

# refractories

## Hot Topics

# WORLD FORUM

Manufacturing & Performance of High-Temperature Materials

NEWSLETTER 2/2015

### IMPORTANT DATES

15.06.2015 - 15.06.2015

Foundry Minerals and Markets Forum 2015  
Essen / DE  
[www.infomed.com](http://www.infomed.com)

15.06.2015 - 19.06.2015

Achema  
Frankfurt / DE  
[www.achema.de](http://www.achema.de)

16.06.2015 - 20.06.2015

GIFA, METEC, THERMPROCESS and NEWCAST  
Düsseldorf / DE  
[www.messe-duesseldorf.com](http://www.messe-duesseldorf.com)

21.06.2015 - 25.06.2015

ECerS Conference of the  
European Ceramic Society  
Toledo / ES  
[www.secv.es](http://www.secv.es)

12.07.2015 - 16.07.2015

CARBON 2015: The Annual World  
Conference on Carbon  
Dresden / DE  
[www.carbon2015.org](http://www.carbon2015.org)

15.09.2015 - 18.09.2015

UNITECR 2015  
14<sup>th</sup> Biennial Congress combined with the  
58<sup>th</sup> Int. Colloquium on Refractories  
Vienna / AT  
[www.unitecr2015.org](http://www.unitecr2015.org)



## Robust Increase in Volumes – but Continued Heavy Burdens for the German Steel Industry

The steel industry in Germany looks to the forthcoming months with guarded optimism. Despite improved economic conditions, the German Steel Federation does not see any necessity at present to revise its forecast for 2015 (+1 % to 43,3 Mt crude steel). In the first quarter of 2015, crude steel production in Germany totalled 11,1 Mt, a decline of 2 % compared to the prior-year period. Capacity utilization at just under 90 %, however, again reached a high level. In the first three months of 2015, the incoming orders for rolled steel roughly matched prior-year levels. In February, confirmed orders nevertheless reached the highest level since May 2012. Upwards trends in the steel business are expected in the coming months on account of improved economic fundamentals. Especially the fall in the euro exchange rate is benefitting steel demand.

*see page 2*

## UNITECR 2015 – Poster Awards

The 14<sup>th</sup> Biennial Congress combined with the 58<sup>th</sup> International Colloquium on Refractories will be held in Vienna/AT from 15 – 18 September 2015 in the Hofburg Palace.

Since its creation in 1987 in Tokyo, the Unified International Technical Conference, simply known as UNITECR, has established itself as the most important international panel for scientific and technical matters in the refractory world. In addition to direct participants from the refractory industry, raw material suppliers, consumers and scientists also have a great opportunity to participate in discussions, exchange information and even debate on the best path for the future of our industry.

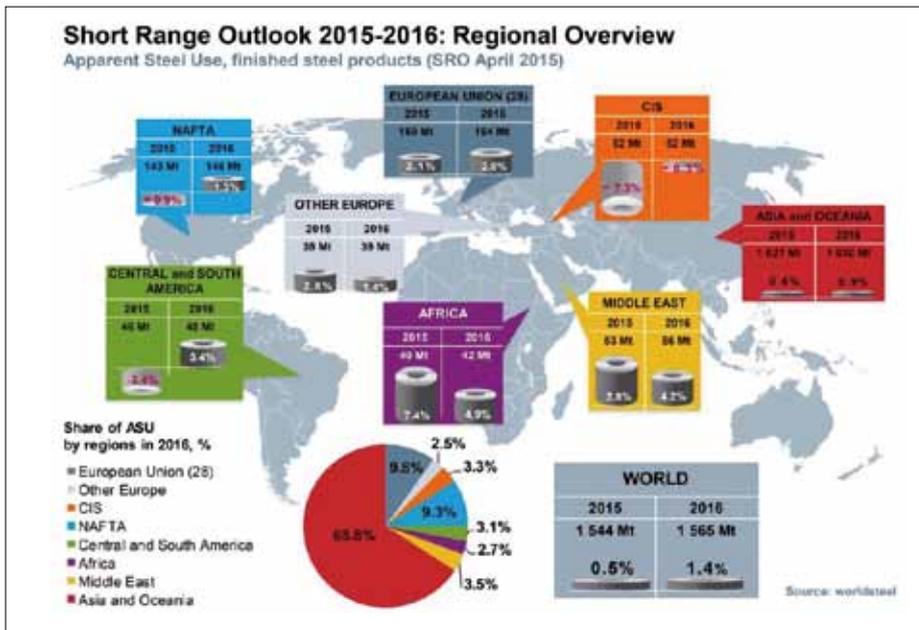
In total 180 presentations have been accepted which are presented in five parallel sessions. One of the core events during the conference will be the panel discussion on 17 September 2015 with the topic: Refractories: Engineered Products or Commodities.

refractories WORLD FORUM is acting as main media partner of UNITECR 2015 and will sponsor the poster competition. The winners chosen by an international jury will be awarded as follows:

1<sup>st</sup> prize: EUR 1000; 2<sup>nd</sup> prize: EUR 600, 3<sup>rd</sup> prize: EUR 400.

All topics, which were not selected by the technical committee for oral presentations, can participate in the poster competition.

[www.unitecr2015.org](http://www.unitecr2015.org)



### Short range outlook apparent steel use 2015–2016 by region (Source: worldsteel)

As there has been no extensive restocking in the first quarter of 2015, the destocking typical for the second half of the year is likely to be lower than in the last three years," commented Hans Jürgen Kerkhoff, President of the German Steel Federation and Chairman of the VDEh Steel Institute. He also sees a gradual, if cautious improvement of conditions on the European steel market, for instance the Southern European steel markets have registered growth again. Steel demand in the EU had already turned around last year and should increase again this year.

"International competition this year will become even fiercer this year," says the Steel Federation President. China, he said, would play a key role, as this country had increased its steel exports by more than 50 % last year and in the first two months of 2015 it had upped exports by just under 60 % to a level of around 95 Mt/a. The flood of exports from China was primarily an upshot of enormous overcapacities held against the market with state assistance.

He continued that with the nationalization of the Italian steel company Ilva, in recent weeks the

danger of inner-European competition distortion had grown considerably. In mid-April, the German Steel Federation registered a formal complaint with the European Commission against the subsidies with which the Italian government is supporting Ilva in Taranto, the biggest steelworks in Italy and Europe. The financial assistance totalled around EUR 2 billion, which could be imputed to the Italian government or had been seized from the owner family by the legal authorities, says the Steel Federation. These were intended to make Ilva competitive again." These constitute operating aids which are prohibited according to the European regulations on state aid," judges Kerkhoff. In the 1980s and 1990s the steel industry had painful experience with illegal subsidies, i.e. a subsidy race fuelled from public funds, which had completely distorted competition. "The mistakes of the past may not be repeated. Operating aid must be prevented under all circumstances. The steel company has obviously neglected to make the necessary investments."

Burdens resulting from misguided policymaking continues to concern the steel industry. The energy

turnaround in Germany and a new agenda in climate protection also influence the planning and investment certainty of the steel industry in Germany. The steel companies fear stricter regulations for emissions trading and cost burdens for ecologically advantageous in-plant power generation.

### worldsteel short range outlook 2015 – 2016

worldsteel released in April its short range outlook 2015 – 2016 and forecasts that global apparent steel use will increase by 0,5 % to 1544 Mt in 2015 following growth of 0,6 % in 2014. In 2016, it is forecast that world steel demand will grow by 1,4 % and will reach 1565 Mt (Fig.1).

Hans Jürgen Kerkhoff, also Chairman of the worldsteel Economics Committee said, "The outlook reflects the influence of major structural adjustments in most economies, particularly owing to limited investment growth post 2008. As these changes take effect, the steel industry will experience a slower pace of growth, it will focus on operational efficiencies and on the value that steel products generate for customers and society."

"While we continue to face some downside risks coming from some parts of Europe – geopolitical instability, international capital flow volatility and the economic slowdown in China – the impact of these risks has come down. We have also started to see some encouraging developments. We hear increasingly positive news from developed economies, especially signs of firming recovery momentum in the Eurozone. In the developing and emerging world, we see increased optimism about India and growth in steel use in some MENA and ASEAN countries. While these developments will not be enough to counterbalance the deceleration of China, we expect to see gradually improving growth prospects beyond 2016," Kerkhoff concluded.

An interesting factor which has become increasingly apparent is that in some developing economies the steel markets are beginning to exhibit the characteristics of mature markets.

#### Luxembourg NIZI International Acquired Keyvest Belgium

NIZI International SA has acquired 100 % of the shares in Keyvest Belgium SA from Michel Joly, founder of the company. M. Joly will join NIZI International, and support the Group's further development of niche products.

Keyvest is a leading manufacturer of silicon powder and silicon carbide powder, and is a marketer of

related products. The company is headquartered in Liège/BE and employs 15 people. M. Joly is the founder of Keyvest, as well as Metfield and Intermat, and has a 45 year history of serving primarily the refractory industry and other markets. Keyvest will continue as a separate entity within the NIZI-Group, operating under the Keyvest brand and the current management.

NIZI Group is expanding into new market segments, and the addition of Keyvest brings improved

access to niche markets, and significant competence within the field of processing in general and powders in particular. NIZI International was founded in 1898 in Luxembourg as a company serving the regional customers with pig iron and ferroalloys. The Group has later expanded to become a global player in the trading and distribution of base metals, ferroalloys, and foundry products. NIZI has a global sourcing network and a proven record of long-term contracts.

Germany

### EUROMOLD 2015

The fair for Moldmaking and Tooling, Design, Additive Manufacturing and Product Development EUROMOLD will take place in Düsseldorf/DE from 22 – 25 September 2015. The new trade fair concept will allow exhibitor co-determination. With the move to Düsseldorf EUROMOLD reinvents its market position. The new exhibition concept will also give exhibitors the opportunity to take an active part in "shaping" EUROMOLD 2015.

[www.euromold2015.com](http://www.euromold2015.com)

USA

### Alcoa to Curtail Smelting at Brazilian Facility

Acola Inc/US announced that it will curtail the remaining 74 Mt of capacity at its Sao Luis facility in Brazil. In the upstream portfolio, Alcoa continues to take strategic actions, including reduction of high-cost operating smelting capacity, to create a globally competitive commodity business.

Once the Sao Luis facility is curtailed, Alcoa will have about 740 Mt, or 21 %, of its smelting capacity, offline. As a result of the curtailment, the company expects to incur restructuring-related charges in the first quarter between USD 10 – 15 million after-tax, or 1 %-share.

The company stated that it will evaluate 500 Mt of smelting capacity and 2800 Mt of refining capacity for possible curtailment, closure or sale. This curtailment adds to the 85 Mt of capacity idled at Sao Luis in May 2014 and the 12 Mt curtailed in October 2014. However, Alcoa stated that the refinery at Sao Luis will continue normal operations and will remain unaffected.

Alcoa also announced that it intends to cut 443 Mt/a of alumina refining capacity at the Suralco facility in Suriname. Suralco, which is a part of the Alcoa World Alumina and Chemicals group of companies, is owned 60 % by Alcoa and 40 % by Alumina Limited. The company remains committed to working with the Suriname government in order to find the best solution for the Suralco facility.

Vietnam

### Vietnam's Alumina Output to Jump 20 % in 2016

Vietnam's alumina output next year is projected to jump 20 % to 650 Mt as the country's first alumina plant reaches its design capacity, state-run mining group Vinacomin said.

Production this year at the USD 460-million Tan Rai complex in the central highland province of Lam Dong is expected to reach 540 000 t, up 11 % from 2014, Vinacomin said in a statement.

All of Vietnam's output has been exported to 11 buyers in Switzerland, South Korea, China and Hong Kong, Vinacomin said. Work on another alumina project, the Nhan Co complex in Dak Nong

province, has nearly been completed and its first output is expected from late 2015, the statement said.

Germany

### H.C. Starck Increases Sales Despite Weak Market Development

H.C. Starck performed well in 2014 given the very difficult market environment. The company increased its sales volume to EUR 785,9 million in 2014 (2013: EUR 703,9 million). As of 31 December 2014, the company reported 2678 employees worldwide (2013: 2843).

Overall, though, 2014 was shaped by the difficult economic situation in the global core markets, which hurt the profitability of the business. In particular, there were structural changes in the tungsten and tantalum market with correspondingly negative price effects and increased competition which in turn led to a decline in raw-material prices. Sales results were also impacted by the weak Japanese yen and by a notable drop in metal listings. In order to counteract these developments, H.C. Starck launched an extensive cost reduction program for all of its divisions in the spring of 2014. In addition, the company maintained its existing strict cost management initiatives.

Despite the difficult situation in 2014, H.C. Starck managed to increase its investments up to around EUR 40 million. The major part of the budget was spent for the construction of the production facilities of the new tungsten joint venture in Vietnam, into the German production sites and into the further expansion of the tungsten joint venture in China.

Research and development focused on projects to increase the yield in processing secondary materials and byproducts, to continuously improve the quality of high-capacity tantalum and niobium powders, and to develop special tungsten carbides for the Asian market. In addition, H.C. Starck launched several partnerships to use tantalum pastes in manufacturing ultra-thin capacitors with heights less than 0,3 mm. These capacitors can be used to make very thin electronic devices that will be used in many forward-looking trends, for instance wearable electronics.

Another research focus was on developing high-purity tantalum and niobium oxides, which are the base material for SAW filters. Among other things, these are used in mobile phones and are essential for secure signal processing during data transfers, an area that is growing rapidly thanks to increasing mobile phone and internet usage. Additionally, H.C. Starck signed a development contract with Rapid Prototype and Manufacturing (rp+m), a US company specializing in 3D printing technologies. The contract includes developing innovative products from technology metals that are manufac-

tured using 3D printing processes, also known as additive manufacturing.

In 2015, H.C. Starck only expects a gradual recovery for its core markets. The focus of the ongoing fiscal year is on optimizing the powder business. H.C. Starck plans to grow its tantalum and niobium powder business during the 2015 fiscal year.

Germany

### ESK Renamed to 3M Technical Ceramics, a Branch of 3M Deutschland GmbH

ESK was member of Ceradyne Inc., which has been acquired by 3M in 2012. ESK is now one of 18 sites of 3M in Germany.

Founded in Kempten, Bavaria, in 1922 as Elektroschmelzwerk Kempten (ESK), 3M Technical Ceramics develops and produces technical ceramics and coatings for customers in virtually all industries.

On this background, the company has established itself as a world leader in high-performance ceramics. Its long-term success story is based on a wide knowledge of materials, as well as the technical, scientific and use-specific passion for these materials. This know-how has enabled the company to play a key role in the development of high-performance ceramics in the 20<sup>th</sup> century. The extensive range of materials comprises borides, carbides and nitrides, such as boron carbide, boron nitride, silicon carbide, silicon nitride or titanium diboride. The product portfolio consists of ten specialized, application-oriented ceramics, which are used by customers from over 30 industries around the world. These include the automotive and electronics industries, the oil and gas industry, machinery and plant engineering, metallurgy, fluid handling, as well as the military technology. In cooperation with customers and research institutes 3M Technical Ceramics continuously develops innovative product solutions that enable new production processes.

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USA

### Alumina, Synthetic Corundum and Aluminum Hydroxide Market in the United States: Business Report 2015

A brief country profile includes general information and main economic indicators and specifies business environment in the United States. The alumina, synthetic corundum and aluminum hydroxide market is analyzed by different parameters including domestic production and consumption. Future market development is also estimated. The trade analysis covers data on export and import volumes, dynamics, structure and prices. Furthermore the report presents profiles of leading producers and lists major suppliers in the country. The report also lists buyers within the sector, and provides results of the purchase activity monitoring, which is achieved by tracking various tenders databases, websites and marketplaces. For more information visit: [www.researchandmarkets.com/research/h4319n/alumina](http://www.researchandmarkets.com/research/h4319n/alumina).

Brazil / Russia

### Magnezit Group and Vamtec S.A. Signed a Cooperation Agreement

Magnezit Group/RU has signed a cooperation agreement with the Brazilian company Vamtec S.A., a diversified manufacturer and trader of materials for metallurgical and cement plants. The agreement stipulates cooperation of the parties in the field of distribution and promotion of products and services of Magnezit Group on the Brazilian market. The signed agreement also includes a program for cooperation of the companies in the field of development of novel products for metallurgical industry. The parties actively discuss possibilities for partnership in other projects in Russia and Brazil with application of resources and technologies of the both companies.

Worldwide

### Refractories – Global Strategic Business Report

The report analyzes the worldwide markets for refractories in thousand tons and USD million by form (bricks and shapes, monolithics a. o.), by materials (clay refractories, and non-clay refractories) and also by end-use (iron and steel, cement, ceramics and glass a. o.).

The report provides separate comprehensive analytics for the USA, Canada, Japan, Europe, Asia-Pacific, Middle East and Africa, and Latin America. Annual estimates and forecasts are provided for the period 2013 through 2020. Also, a seven-year historic analysis is provided for these markets.

Market data and analytics are derived from primary and secondary research. Company profiles are primarily based on public domain information including company URLs.

The report profiles 131 companies including many key and niche players such as: Acera Technology Inc., ANH Refractories Company, Chosun Refractories Co. Ltd., Imerys SA, and Krosaki Harima Group.

For more information visit:

[www.researchandmarkets.com/publication/mbnijax/refractories\\_global\\_strategic](http://www.researchandmarkets.com/publication/mbnijax/refractories_global_strategic)

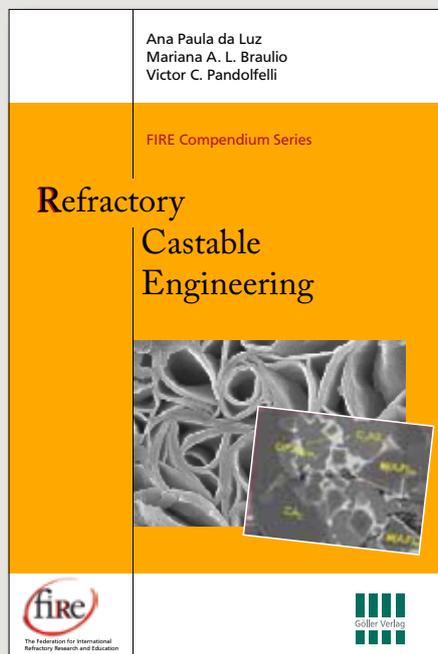
Worldwide

### Mineral Sand Market – Global Industry Analysis and Forecast 2014 – 2020

Mineral sand industry involves mining and processing of titanium dioxide and zircon products such as ilmenite, rutile and upgraded TiO<sub>2</sub> products of synthetic rutile and slag. Specific applications for zircon are foundry and refractory castings, zirconia and zirconium chemicals which are used in nuclear rods and catalytic fuel converters. On the basis of product types the market for mineral sand is divided as zircon, rutile, synthetic rutile, chloride slag, sulphate slag and ilmenite among others. Rutile, synthetic rutile, chloride slag, sulphate slag and ilmenite are the products types of titanium dioxide. Upgraded ilmenite (chloride slag, sulphate slag and synthetic rutile) had the largest market share in mineral sand industry.

### AVAILABLE NOW!!!

752 pages; price: USD 135,00 plus postage



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## WORLDFORUM

Manufacturing & Performance of High-Temperature Materials

### preview of issue 3/2015 (extract)

#### Company Profiles / Interviews

Mineralwerke Westerwald Horn/DE,  
LKAB/GB, INSULCON/NL, Silicon/NL,  
German Kiln Technology/DE

#### Reports

- ACerS Meeting St. Louis 2015
- XIII. International Conference of Refractories Makers and Metallurgists

#### Economy & Markets

- Overview of the Refractory Industry in Russia and CIS Countries

#### Technology Trends

- ReStaR – Concerted Effort in the European Refractory Sector to Consolidate and Make EN Testing Standards Future-Proof (ECREF/DE, PRE/BE)
- Investigation of the Factors Influencing Testing Results for Refractory Materials: Bulk Density and Open Porosity, Cold Crushing Strength, Modulus of Rupture, Permanent Linear Change, Refractoriness under Load (Instytut Ceramiki Materiałów Budowlanych/PL; VDFFI/DE, CRIBC/BE, Fundación ITMA/ES, ICAR/FR)
- Functionalized Systems for Monolithics and Prefabs (EKW/DE)
- Dispersing Technology and the Impact from Inherent Formulation Variations (Kerneos/FR)
- Difference of Sintered and Fused Aggregates in Various Refractory Applications (Almatis/DE)

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