



## IMA News

January 17, 2014

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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 World Headquarters. The IMA appreciates all member company press releases and announcements for inclusion in the monthly IMA News issues.

### INDUSTRY CALENDAR

#### IMA Events

June 1 – 3, 2014

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

Westin Grand München  
Munich, Germany

#### Industry Events

February 6 – 10, 2014

#### [TMS 2014 143rd Annual Meeting & Exhibition](#)

San Diego Convention Center  
San Diego, California, USA

August 11 – 12, 2014

#### [International Conference on Mining, Material and Metallurgical Engineering \(MMME '14\)](#)

Prague, Czech Republic

September 22 – 24, 2014

#### [NADCA Die Casting Congress & Tabletop](#)

The Wisconsin Center  
Milwaukee, Wisconsin, USA

September 28 – October 1, 2014

#### [8th International Symposium on Superalloy 718 and Derivatives](#)

Marriot City Center  
Pittsburgh, Pennsylvania, USA

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## ASSOCIATION NEWS

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**In Memory of Tom Heider, IMA Board of Directors, Executive Committee and North America Committee Chair**

**Join U.S. for the 71st Annual World Magnesium Conference in Munich, Germany – [Registration Opening Soon!](#)**

**8th IMA European Environmental, Health and Safety Seminar - [Recap](#)**

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**Kickstarting Australia's Magnesium Industry**

**GM's 2013 Global Sales Rise 4.5% for Narrow Lead Over VW**

**Digital Casting Management**

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

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## EUROPE NEWS

**European December Car Sales Jump 13%, Boosted by Discounting**

**[Article follows below](#)**

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## ASIA NEWS

**Toyota Targets Production of over 10m Vehicles in 2014**

**[Article follows 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

### **In Memory of Dick Hirons, Former IMA President**

It is with great sadness that we report that Dick Hirons, Former President of the IMA (1994 - 1995) passed away on New Years Day after a long struggle with Leukemia which he bore with great spirit and fortitude. Dick served as an IMA Director and Executive Committee member for many years, and will be remembered for his passion and enthusiasm for the Association. He was a long time employee of Magnesium Elektron, latterly serving as Managing Director for many years. He was responsible for expanding Magnesium Elektron's business into the United States, with the acquisitions of Read Manufacturing and Hart Metals and developing sales in Europe and Asia. He was a great gentleman and will be sadly missed by all of us who knew him and worked with him. Our sympathies go to his wife, Ann.

Sincerely,  
Ken White, IMA Past President

### **In Memory of Tom Heider, IMA Board of Directors, Executive Committee and North America Committee Chair**

It is with deep sadness and a heavy heart that I announce the passing of Tom Heider. Tom passed away peacefully surrounded by his loving family on December 22, 2013. Tom was 64 years old.

Tom was a long term employee of Twin City Die Casting (TCDC), having worked for the company for over 40 years. He held various positions throughout his career but the majority of his efforts and contributions were in the die cast engineering area. He was very influential in the company, winning a number of National and International awards for exceptional die castings. He has been a Vice President of TCDC for the last nine years, and a leader in the company.

Tom had a passion for this industry and besides being a leader for TCDC was involved in other die casting associations. He was on several committees for NADCA (North American Die Casting Association) and was co-author of the NADCA Product Specification Standards for High Pressure Die Casting. He was also involved with the IMA (International Magnesium Association). He has been on the IMA Automotive Die Cast Committee since 2003, and served on the IMA Board. Tom had memberships in the North American Die Castings Association, International Magnesium Association, American Society of Quality, and Society of Manufacturing Engineers. Tom's primary position at TCDC the last three years has been helping the Joint Venture in India. He brought to the India operation his engineering wisdom as well his sales ability.

Tom was a valuable employee and friend. His memorable characteristics included his wisdom, optimism, can-do attitude, humility, and loyalty. Tom made an impact on all the people he met and will be greatly missed! Our thoughts and prayers go out to Tom's wife and children, and grandchildren during this difficult time.

A Celebration of Life service was held on Saturday, December 28th, at 11:00 am. Visitation one hour prior with a luncheon to follow at the Catholic Church of St. Albert the Great, 2836 33rd Avenue South, Minneapolis. The family has asked in lieu of flowers, donations be made to St. Albert The Great or donor's choice.

Sincerely,  
Doug Harmon, CEO

## **Join us for the 71st Annual World Magnesium Conference in Munich, Germany – *Registration Opening Soon!***

The extended deadline for the [2014 Call For Papers](#) will come to a close on Friday, January 17 and online registration will open at the end of January.

Be sure to save the dates for the 71<sup>st</sup> Annual World Magnesium Conference which will be held from June 1 – 3, 2014 at the Westin Grand München, Munich, Germany. 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 following speakers have accepted the invitation from the Program Committee to present:

### **KEYNOTE SPEAKERS**

- Alan Clark, CM Group, *The Global Primary Magnesium Supply and Demand Balance 2014*
- Xu Jinxiang, China Magnesium Association, *China Magnesium Development Report in 2013*
- Karen McBeth, Platts Metals Group, *State of Aluminum: Impact on Magnesium*
- Jean Marc Segaud, BMW, *Quo Vadis Magnesium? Competitiveness of Structural Components in BIW*

### **TECHNICAL SPEAKERS**

- Robert Baylis, Roskill, *Steel Desulphurization and the Nodular Iron Industry*
- Richard Berkmortel, Meridian Lightweight Technologies, Inc., *TBD*
- David Klaumuenzer\*, Volkswagen, *Lightweight Strategy (\*to be confirmed)*
- Graham Nation, Ventana, Aerospace Products, *Markets and Evolution*
- Diego Val Andres, Grupo Antolin/ES, *New Magnesium Applications*
- Alexis Van Maercke, European Commission, *Magnesium as Critical Raw Material in the EU*
- Guoli Yu, Qinghai Salt Lake Magnesium Company Ltd., *Update on the Qinghai Salt Lake Magnesium Project*

Please mark your calendar and watch for upcoming details at [www.IMAworldconference.org](http://www.IMAworldconference.org)!

## **8th IMA European Environmental, Health and Safety Seminar - *Recap***

It took place the 5<sup>th</sup> of December 2013 at the LEONARDO hotel in Cologne (Germany). There were 25 people in attendance from Germany, the United Kingdom, Norway, France, Austria, Sweden, the Czech Republic, Turkey and Australia. It was well-rounded seminar, balanced with traditional safety elements, an environmental presentation and a presentation on medical implants.

The entire program consisted of the following presentations:

- *Safe Handling of Magnesium-based Reagents for Hot Metal Desulfurization* - Alexander Rhomberg, Almamet GmbH
- *Safe Magnesium Melting and Safe Molten Magnesium Transfer* - Roger Rapp, Meltec
- *Safe Magnesium Die Casting* - Matthias Gruber, Magontec (On behalf of Finnveden)
- *Safe Machining of Magnesium Implants* - Britta Hering, Institute of Production Engineering and Machine Tools
- *Safe Recycling of Magnesium* - Matthias Gruber, Magontec
- *Life Cycle Assessment of Magnesium Components in Vehicle Construction* - Simone Ehrenberger, German Aerospace Center Institute of Vehicle Concepts
- *Novec 612, Development in Europe for Magnesium Die Casting* - Volker Kleiner, Inventec Performance Chemicals
- *Magnesium Fires, Some Actual Experiences* - Steve Thistlethwaite, Magnesium Elektron

A post-event survey was launched in December 2013 and presentations were made available for all attendees on the IMA website in January.

## 2014 Member Dues – *Final Invoices*

We would like to thank all IMA members who have renewed membership through 2014! The third, and final round of 2014 IMA Member Dues for all Regular, Associate, University and Student members will be distributed via email on Monday, January 20, 2014.

Please take advantage of this time at renewal to review your member profile on the newly redesigned IMA website and forward any changes you have to IMA Headquarters at [info@intlomag.org](mailto:info@intlomag.org) or via fax at ++1-847-526-3993.

If you have any questions please do not hesitate to contact IMA staff at ++1-847-526-2010 or at our email address, [info@intlomag.org](mailto:info@intlomag.org).

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## INDUSTRY NEWS

### IMA Members Only: January Magnesium Review from Metal-Pages

The price of magnesium in the US continues to face downside pressure as demand dries to a trickle and holders of material scramble for sales. Business activity on the spot market has been slow over the past several weeks as the industry wound down for the holiday period and trade sources report no significant changes in early New Year trading. The US price for pure magnesium min 99.9% material has moved down to a range of \$1.95-2.05/lb delivered from \$2.00-2.15/lb delivered previously.

“Since the New Year everyone has been sitting back and waiting to see what’s going on and where the market’s heading,” said one trade source, noting that most sellers were booked for the year following contract negotiations. Despite spot demand remaining flat, trade sources said they expect the market to pick up sometime in the first quarter as some consumer look to rebuild inventories following the year-end rundown and order books in end-user markets remain robust.

The US magnesium market could also receive support again this year as imports from overseas producers in countries like Russia and Kazakhstan are expected to be reduced. “I think we could actually be at the bottom in terms of prices. I can’t see them going much lower,” said the trade source. “There will be a little bit of business, particularly on the auto and extrusions side” Secondary 90/10 magnesium has also dipped to a range of \$1.70-1.75/lb delivered from a previous range of \$1.70-1.80/lb delivered.

The magnesium industry was underpinned last year by solid volumes into the aluminium alloying sector due to the robust automotive market and this is expected to continue this year as automakers strive to make lighter vehicles and use more aluminium. Latest figures show that automotive sales in the US hit a six-year high in 2013 despite a disappointing December, with executives and analysts forecasting further growth this year.

US auto sales rose 8% year-over-year to 15.6 million units in 2013 and some economists and analysts expect sales this year to increase to between 16 million and 16.5 million vehicles. “Auto continues to a bright spot for the economy and it should once again be a big driver in the magnesium industry,” said another trade source. “The extrusions market is also doing quite well as construction is showing some signs of improvement.”

Meanwhile, trade source said there had been no impact from the temporary shutdown of operations at several aluminium extrusion plants operated by Sapa due to the severe cold snap sweeping many parts of the US. The company reported that operations at two locations in Indiana were closed for a period of time as the extreme cold and heavy snows led to high absenteeism among staff.

The Chinese magnesium metal market has been stable in the past two weeks as stocks in warehouse are low. Prices of magnesium 99.9% grade have stabilised at RMB14,900-15,400/tonne, after falling about RMB200/tonne in December due to financial tightness. A producer source in Shaanxi told Metal-Pages that their production in January has been ordered by producers from magnesium powder industry, and he has no stock pressure ahead of Chinese New Year (February 1). “We sold 200 tonnes at RMB15,400/tonne by payment bills on Monday, and prices have not changed from last week’s level.”

A Shanxi-based producer source reported that he sold 100 tonnes at RMB15,800/tonne by payment bills last week. "We are not eager to sell as we have no destocking pressure, and prices are expected to level out this week despite an absence of firm deals."

A trader from Gansu reported that he exported one container at \$2,580/tonne FOB last week, which was his sole deal during the past three weeks. "The export market remains quiet with some Western buyers absent from the market owing to holidays," he said. "Export prices are supported by tight supply and higher production costs caused by stronger ferro-silicon and coal prices in winter, and prices may hold firm in the coming weeks. So overseas buyers may take advantage of this and enter the market next week."

China's production of magnesium reached 713,300 tonnes in the first eleven months of 2013, up 8.02% compared with the same period of 2012, according to the China Non-Ferrous Metals Industry Association (CNIA). The main production areas from January to November were Shaanxi province with 316,100 tonnes, up 12.22% yearly, and Shanxi province 219,600 tonnes, up 2.27%. Ningxia province produced 101,000 tonnes, up 28.36%, and Xinjiang province 21,400 tonnes, down 4.09% from the same period in 2012.

Chinese magnesium production has increased steadily, supported by the cancellation of 10% export tax on January 1, 2013. Producers expected export business would increase and drive up the market, so they increased output accordingly.

Another reason for the production increase was sufficient gas supply. Shaanxi is the largest production area as producers there use waste gas generated from coking to produce magnesium. Other production was contributed by Jilin province with 8,000 tonnes in the first 11 months, Liaoning province with 6,600 tonnes, and Inner Mongolia with 3,400 tonnes.

China produced 58,300 tonnes in November, down by 23.8% compared with one year ago. Monthly production was cut due to oversupply and prices were pressed down to RMB15,000/tonne level, close to production costs.

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, email Metal-Pages at [info@metal-pages.com](mailto:info@metal-pages.com).

### **Advanced Magmasoft Process Simulation System Licensed by Chicago White Metal for High-Pressure Die Casting**

Chicago White Metal Casting, Bensenville, IL has upgraded its in-house process simulation technology to the powerful Magmasoft® high-pressure die casting simulation software system. It enables more rapid optimization of die casting process parameters prior to die construction for the highest-quality casting results.

Interfacing with customer CAD files, its extensive database, and proprietary 3D modeler, the advanced simulation software allows rapid analysis of a product's design, tooling, and process variables for modifications that can help assure optimum first-piece success. CWM engineers believe that the Magmasoft system is, today, the best predictor of the performance of a die casting die design. It provides a best estimate of the mechanical properties that can be expected in the final cast part.

The bottom line for OEMs designing components for die casting is reduced lead time, improved quality assurance, and lower manufacturing costs.

Source: [www.cwmdiecast.com](http://www.cwmdiecast.com)

### **Georg Fischer Contributes to Helping the Victims of Haiyan in the Philippines**

The Clean Water Foundation of Georg Fischer donates CHF 20 000 to support the American non-profit organization Water Mission International (WMI) in their help for the victims of the natural disaster in the Philippines.

WMI produces transportable water cleaning systems, which can be relocated quickly. These systems make it possible to turn contaminated local water resources into drinkable water again. In the last few days WMI has sent a dozen of their cleaning water systems to the Philippines by air and will be sending an additional 20

systems. These systems have the potential to cover the needs of 160 000 people.

After the disaster relief operations are completed, the water cleaning systems sent by WMI will remain with the villages which currently lack in proper water systems. Through this donation, WMI ensures that their initial investment will continue to have a sustainable impact on the improvement of the living standards for the people living in those villages.

Source: [www.georgfischer.com](http://www.georgfischer.com) (12-Nov-2013)

## **StrikoWestofen Presents New Westomat Series and Control at the Euroguss 2014 in Nuremberg**

Efficiency, process reliability and ease of operation: at the Euroguss 2014, the StrikoWestofen Group (Gummersbach, Germany) will present its completely redesigned Westomat dosing furnace with the new "ProDos 3" Control system. "Constant model upgrading and options developed according to customer requirements have made our Westomat series a worldwide benchmark for economical and process reliable dosing systems. Our latest development raises the standard, in particular with regard to simplified setup and operation," promises StrikoWestofen manager Rudolf Riedel. The Euroguss 2014 in Nuremberg from 14 to 16 January will see the market leader present the latest technologies for melting furnaces and dosing systems to interested experts from the light metal casting industry at booth 354 in Hall 7.

There are many cost drivers in everyday foundry operation: besides energy consumption and metal loss, these are mainly machine downtimes and high reject rates. Against this background, the StrikoWestofen Group has been concentrating for years on offering systems which achieve maximum efficiency and process reliability. The company will present its latest developments at the Euroguss 2014.

### **Westomat dosing furnaces with new ProDos 3 control**

The centrepiece of the company presentation will be the new "ProDos 3" control. The new system will replace the current "ProDos XP" control in the first quarter of 2014 and will offer additional dosing precision and process reliability. Considerably improved computing power reduces the reaction time by a factor of three, thus adjusting the dosing weight to altered process parameters in a highly efficient way. "The most important innovation is probably the integration of our patented biscuit correction," explains Rudolf Riedel, manager of StrikoWestofen. This has proved to be an effective practical tool for improving the dosing accuracy by another 35 percent. Its direct integration into the control means that biscuit correction as well as the standardized DISPO 035 interface to the die-casting machine are now available to all customers as economical options. Electrically and mechanically, the ProDos 3 is completely compatible with the current ProDos XP and DPC control units.

The new Control system is especially resistant to electromechanical disturbances and is operated via a capacitive touchscreen. This no longer needs to be calibrated and is effectively protected in everyday foundry operation via a pane of toughened glass. "2014 will also see the introduction of further options which can be retrofitted in the control. Our Westomat dosing furnaces with the new ProDos 3 control can be ordered from the Euroguss 2014 onwards," Riedel explains.

### **Slimmer furnace body**

The often extremely restricted space in foundries and around the die-casting machine is taken into account by a new furnace body. A completely revised design allows StrikoWestofen to reduce the space requirements by about 15 percent in comparison with the predecessor model. The slim dimensions allow the dosing furnace to be positioned closer to the die-casting machine. "The shortened inlet cools the melt down less than before. Also, contact with the oxygen in the air is reduced, and this supports a very high metal quality. Another aim of re-designing was to increase occupational safety," explains Peter Reuther, Sales Director Europe at StrikoWestofen. "The new Westomat dosing furnaces have an innovative heating system with an extended service life. In addition, assembly no longer requires any space at the side of the furnace. Our flanged riser tube – now available as standard equipment – and the high-performance insulation have allowed us to significantly increase the performance of our dosing systems yet again."

### **PurEfficiency: the name says it all**

As usual, StrikoWestofen will also be giving comprehensive information and consultations with regard to its StrikoMelter melting furnaces at the Euroguss. Now, experts are in a position to provide information and performance data obtained in practical foundry operation for the two latest models PurEfficiency and Plus+. "More than 50 percent of the total energy consumption in aluminium die-casting go to the melting and holding of the aluminium Alloys. For this reason, energy and material efficiency of these systems continue to be highly up-to-date," Riedel explains. "Our StrikoMelter PurEfficiency melting furnaces reduce the gas consumption by up to 50 percent in comparison with other technologies, thus allowing them to achieve significant competitive advantages. More and more customers around the globe have come to appreciate this."

Source: [www.strikowestofen.com](http://www.strikowestofen.com) (16-Dec-2013)

### **Kickstarting Australia's Magnesium Industry**

Paving the road to riches with a waste product from brown coal doesn't sound promising but that's just what one small Victorian company hopes to do. Magnesium is used in luxury cars and aluminium but the newcomer will have to compete with China which has a stranglehold on the market.

You can view the video which includes an interview with David Paterson, CEO, Latrobe Magnesium Limited here: <http://www.abc.net.au/news/2013-11-27/kickstarting-australias-magnesium-industry/5121160>.

Source: [www.abc.net.au](http://www.abc.net.au) (27-Nov-2013)

### **GM's 2013 Global Sales Rise 4.5% for Narrow Lead Over VW**

General Motors Co. announced global sales results that show a narrowing lead over Volkswagen Group in 2013 as GM's deliveries in China failed to outpace its ambitious German rival.

The U.S. automaker's sales rose 4.5 percent to 9.71 million vehicles last year, GM said in a statement. Fourth-quarter deliveries rose 5.2 percent to 2.46 million cars and trucks.

Volkswagen Group sales last year rose almost 5 percent to more than 9.7 million vehicles, including MAN and Scania heavy trucks, VW said last week. Excluding MAN and Scania, VW Group delivered 9.5 million vehicles in 2013, up 4.8 percent on the year before, VW said in a statement. VW did not give an exact figure for its 2013 deliveries.

GM, VW and Toyota Motor Corp. are in a tight race to be the sales leader around the world.

While Toyota hasn't yet released its figures for the October through December period, it led the race for the year through September with deliveries totaling 7.41 million vehicles, giving it a lead of about 160,000 over No. 2 GM. VW aims to become the world's best-selling automaker by 2018.

The gains by Toyota underscore how Prime Minister Shinzo Abe's policies that have weakened the yen are benefiting the nation's exporters. Toyota recaptured the sales lead from GM in 2012 as the company recovered from Asian natural disasters that disrupted its production during the previous year.

#### **China lead**

The tightest battle between GM and VW played out in China where the U.S. automaker lost its eight-year position as the top-selling foreign automaker to VW, which saw sales increase 16 percent to 3.27 million. Sales of GM and its joint-ventures in China, which unlike VW exclude Hong Kong deliveries, rose 11 percent to 3.16 million.

GM sales in the U.S., where it is the market leader, rose 7.3 percent to 2.6 million.

In Detroit this week, VW announced plans to spend more than \$7 billion during the next five years in North America to redouble efforts to boost U.S. sales of its VW and Audi brands to 1 million vehicles by 2018 from less than 600,000 last year. Part of those plans include introducing a mid-size SUV designed for the region.

GM was helped by gains in the U.S. where it introduced 18 new or refreshed vehicles last year, transforming its product lineup into one of the industry's freshest from among the oldest.

GM's sales fell about 3 percent in Europe last year, GM said. GM has struggled since 1999 to end losses in the region that now exceed more than \$18 billion.

The automaker, which has announced plans to close the first auto assembly plant in Germany since World War II and pull the Chevy brand out of Europe, aims to break even in the region by mid-decade and has narrowed its losses through the first three quarters of 2013.

Source: [www.europe.autonews.com](http://www.europe.autonews.com) (14-Jan-2014)

## **Digital Casting Management**

It takes skilled workers using up-to-date equipment to run the most efficient casting operations. Software is a key component in these shops, enabling optimal performance in each production zone, collecting data for management as well as linking one zone to the next. Numerous metrics can be tracked digitally to aid managers in controlling costs and scheduling, enable quality and other certifications, and communicate job data to customers.

Many metalcasting equipment vendors offer software-based management systems. For both ferrous and nonferrous facilities, these can enable data logging, trending and report generation along with managing operations and process control. Real-time information obtained via a data collection system provides a way for operators on the shop floor to not only run jobs accurately and efficiently but track key maintenance requirements and perform diagnostic checks.

In world class facilities, documented control plans address a wide range of molding, melting, pouring and finishing parameters. These range from raw material inspection to the metallurgical microstructure of the finished product. Software-savvy companies producing small casting volumes also benefit from improved accuracy and safety when running equipment.

Enabling everyone in the operation to interface to a management information system (MIS) improves shop-floor communication as critical job information is made available in real time. The result is measurable savings in scrap and rework.

### **Connecting Production Zones**

"The number one thing any metalcaster can do to improve the bottom line is getting a handle on scrap, bar none," said Shane Allen, head of North American operations for Synchro ERP, Austin, Texas.

Process knowledge is the key to controlling casting quality and reducing scrap, according to Dr. Hathibelagal Roshan, Maynard Steel Casting Co., Milwaukee. (See "Start Gaining Process Knowledge," Modern Casting, May 2013.) With ever increasing costs and quality requirements, interest in shop-floor data collection is growing, according to Allen. "Software can help report and isolate what you need to do to control scrap," he said.

### **Digital2**

On the melt deck, digital systems control and track data for critical processes.

"We're starting to see more plants push information management down to the shop floor," said Matthew Gacek, vice president of business development for B&L Information Systems, Bridgman Mich., U.S. Anywhere in the process, trusted operators can be allowed to alter work instructions based on their observations in production.

"The molding line is a very critical job," said Gacek. "If, for whatever reason, there's a problem with a parting line on a casting, in the past you'd call the supervisor over and talk about it. And, sometimes it wouldn't be communicated to the next department."

Instant communication takes place in modern facilities via touchscreen, to improve workflow in a wide variety of casting businesses. A management information system (MIS) keeps work information up to date as a job travels from one zone to the next. The ability to show photos of a product as it moves through a casting facility can be particularly beneficial where multiple languages are spoken on the shop floor.

"The person running the job can go into the work instructions, upload a snapshot of the mold, circle where the

problem is, and put it into, for example, the grinding instruction,” Gacek said. “They can annotate it to say, ‘For this job, keep an eye out for this parting line that’s excessive. Please grind it down.’ And all this is done in real time.”

“Automated melting is an ideal process using computerized controls,” said Satyen N. Prabhu, president and CEO, Inductotherm Corp., Rancocas, N.J., U.S. “Adaptive melting control optimizes power usage by minimizing temperature overshooting, saves time by reducing frequent temperature checks and enhances safety.”

The operator enters the weight of the charge, or it is received automatically via a weigh system, and the heat content and desired pouring temperature are used to calculate automatically the kilowatt hours needed to complete the melt. It turns off the system or drops to holding power when the melt is complete, and bath temperature readings are measured to ensure accuracy. Reducing the chance of accidental superheating can improve lining life.

### **Varying Levels of Automation**

Robotic operations represent the highest level of controlled automation in metalcasting. In melting, an operator in a control room remotely commands the robot, which is monitored using closed-circuit video, to perform slag removal, ground testing and other tasks via a digital human-machine interface. High powered furnaces with demanding cycles also can employ automated charging linked to a computer control system to produce the desired bath chemistry at the lowest cost.

### **Digital3**

“Computerized melt shop control systems are designed to provide supervisory control of the melting process for enhanced quality and to reduce the risk of accidental superheating,” Prabhu said. Some are incorporated into the melting equipment and others are PC-based, standalone applications, which enable users to customize reports and interface with other applications.

Whether the production data is entered manually or in a fully enabled digital system, software maintains critical information for safety, operations, costing and quality assurance. That data can be passed along into an MIS for enterprise resource planning purposes.

“On the melt deck, typically we’ll see devices to indicate what job to run next, the standard heat recipe, and then they’re going to be entering in what their actual metal usage was,” said Gacek.

Automated pouring lines are an example of an operation that can run in a closed-loop system. Computer-controlled mechanisms dispense metal into a mold. A sensor continuously monitors the metal level in the sprue cup and adjusts to minimize the difference between the desired and actual level as the cup is filled. It also can accommodate changes in pouring conditions and stop automatically if there is a blowout in the mold.

“Automated pouring systems keep pace with the fastest molding machines,” Prabhu said. Consistency and repeatability provide benefits in quality and waste reduction. They also can be configured to pour multiple mold lines at once.

### **Ensuring Quality**

Quality control, whether operated as standalone processes or integrated into a fully automated system, is an area where software plays a key role.

The spectrometer interface is one area that has been automated for the melt department. Before any castings are poured, test data can be downloaded right from the instrument.

“Anyone in any sized company making a high quality aluminum casting benefits from quality control software,” said Robert Nealon, president, Thermtronix, Adelanto, Calif., U.S. “Investment casting in particular is focused on high quality castings, and a system for detecting porosity of the casting can make it more productive for them.”

Workers on the melt deck can put a halt on a heat and alert other departments via an MIS system. “They also can enter a quality alert that will pop up at the next workstation,” Gacek said, “bringing it to the attention of the operator working on that casting.”

Gacek offers Bremen Castings Inc., Bremen, Ind., U.S., as an example of a shop eliminating islands of information and pushing data out to all levels. “They’ve got 50 or 60 iPads in their finishing stations,” he said. “It’s not something you see all the time. And these iPads are reflecting what those jobs are. Often, it’s a

picture with annotations to watch out for something, or, 'Grind this nodule off, here.'"

In case of a critical quality problem, a user can electronically halt further shipment or production of that casting.

"It's keeping the problems within your walls, because the last thing you want to do is have it go out into your customer base," said Gacek.

Whether in a small casting operation or a multisite global supplier, software-based production management is becoming the norm. Companies enjoying the fullest benefits move beyond standard operations to analyze real-time data from the shop floor and facilitate communication between departments to ensure quality.

Source: [www.foundry-planet.com](http://www.foundry-planet.com) (12-Dec-2013)

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## EUROPE NEWS

### European December Car Sales Jump 13%, Boosted by Discounting

European new-car sales surged 13 percent in December, the biggest monthly gain in almost four years, as price cuts by automakers helped to generate a recovery that may last through 2014.

Registrations last month increased to 948,090 vehicles in the EU and EFTA markets, industry association ACEA said today in a statement.

Full-year sales fell nearly 2 percent to 12.3 million, the lowest number since 1995 and the sixth consecutive year of contraction -- but a more modest decline than many in the industry had feared earlier in 2013.

Sales at Renault rose 29 percent in December, driven by a 48 percent-surge at its low-cost Dacia brand. VW Group gained 22 percent, with double-digit growth extending from luxury flagship Audi to the Skoda and Seat divisions.

Ford registrations were up 20 percent and Toyota posted an 11 percent increase.

Even automakers beset with losses or lacking new models won respite across the market of 30 countries. PSA/Peugeot-Citroen and Fiat swung back to sales growth of 9 percent and 2 percent, respectively, from declines of 1 percent and 6 percent in November.

General Motors' sales rose by 13 percent as a 22 percent gain at the automaker's Opel/Vauxhall unit offset a 29 percent decline in Chevrolet sales. GM has said it is withdrawing its Chevrolet from Europe to focus on reviving Opel.

BMW Group's EU and EFTA sales fell 6 percent last month with BMW brand sales down 5 percent and Mini volume down 10 percent. Rival Audi's sales rose by 17 percent. Daimler's registrations rose by just over 1 percent with Mercedes brand down 2 percent and Smart sales up 8 percent. Mercedes was the only German luxury brand reporting full-year growth.

### Recovery taking hold

Carmakers are predicting a gradual increase in European demand this year after a sovereign-debt crisis and recessions led to a six-year contraction in deliveries through 2013. Consumers replacing old cars will probably account for some of the recovery, though gains are also being fed by continued incentives from automakers and a government vehicle-scrappage program in Spain.

"The recovery process in Europe is seemingly taking hold," Matthias Wissmann, head of Germany's VDA auto industry lobby, said. "People are building up trust again in the strength of economies."

Ian Robertson, BMW's sales chief, said at the Detroit auto show earlier this week: "Europe still remains quite tough. It's going to take several more years for the market to reach previous levels, he said. "You still have unemployment," and "an economy that is extremely fragile."

Ford of Europe CEO Stephen Odell said at the Detroit auto show that vehicles on European roads have been in use for an average seven to eight years, unusually long for the market, prompting buyers to seek

new models. At the same time, unemployment at near record highs in the countries using the euro will hold back growth prospects, he said.

Erich Hauser, a London-based automotive analyst at International Strategy & Investment Group, said demand may be helped as an unusually high number of car leases expire this year, leaving consumers and corporate customers to decide whether to keep the model or buy a new one.

Another signal of potential growth is a recent increase in used-vehicle prices, as "the saving to be had from a used car gets smaller versus a new car," he said.

### **UK leads growth**

Registrations rose in the five biggest European auto markets in December, with jumps of 24 percent in the UK and 18 percent in Spain, where the government revived a scrappage incentive program in October. In Germany sales were up 5 percent while registrations in France rose by 9 percent. Italy swung to growth of 1 percent.

The UK was the only major market to show growth for the full year with 2013 sales up 11 percent to 2.26 million. Germany's new-car market was down 4 percent to 2.95 million, France fell 6 percent to 1.80 million, Italy's registrations declined by 7 percent to 1.30 million while Spain was down 4 percent to 722,703.

For 2014, most industry executives and analysts expect low single-digit growth while cautioning that automakers are likely to see further losses as pricing remains under pressure due to chronic excess capacity.

Carlos Da Silva, manager for European light vehicle sales forecasts at IHS Automotive, said December's double-digit was partially driven by automakers artificially boosting demand to hit internal volume targets through tactics such as self-registrations.

He said 2014 will see limited growth but the effects of the longest European auto crisis will linger because the downturn had accelerated structural changes such as a lower social acceptance of cars, a growing green consciousness and less dynamic demographics.

Peter Fuss, senior advisory partner at Ernst & Young consulting company's automotive unit, said: "The market has bottomed out and the worst is clearly behind us." Demand in 2014 will show modest gains, though "this growth will continue to be artificial: one that is driven by discounts and self-registrations by dealers," Fuss said.

Source: [www.autonews.com](http://www.autonews.com) (16-Jan-2014)

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## **ASIA NEWS**

### **Toyota Targets Production of over 10m Vehicles in 2014**

Toyota Targets Production of over 10m Vehicles in 2014.

The company will officially announce the 2014 annual production target by the end of January, according to the *Asahi Shimbun* newspaper.

In Japan, monthly production may fall after April, when Japan increases its consumption tax from five to eight percent, the newspaper said.

However, the impact of the increased tax is expected to be lowered by the reduced automobile acquisition tax that will be effective from the fiscal year beginning April, the newspaper added.

Japan's economic recovery should help to lift output later in the year, the report added.

In 2013, Toyota targeted production of record 10.12m vehicles, after surpassing General Motors in 2012. Between January and November, the company produced 9.3m vehicles.

Source: [www.just-auto.com](http://www.just-auto.com) (16-Jan-2014)