enter the market based on the advantage of MGL in terms of alloy manufacturing, sales, technology production and magnesium alloy patents. Through this cooperation QSLM will be able to access the related magnesium technologies and develop together with MGL in the field.

**Vice President of Boeing Visited National Engineering Research Center for Magnesium Alloys**

Mr. Wu Dongyang, vice president of the R&D Boeing China visited the National Engineering Research Center for Magnesium Alloys (CCMg) and had discussions with Mr. Pan Fusheng, director of CCMg, Prof. Zhang Dingfei, and Prof. Nie Jianfeng.

Prof. Zhang Dingfei first introduced the updates of magnesium alloy research and products, as well as the implementation of the Boeing R&D project. Mr. Pan Fusheng presented the world trend of magnesium alloy research and industrialization, and CCMg’s goals and plan. Mr. Wu Dongyan said that Boeing China is highly paying attention to the research of CCMg and hopes to jointly develop and deepen the collaboration on magnesium alloy application technologies.

**Salt Lake Group Invests 6 bln. Yuan on its Integrated Magnesium Project**

The integrated magnesium project in Salt Lake Group has a total investment plan for 20 billion yuan. Sub projects include magnesium, coal washing, and coke.

Since Jul. 2012, the project goes on smoothly, completing 95% of basic design and over 80% of file foundation work, with accumulative investment closing at 6 bln. yuan.

**2012 Shanghai International Exhibition of Magnesium 2012 Concluded Successfully**

The 8th China International Aluminum and Magnesium Exhibition was held in Shanghai New International Expo Center. This time, the event, joined by 367 companies, attracted 15,000 visitors.

20 magnesium companies set up booths, including Shandong Huashengrong Magnesium, Tianjin Dongyi Magnesium Products, Stolfig, Shandong Yinguang Yuyuan Light Metal, Yingkou Yinhe Mg&Al Alloy, Wuxi Fumei Light Industry, Beijing Guangling, Nanjing Welbow, Shanxi Regal Magnesium, Rauch, Nanjing Boqi Magnesium, Hebi Puxin Magnesium and Sunlight Metal etc.. Exhibited products including ingot, magnesium alloy, profiles, tube, die castings, sheet, bicycles, sacrificial anode, granules, ladder, sheet metal and electric tools etc..

Stolfig Auto Proto(Shanghai) had a unique design for its booth. One passenger bus body by magnesium alloy is particularly construction on which customers can get just like tea house for business negotiation. Their design attracted a lot of visitors. Also, other exhibitors like Shandong Yinguang Yuyuan, Shandong Huashengrong Magnesium, and Tianjiun Dongyi Magnesium got attentions for their magnesium alloy products.

An officer from Shandong Huashengrong Magnesium said that the company harvests substantially from the exhibition this year, and the company has registered for the exhibition next year.

All of the magnesium exhibitors had chances face-to-face with customers and most importantly broaden the horizons with more potentiality found via aluminum development. This type of effect cannot be achieved via sole magnesium conferences and exhibitions. This has become a path for the marketing of Chinese magnesium companies.

**Shanghai Future Exchange**

(Exchange Rate of USD versus RMB is 6.3533 on June 15th based on http://www.boc.cn/. We placed a Chinese map here to mark the major production bases and Xingang Port of Tianjin for your reference.)
**Note:**

1. All the ex-works prices are VAT-paid.
2. The FOB price is based on ex-works basis, plus inland freight and miscellaneous expenses at Xingang Port of Tianjin. Because the distance from these six production bases to Xingang Port is different, their land freights also vary. FOB price includes 10-percent exports tariff from Jan. 1, 2008.
3. CIF prices are based on FOB price plus ocean freight and insurance, which will also vary by time.
4. When getting ex-works price and FOB price, we give some weight numbers to each respondent and then get the weighted average prices.

**Pricing Indicators**

Sunlight’s Price, Pure Magnesium (>99.8%) and Aluminum

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<td>17500-17600</td>
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<td>Shanxi Province, Yuncheng City, ex-works²</td>
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<td>Inner Mongolia Autonomous Region, ex-works⁶</td>
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