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**castings sa**
A specialised journal covering the technology, processors and materials field for castings

**Volume 15 Number 3**
October 2014

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SI Group HA is a crucial foundry partner

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EDITOR’S COMMENT

Going forward positively

Although one of the main stories in this issue focuses on the affects of the strike in the metals industry and the impact it is going to have on the industry in the future, I believe we must be positive, constructive and develop the strategic advantages that we have in abundance, in making our plans for the future. This country, in terms of lifestyle and possibilities in the mining and manufacturing industries, has so much to offer. Our history shows that we can be a peaceful and tolerant nation, unlike what is being experienced in many of the Middle Eastern countries right now. It is now up to us as a nation to work together for our mutual benefit. If not, history will reflect that Africa is a degenerative continent despite the rest of the world looking to it (Africa) being the next ‘China’.

Eight months ago we launched the Castings SA website and in this relatively short period we have accumulated over 3 000 unique users from 103 countries. This number is 50 percent up on our normal print circulation and we are growing on average between 30 and 40 readers per day. As we climb up the rankings these are bound to grow. What the numbers do emphasize though is the power of the internet. However you do need to keep the site active, and we do have the advantage of a sister site – Metalworking News – linking and interacting with the Castings SA site.

The synergies are paying off and we intend to keep working at it. Up now on the website is a list of all foundries operating in South Africa. More in-depth details of these foundries will be added as we complete our data collection for the 2015 Castings Industries Directory – a publication that has become synonymous with the industry, and is now referred to as the ‘bible’ of the foundry industry in South Africa. It is intended that the website data will be equally as informative and, along with the quality editorial content, the Castings SA website will be recognised as the number one platform for information on the South African foundry industry, if it has not reached that status already. Together, the two websites of Crawford Publications are opening up new active engagements from parts of the world that we had not envisaged. This is incredibly fulfilling for us, because our brands – and your brands – are now reaching markets that were previously unattainable. Read ‘Casting a line, online’ further on in the magazine.

On a more somber note Rosemary Dias and her family would like to thank everyone who have been so supportive and for the heartfelt sympathy shown during the recent sad loss of her husband Luis. “The many messages of affection have given me great strength, and made me proud to realise how respected he was in the foundry industry, how many individual lives he touched and what a special man he was. Thank you everyone – we have many happy memories of Luis to remember.”
EXCEEDING MARKET EXPECTATIONS IS OUR BENCHMARK

ZIMALCO is the largest manufacturer of secondary aluminium products in Africa. We specialise in the production of aluminium primary, high grade and commercial foundry alloys and powders. We also produce a comprehensive range of master alloys and deoxidants. Our world renowned brands, SUPRAL foundry ingots and SUPRAMEX specialty powders are testimony to our ongoing pursuit of quality.

Our team is comprised of highly qualified and motivated professionals with wide-ranging skills and competence in global markets. We cherish our strong position on the domestic and foreign markets, as we continue to exceed the expectations of our customers. All our products are certified for quality and are free of radio active hazard. They also comply with applicable local and international standards. Certified according to ISO 9001/2008 quality standards, Occupational Health and Safety and the Environment remain in the forefront of our production process.

Our aim is for ZIMALCO to remain an innovative, reliable and flexible partner that always faces the demands of customers as a new challenge.

Environmental compliance is our aim

ZIMALCO

Zimco Aluminium Company A division of Zimco Group (Pty) Ltd
3 Falkirk Road, Industrial Sites, Benoni PO Box 5044, Benoni South, Gauteng, 1502, South Africa
Tel: +27 11 914 4300 Fax: +27 11 914 2366 or +27 11 914 4784 info@zimalco.co.za Website: www.zimalco.co.za
Ten years ago Schenectady International, Inc. (now known as the SI Group), through its South African affiliate, Schenectady South Africa (Pty) Ltd. reached an agreement to partner in South Africa with Hüttenes-Albertus Chemische Werke GmbH (HA) by acquiring Hüttenes-Albertus Falchem (Pty) Ltd. (“HAF”) and Zeta Resin (Pty) Ltd.’s (“Zeta”) foundry and timber chemical intermediates business.

In 2010, in order to streamline operations in South Africa and make the group more cost effective, it was decided to flatten this structure and incorporate HA Falchem SA (Pty) Ltd into the SI Group, and SI Group South Africa (Pty) Ltd was formed.

The SI Group is a leading global developer and manufacturer of chemical intermediates, specialty resins and solutions that are critical to the quality and performance of countless industrial and consumer goods.

After nearly 100 years in business, SI Group has 21 operations in 14 countries in every major market around the globe, more than 2,700 employees and customers in more than 90 countries. The SI Group’s focus is on delivering products and solutions in nine key market segments — rubber resins, antioxidants, fuels and lubricants, plastic additives, industrial resins, adhesive resins, surfactants, engineering plastics, pharmaceutical and specialty chemicals serving the rubber, adhesive, coatings, paper, friction, timber, and foundry businesses, among others.

Hüttenes-Albertus Chemische Werke GmbH, founded in 1970 and based in Düsseldorf, Germany manufactures chemical products for the foundry industry in Germany and internationally. The company’s products include inorganic binder systems, cold box, hot-box, no bake, adhesives, shell moulding process products, resole CO2, coatings, special sands, parting agents and release agents. It offers its foundry chemical products for use in various core and mould making processes.

Chemex GmbH is a wholly-owned affiliate of Hüttenes-Albertus Chemische Werke GmbH. The company, which was founded in 1974, manufactures a range of exothermic products including cold box bonded sleeves and slurry sleeves as well as metallurgical products for application with aluminium, aluminium alloys, wrought alloys and casting alloys, zinc and zinc alloys, magnesium aluminium alloys and fluxes for magnesium aluminium alloys.

SI Group South Africa’s head office is situated in Durban, KwaZulu Natal and is a phenolic resin supplier to the South African and export markets. Its parent company, the SI Group, is a privately held company founded in 1906 with headquarters in Schenectady, New York, USA.

The foundry products manufacturing division of SI Group SA is located in Alrode, Gauteng and has its roots through HA Falchem SA, which was established in 1973. From a small importer of foundry auxiliary products, it developed into a manufacturing unit of binder systems and coatings under licence to Huettene Albertus Chemische Werke GmbH in Germany, and has become a major supplier to the South African foundry industry.

Constantly rising demands on quality and environmental compatibility confront foundries and their suppliers with an ever increasing array of new challenges. In addition to increasing productivity, meeting environmental and industrial safety regulations represents one of the factors of success for foundries, a challenge that requires constant supervision and ongoing development of existing processes and operations.

For both ecological and economic reasons, the emissions and associated unpleasant odours liberated during core making and when the sand cores contact the melt, must be eliminated by means of process-integrated primary measures.
With a strong partner in the foundry industry, SI Group SA has been successful in establishing such a reputation and today continues to manufacture and market product for the foundry and timber industries with the following emphasis:

• Synthetic resin binders for cold setting processes
• Synthetic resin binders for gassing processes
• Synthetic resin binders for thermosetting processes
• Sodium silicate binders
• Mould and core coatings
• Pre-coated sands for shell moulding
• Mould and core adhesives
• Release agents
• Products for die casting

• Foundry auxiliaries such as feeding systems, filters, ceramics, non ferrous metal treatment (flux and flux tablets, adhesives, parting agents, steel shot and substrates)

Brand names include Sinoset, Sinocure, Koldkure, Kaltharz, Resital, Betaset, Sinotherm, Arkopal, KeraCron, Pentex, Zircollfluid, Arcofix and Corrodur.

Products of the SI Group SA are used in markets such as the automotive, railway, transport, construction, mining, machinery and general engineering industries.

For further details contact SI Group HA on TEL: 011 389 8200
The impact of the strike in the metals industry in South Africa could have far reaching implications and unions must accept that actions always have consequences. I have heard countless stories of wanton vandalism, assaults, intimidation and many other horrific stories relating to the strike. I personally came close to being caught up in an incident that involved ‘strikers’ and all I can say is that I was grateful that I was in a car and could speed away from the incident.

I say ‘strikers’ as I am sure that 95% of the ‘strikers’ were hired hands because in most instances I have heard that the intimidation was just too organised. According to employers I have spoken to none of the ‘strikers’ were recognised by the employers, and the nature of the aggression of the ‘strikers’ does not fit the profile of their employees. In other words they (the ‘strikers’) were bussed in. Not an unusual tactic in South Africa.

The threats on the lives of office employees is inexcusable and should be dealt with but then we live in a country where our law enforcement is in complete disarray in most eyes.

Then I hear the stories of where companies have worked ‘night shift’ to avoid the ‘strikers’ with maybe 10 to 20 percent of their normal workforce, and have managed to manufacture at least 80 percent of their normal monthly production. As a result, the monthly profit has risen dramatically because of not having to pay the extra wages.

Many companies have now just decided to close their doors – more unemployed – and others have serious cash flow problems and cannot afford to pay their employees, so are only working a four day week until they recover. This is going to put employees under even more pressure to pay their debts because even though they approach the employer for a loan the employer simply does not have the money to lend.

All through this the Union bosses collect hundreds of thousands of Rands from their members every month and continue to “Live a life of Reily”. Have the employees really analysed what they get for their monthly contributions? A month off work with no pay that will take them years to recover from! A funeral policy! Whoopee!!

This strike has really annoyed many and you have got to ask whether Numsa has pushed some unwanted buttons? You only have to look at the international headlines in July, in particular those related to the automotive OEMs, where numerous million-dollar projects are being awarded and none are directed South Africa’s way.

So are foreign automotive investors at the point of losing patience with strike-prone South Africa? Or will militant trade unionists be proven right in their gamble that multinational motor companies are too deeply embedded in South Africa to walk away? These are the questions asked by David Furlonger for his cover story in a recent issue of Financial Mail.

Furlonger continues: “Though there appears to be no question at this stage of disinvestment by any of SA’s seven full-scale vehicle manufacturers — BMW, Ford, General Motors, Mercedes-Benz, Nissan, Toyota and Volkswagen — there is a sense that they may reconsider the scope of their presence here. BMW and Datsun, Nissan’s reinvented entry-level brand, admit that plans to build new cars in SA were put on hold because of the uncertain labour environment.”

“The cars would have been mainly for export but the companies say they can’t risk an unreliable workforce. Last month, Datsun’s global head, Vincent Cobee, expressed regret at having to bypass SA for the Go car, which is designed for emerging markets and will go on sale in SA in a few weeks. The first generation of the car will be imported from India.”

The South African and sub-Saharan Africa markets may have good long-term prospects but they are not that important to the OEMs, in world terms, that the usual rules of economics don’t apply.
The following are three viewpoints by concerned business owners in the metals industry. Names have been withheld for obvious reasons.

A concerned business owner

Profits for the financial year to date wiped out, staff lose thousands in pay, annual dividends destroyed, consumer confidence eroded, relationships between business owners and staff severely damaged, a depreciating currency, a country on the verge of a negative growth rate, are just a few of the disastrous consequences of the recent month-long strike in the metal industry.

Government once again proved that they are powerless to prevent unions dictating who does, and who does not, have the right to work in South Africa in 2014. Numsa successfully intimidated, threatened and assaulted people who tried to work. Numsa shamelessly damaged and vandalised company properties whilst government and the police force looked on.

With its 200 000 members, Numsa was able to bully industry into shutting down, affecting millions, from the local food vendor on the street corner, who had no lunch customers, taxi drivers who had no fares to transport, to suppliers to the industry and related services, to banks, retailers, medical aid funds, etc., who did not receive money on accounts, or monthly subscriptions. Workers who were forced against their will to endure a no work no pay situation. Industries across the board were negatively affected by this strike.

Numsa declared the strike a victory, yet an analysis of the figures shows a very different picture. In a financial year which runs from March through to February, our company had operated profitably during the months of March through to the end of June. The professionally and successfully managed business’s financial records show that the company was on target for a good year, with healthy growth and sound financial management policies in place. The company could have expected to make sizable profits as well as being able to declare solid dividends for the company shareholders. Our companies’ shareholders are made up of the majority of the staff who will eventually own 47.5% of the company. These are the same staff that were threatened and intimidated into staying away for a month.

The loss of production for the entire month of July has completely wiped out the profits made from March to end June. The monthly fixed costs, rent, machinery installment agreements, electricity, rates, insurances etc., are high, and margins in a competitive industry are small. Our company is very dependent on production volumes in order to be profitable. Numsa’s denial of people’s right to work, has therefore ensured that the same people whose best interest that they pretend to represent, will lose dividends as well as the ability to “pay off” shares through company profits. The company now faces a serious cash flow problem and has had to look for ways to cut costs. Once again it is individuals that have to pay the price. The company has unfortunately embarked on a four day week programme, not because of a lack of orders, but rather in an attempt to save the company and generate a positive cash flow position in as short a period as possible.

The owner of our company was one of the first to pioneer real empowerment of his workforce by implementing the opportunity for workers to own 47.5% of his company. This progressive and proactive programme specifically developed for the company at no cost to any staff member, is being severely hampered by narrow minded organisations like Numsa, who falsely accuse this business of racist colonialist policies.

Honest hardworking business owners who have started businesses from scratch, have exposed themselves to huge personal financial risk, and have dedicated their lives to building up successful operations, now find their businesses under threat. Government is doing little or nothing to protect businesses from unions and business owners will in the interest of self-preservation make firm decisions. Many business owners will sell up, while others will relocate, possibly even into African countries north of our borders, where business conditions are becoming more attractive. Many more business owners however will take the decision to automate their plants and one can expect large cutbacks in the labour force in favour of automation. Numsa has left business owners very little option.

A study of figures also reveals just how much individual workers lost throughout the course of the strike. The losses are quite staggering. Analysis of the percentage increases received at our company show that the company gave an average of 12.31% per employee in 2013. The highest increase received was an astonishing 46% by one individual who upskilled himself, whilst the lowest was 7.8% (still higher than the industry 7%) by a high earner who performed poorly. Our shop steward happily chanted his way out into the street with a cool 22.22% 2013 increase in his back pocket! The new average increase per worker following the strike in 2014 is 9.6%. 2.7% lower than our 2013 average. Numsa claims this to have been victory! Our records show that our company has consistently paid staff more than the prescribed annual increase since company inception. We believe that this will be the first year that this will not happen. This is a direct result of the strike.

Our figures show that a Grade H worker on minimum wage who was on strike for 20 days, lost R5 520.00. We have calculated that it would take that worker 4.2 years to recoup his losses. Similarly our spread sheet illustrates that a Grade D worker lost R7 393.00 and will take 7.89 years to recoup the loss, a Grade B worker lost R7 919.00 will take 14.1 years, and a Grade A worker who lost R10 479.00 and only received an 8% increase, will never recoup his losses. Yet Numsa claim a victory for the workers!

Who are the real victors of the strike?

Numsa’s extended strike had little to do with workers’ rights and more to do with a thinly disguised intention of developing a higher political profile for the organisation. It is common knowledge that Numsa intends on forming a political party. However, if big Jim continues to lead the country down this path to poverty, he may find as he “toyi-toys” his way into the palatial homestead, that the fire pool has turned green, the tuck shop is empty, the presidential jet that has been grounded with flat tyres and no fuel, parked in a rusty hanger mostly stripped bare and being used for shelters in the newly built squatter camp, by residents who found the instant lawn on the artificial soccer pitch quite appealing.

Who are the real victors of the strike? Certainly not our company which has had the year’s profits wiped out. Certainly not our workers who have lost a great deal of money and now have to work a four day week. Certainly not government who faces negative growth, recession and who is viewed as powerless in the face of the unions. Perhaps the only organisation seen to be benefiting is the Numsa body itself. Their claims of victory may be believed by the ignorant, uneducated or dim witted, which may increase their membership and thereby the monthly contribution received in the short term. However, the damage done to individuals and the personal hardship that they have had to endure may begin to influence the vast majority of their membership to rethink. They may find their members becoming disillusioned. They may in fact begin to lose membership. I know it has already begun to happen in our company.
SEIFSA wage negotiations were a farce

Were the negotiations about wage increases this year or were Numsa adamant that they wanted a strike to gain prominence in the race with Julius Malema, Joseph Mathunjwa (Amcu) and Numsa general secretary, Irvin Jim?

Long before negotiations were deadlocked Numsa declared their intention to go on strike. Ironically, I think this is the longest strike the metals sector has had in the last 20 years and SEIFSA, on behalf of the employers, has been more than generous in its offerings to the unions. In fact the offering of wage increases has not changed by more than 0.5% over the 2nd July offer yet the strike dragged on for four weeks because of section 37 – none of our employees even know what this section is all about.

So Irvin Jim won the war with a 34% increase for his troops (that remain employed) over the next three years. The economy is in recession, we have an abundance of unemployment, we have an industry that cannot access the minimum youth subsidy as its wages are too high and yet we still give a 10% per annum increase. This will undoubtedly continue the decline of employees in the metal industry. The General Secretary of the Bargaining Council (MEIBC) said recently on national television that the industry lost 700 000 employees.

Employers need to assess their allegiance to SEIFSA who again have rolled over and given unreasonable and unaffordable wage increases in an industry that is battling to survive. Neasa appears to be the Association (that SEIFSA loves to hate) who who are willing to support small and medium enterprises. Neasa have locked out their employees as they have only offered 8% increases. The minister may still decide to enforce a bylaw that have locked out their employees as they have only offered 8%

Bargaining Council (MEIBC) said recently on national television that the industry lost 700 000 employees.

We undertook a simple exercise to see:

a) How successful our industry has been in negotiating wage increases each year
b) The impact of this on employability versus automation and came up with the following numbers:

A. Wage Increases

1. Base Rate increases

The actual and CPIX increases over the period 1997 to 2014, using April CPIX rates and more recently CPI as the benchmark, are as follows for a Grade G employee:

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual Wages</th>
<th>CPIX wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>R8.69</td>
<td>R8.69</td>
</tr>
<tr>
<td>2014/5</td>
<td>R35.40</td>
<td>R24.30</td>
</tr>
<tr>
<td>Increase</td>
<td>307%</td>
<td>180%</td>
</tr>
</tbody>
</table>

These increases are only base rate increases and do not include some of the less tangible costs incurred over this period, namely:

a) Three days family responsibility leave
b) An extra weeks leave taken a year earlier
c) Increase in overtime rates from 1.3 x to 1.5 x normal rate
d) Reduction in working hours from 45 hours to 40 hours/week
e) Payment of overtime after 40 hours/week and not 45 hours/week
f) Increase in afternoon shift rate from 7.5% to 8%

2. Closing of the “wage gap”

It could be argued that the lower income population has had a much greater access to our government’s free housing programme. Assigning a Rand value to this is difficult but we came up with the following numbers:

- R30 000.00 RDP government house paid over 20 years at 11.5% is equivalent to R320.00 per month
- 6 000 litres of water at R8.00 per kilolitre is equivalent to R48.00 per month
- 150kW of electricity at R0.60/kW is equivalent to R90.00 per month
- Most employees will have one child grant of R240.00 per month each

Total: R698.00 per month given by Government

The question then begs – Do we still need differential wage increases in:

a) Grade H to A?
b) KwaZulu Natal to Gauteng where salaries are 20% higher and cost of living is higher (properties, toll roads, insurance etc.)

The average wage increase for grade G over the next three years is 10% per annum. The average wage increase for grade A (artisans) over the next three years is 7.5% per annum.

If this wage increase differential continues for the next 23 years then the operators will earn the same as artisans! Makes sense doesn’t it when you have a shortage of artisans and a surplus of operators.

The above is based on scheduled rates. In the real world the artisans are paid higher than the minimum rates due to supply and demand. The operators are not paid less than the scheduled wages in spite of the excess supply of operators!

B. What impact does this have on employability and automation?

In 1996/7 the Grade G wage rate was R8.69 per hour. Working a 50 hour week (45 hours normal time and five hours overtime) and adding 31.5% cost to company ( UIF, 13th cheque, leave, sick leave, compassionate leave, NIC levies) resulted in a cost to company of R29 687.00 per annum.

Remember you don’t recover 52 weeks work back for this, only about 47 weeks which pushes the actual cost per hour to approximately R16.00 per hour!

Purchasing a piece of capital equipment in 1997 for R110 000.00 at 19.25% interest and using a five year payback gave an annual repayment of R29 000.00 which made it costly to automate.

In 2014/5 the Grade G wage rate is R35.40. Times have changed and the standard number of hours of work per week is 40 hours, overtime rates have increased to 1.5x and levies have increased. This has resulted in the cost to company (for a 50 hour week) increasing to R141 741.00 per annum (using 52 weeks per year and 40% cost to basic).

Our government has introduced some capital incentives, one of which is the MCEP (The Manufacturing Competitiveness Enhancement Programme), which pays 30% of the capital back. Taking this into account, with current interest rates of 9%, and the cost to company for employees allows us to buy a piece of capital equipment for around R785 000.00 to replace one operator with a five year payback.
“Who are the real victors of the strike? 
Certainly not our company which has had the year’s profits wiped out. 
Certainly not our workers who have lost a great deal of money and now have 
to work a four day week. Certainly not government who faces negative growth, 
recession and who is viewed as powerless in the face of the unions.”

This of course only assumes:
a) your new piece of equipment only replaces one person 
and works a single shift five days a week!
b) labour rates do not increase over the next 
five years!

We are finding it incredibly easy to automate a cell 
for around R500 000.00 and reduce employment by three 
employees!

C. What does the future look like?

1) Our government is discussing the possibility of all 
employed people joining a new low cost medical 
aid to be subsidised by employers. Let’s assume the 
total cost is R300.00 per month and we have to 
pay half of this.

2) SEIFSA has informed us that the employer will 
increase contributions to the Metal Industries 
Provident Fund from 6.5% to 15% over the next 
22 years.

The costs continue going up with no give and take in 
terms of productivity.

Summary
Is there any incentive for business to employ more 
people? Is this what our country needs – automation?
SEIFSA needs to be complemented on taking the 
non-confrontational approach over the last 20 years and 
invariably giving into the Unions demands and passing 
these costs onto industry. Employment numbers continue 
to decrease, companies invest less in their operations and 
businesses close. The only real winners are the people, 
that are in the serious minority, that are still employed 
whose wages are now 45% greater than inflationary 
increases over the last 20 years.

A country that has a strategic advantage of an 
abundance of labour is not using this resource due 
to it being out priced by the capitalist Union leaders!
The losers are the unemployed, balance of 
payments, crime and a good quality of life for all South 
Africans!”

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GIFA, METEC, THERMPROCESS and NEWCAST 2015

National Pavilion applied for but not yet approved.

There are only eight months to go before GIFA/NEWCAST/METEC/THERMPROCESS 2015 opens at the Düsseldorf Trade Fair Centre in Germany. Foundry professionals from all over the world will meet from 16 to 20 June 2015 for the world’s number one exhibition for the foundry/castings industry.

The South African Institute of Foundrymen (SAIF) have organised a National Pavilion for South African companies, foundries and manufacturers to exhibit their products and innovative components from ferrous and non-ferrous metals, in front of an international audience, for the last five occasions of the exhibition. The sponsorship of the National Pavilion falls into the EMIA (Export Marketing and Investment Assistance) scheme through the Department of Trade & Industry.

At the time of going to press the DTI had not yet approved the application. However rule 10.4 in the National Pavilions Guidelines states that: The Deputy Director-General: Trade and Investment South Africa will approve the National Pavilion list for the following financial year, at least 7 months prior to the commencement date of the first event in April, so there is still hope even though hope is not a strategy.

In the mean time, until the decision is taken, for those companies that are serious about exporting it is an opportunity that they cannot afford to miss should ready themselves with the paperwork. The South African National Pavilions provide a cost-effective means for companies to enter into or to expand their business in the lucrative overseas marketplace. Exhibiting within a South African National Pavilion at one of the specialised industrial trade shows has proven to be the ideal way for small-to-medium sized companies to make a greater impact at a large trade show. Under the EMIA scheme DTI assists you with full sponsorship of the following costs:

- Rental of stand space
- Design and construction of your stand with furniture and cabinets provided
- Freight costs of products/display material to the exhibition and back for up to 2000 kgs/3 cubic metres
- Sponsorship of company brochures for use at the exhibition
- Back up services on the National Pavilion
- Promotion of the National Pavilions internationally

In addition the DTI will also assist with other costs for those companies that qualify. These include:

- One return economy class airfare – maximum R 17 000.00
- R 2 300.00 daily allowance for entire duration of exhibition

There are a number of criteria that have to be fulfilled by each individual company and you will only be considered once you have submitted your application on the official form. All relevant documents have to accompany the application.

See the details below.

If you qualify and are selected to participate on the relevant National Pavilion, and depending on what assistance you qualify for, the DTI will co-ordinate everything for you including return air ticket booking, central point for freight, clearing in Germany and return, and all stand requirements.

Trade Fair Travel have also put together a package for visitors – see separate story in this issue.

Please consult the following website http://www.thedti.gov.za/trade_investment/emia_national_pavilions.jsp, should you require more information on the National Pavilions or www.gifa.de; www.newcast-online.de; www.metec.de and www.thermprocess.de should you require more information on the exhibitions.

Alternatively contact the SAIF on TEL: 011 559 6468.
The Scaw Metals Group has announced the appointment of its new Chief Financial Officer, Patrick Malaza. Malaza’s appointment comes at a time when the industry is going through many changes.

“I look forward to a long and healthy relationship with Scaw Metals Group and moreover, driving the long-term sustainability of the company’s financial position,” said Malaza. Malaza will be taking with him many lessons from his previous role as CFO at Central Rand Gold Ltd, where he was entrusted to achieve strategic objectives by providing guidance and leadership to enable efficient and effective financial management, procurement, information systems, reporting and governance.

As ammunition for his future at Scaw Metals Group, Malaza holds a Bachelor of Commerce Degree from the University of Fort Hare and a Bachelor of Accountancy from the University of Witwatersrand. He received his CA (SA) in 1995 from the Public Accountants and Auditors Board Examination and has since gained extensive experience in the areas of financial accounting, management accounting, income tax, corporate finance, supply chain management, property, auditing and strategy.

His experience also includes senior roles at Transnet Freight Rail including Executive Manager for Spoornet International and Business Ventures and Executive Manager for Procurement and Property.

Markus Hannemann Chief Executive Officer of Scaw Metals Group said, “With Patrick’s background and industry experience, he is the perfect candidate for our organization. Our ability to adapt and respond to a rapidly changing operational environment is at the heart of driving our business growth strategies. With an array of experience in the corporate sector, Scaw Metals looks forward to the expertise that Mr Malaza will bring into the organisation.”

The company produces 750 000 tons of steel per annum, of which 300 000 tons consists of secondary-type products or finished steel. This makes Scaw Metals one of the most significant exporters of secondary steel products in South Africa.

Scaw Metals Group

Scaw is a leading South Africa based integrated steel maker producing highly specialised and critical consumable components for the mining, rail, power, offshore oil and gas, construction, commercial and other industrial sectors. The business operates through four product focused business units with facilities in South Africa. Grinding Media produces high chrome and forged grinding media. Wire Rod Products produces steel wire rope, chain, wire and strand and other related products for mining, industrial, construction and offshore oil drilling applications. Cast Products designs and produces a variety of cast steel products for the mining, metal processing, power generation and railway industries. Rolled Products is a manufacturer of low and high carbon long steel products.

With Patrick’s background and industry experience, he is the perfect candidate for our organization. Our ability to adapt and respond to a rapidly changing operational environment is at the heart of driving our business growth strategies.”
New bid to stem scrap metal exports

The International Trade Administration Commission (Itac) will soon issue new guidelines for the compulsory sale of ferrous and nonferrous waste metals on the local market in its continuing effort to stem exports worth billions of rands each year.

The new guidelines aim to stop scrap-metal dealers from exploiting loopholes in the preferential pricing policy issued by the Department of Economic Development last September.

Itac chief commissioner Siyabulela Tsengiwe said the revised guidelines, to be issued shortly, would strengthen the system of control.

Many countries impose duties to prevent the export of scrap metals such as copper, brass, lead, aluminium and zinc, a valuable economic resource that is used to produce a range of manufactured goods.

A clampdown on exports is in line with the government’s policy of promoting local beneficiation and stimulating the manufacturing sector.

South African scrap-metal exports are estimated at about 1.5 million tons annually, or about 40% of the total collected stock.

Last year 52,000 tons of scrap aluminium was exported for an estimated R830 million while in the first six months of this year — after the preferential policy was implemented — exports totalled 25,500 tons. This shows the policy has not had much effect.

Itac’s move follows complaints by the Non-Ferrous Metal Industries Association (NFAMIA) and other industry associations that scrap-metal merchants were subverting the government directive that they offer their products to domestic foundries, small mills and secondary smelters at a 20% discount to the international spot price before they could be issued with export permits by Itac.

NFAMIA and Steel and Engineering Industries Federation of SA economic council chairman Bob Stone recently told Parliament’s trade and industry portfolio committee that the preferential pricing policy had not been successful in lowering prices.

Neither had it stopped the flow of exports.

“To date no company within the nonferrous metal sector has been able to report having purchased scrap metal at any price approaching the issued preferential price,” he said.

“On the contrary, prices of the most popular grades of scrap have, in many cases, increased.”

The high price of scrap metal — which represents about 62% of the total cost of production of a range of beneficiated products made from scrap metal — has made local producers uncompetitive, contributing to the closure of foundries and other businesses, Mr Stone said.

The Metal Recyclers Association (MRA) tried to obtain an interdict against the government’s export control policy in the High Court in Pretoria in November last year but lost their case.

Industry sources said scrap-metal dealers then embarked on a strategy of subversion by demanding impossible sale conditions. They refused to deliver the scrap and demanded upfront cash payment and documentation.

This forced metal fabricators and beneficiators to relinquish their right to the legislated discount and to pay the price demanded by the suppliers.

In its submission to Itac on the revised guidelines, the NFMIA noted that the scrap merchants were using “blocking tactics to prevent a sale” so they could then get an export permit.

“Scrap metal merchants have concocted many inventive and frivolous excuses to justify why they will not, cannot and flatly refuse to honour the gazetted policy,” the association stated.

In terms of the draft guidelines issued by Itac in May for public comment, the preferential price must include the cost of transport and insurance. Payments must be made within seven working days of delivery and other terms of sale must be “reasonable” and in line with previously existing terms.

The MRA could not be contacted for comment at the time this article was published in Business Day.
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Just a few years ago Frantel Holdings’ entire business was focused on aluminium gravity die casting making the company’s success and profitability extremely susceptible to a handful of clients in the petrochemical industry, an area that the company was founded on in 2004. At the time the company cast aluminium components for valves, couplings, nozzles, and pneumatic overfill protection systems. The equipment is used by the major petrochemical and oil companies in underground installations, at filling stations, on road tankers, and at tank farms.

 Owners Terry Brooks and Francois Mulockhouwer could not be more diverse in the skills that they bring to the company, and combined they make a formidable and complimentary partnership.

Brooks arrived in South Africa at the age of 23 in 1984. “I came out on a working holiday and decided to stay. My background is in mechanical engineering. I started my working career off in the automotive industry with Ford UK. I was mainly involved with product development while completing my HNC in mechanical engineering.”

“My first position here in South Africa was with Sigma Motor Corporation, which had come about because of sanctions against South Africa. The company was the distributor for Mazda Japan in South Africa and launched what was to become one of the most popular small cars in the country, the iconic Mazda 323.”

“After spending four years with Sigma I then moved on to Armscor, more specifically Kentron, where I was involved in structural design and FEA. After five years I moved to a component manufacturer and one of my main tasks was to set up an aluminium foundry for the company. I spent 10 years with the company before deciding to set up business with Francois.”

Mulockhouwer has been involved in the automotive and petrochemical industry all of his working career, starting off at Nissan in Rosslyn, Gauteng. However, his background is in the money, marketing and management side of business and he is proud to say that he obtained a BCom degree through UNISA and then followed it up with an MBA.

After seven years at Nissan, Mulockhouwer joined Dorbyl for nine years where he became one of the youngest Directors. He then moved to the component manufacturer where Brooks was employed, in 1999.

The two partners and friends subsequently set up Alumacast in Silverton, Pretoria in 2004 and 10 years later the aluminium diecasting foundry is still an integral part of the holding company Frantel Holdings.

“The foundry has broadened its scope from those early days. It now specialises in the development of high integrity castings for the electrical, mining, engineering and automotive industries. Casting sizes range from a few grams to 20 kilograms, and additional value added services include heat treatment, machining, finishing and powder coating,” explained Brooks.

“Alumacast currently produces various engineering parts made in a variety of alloys including LM6, LM9 and LM25.”
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Alumacast prides itself on engineering better solutions to customer casting needs. These solutions have been created through advanced engineering skills combined with more than twenty years of industry experience. Alumacast now has strong synergies with other industries, which enables the company to offer clients, in addition to gravity sand castings and high pressure cast products, CNC machined products and heat treated products. Alumacast currently produces approximately five tons of aluminium castings a month but has a capacity of more than double that figure. This is compared to one ton a month when we started the foundry,” explained Brooks.

“In addition to the components for valves, couplings, nozzles, and pneumatic overfill protection systems we also have regular clients that require aluminium cast components for gear housings, pneumatic cylinders, covers, rock drill components, sheave rolls for overhead power lines, other road tanker and truck components, solar heating and energy saving and numerous other general engineering components.”

Additional offerings

“With our involvement in the petrochemical and oil industry it was not long before we saw opportunities downstream. For example the retail petrol service station industry has numerous products and components that need to be supplied. Our first involvement was to invest in the equipment and design the tooling that manufactured rotomoulded products, big and small. This is also still an integral part of the business and it has led us to manufacture and supply other products such as fill point adaptors and dust caps, updraft vents, containment sumps, UPP mechanical compression fittings, shear-off valves, angle check valves, mechanical overfill valves and dispenser sumps,” explained Mulockhouver.

Service – 30 tons of castings sourced from China

This is when Brooks gets agitated and has his gripe about the South African foundry industry. “We are a non ferrous foundry but because of our extended product offering we do require a regular supply of ferrous castings. At the moment we need about 30 tons of castings a year and do you think we can get any of the local foundries to supply good quality castings? Some of them that we have approached don’t even bother to return our calls and others don’t even quote even though we have supplied drawings and followed up with them. As a result we import all our ferrous castings requirements from China.”

Lets go camping

Both Brooks and Mulockhouver are keen outdoor enthusiasts and their interest in nature led them to become involved in their next venture.

Mulockhouver takes up the story. “We were supplying a range of components to a manufacturer of 4x4 off-road trailers. The company hit hard times so we purchased the assets and decided to manufacture our own trailers. The rationale behind this almost game changing decision was influenced by a number of factors.”

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“With our in-house capabilities we are able to manufacture most of the structural components that are used. They either come from the foundry or our fabrication department where we have press brakes, a guillotine and extruded aluminium profile equipment.”

“South Africa is a country where you can experience it all; from the unspoilt beaches along the Wild Coast to the deserts of the Kgalagadi, to the lush, green forests of Tsitsikamma, to the mountains of the Drakensberg, to the unforgettable game viewing in our national parks. One moment you can be cage-diving with Great White sharks, the next you’re enjoying a traditional braai and a bottle of Pinotage along the Garden Route.”

“In short all South Africans love the outdoors but like everything else hotel, B&B and general accommodation is becoming expensive.”

“There has also been an explosion of the mountain bike industry with enthusiasts wanting to explore every corner of our country and those of the neighbouring countries.”

“Coupled with the fact of the cost of caravans and the harrowing experience of towing and housing one, we were confident that we could manufacture a product that would without doubt be worth considering if you’re thinking of buying an off-road trailer.”

“Just recently we acquired the African Outback / Big Country range of products which further enhanced our capabilities to fulfill the keen outdoor and off road traveller. The Outback / Big Country range includes aluminium canopies, roof racks, roof top tents as well as heavy duty drawer systems, which means that we can kit you out for your tour no matter what.”

“Our experience with 4x4 trailers was that it was not a complete experience and you would be left wanting. There would always be flaws in the design and production of the end product and you would be left thinking: ‘If only they did this or they added these features.’ The result was that we designed and built the complete off road camper, as we like to call it, that virtually gives you the caravanning comfort, but allows you the freedom and uniqueness of an off road camper when you travel to those out of the way places.”

Manufactured under the Summit name the range has three variations: K2, Andes and Everest. The off-road trailers are suitable for two to four all-terrain travellers. Folded away and closed up it’s relatively compact, but the single most distinctive characteristic, distinguishing it from other off-road trailers is its low height: 1.3 metres at the highest point, ready for easy towing and maneuverability. What this also means is that the extraordinarily large 1.55 x 2.1 metre main bed on top of the trailer, with its 100 mm high-density mattress, requires no ladder to access.

The low height also ensures towing pleasure, ease of set-up and the comfort and safety of being able to monitor traffic in your centre rearview mirror while towing. Hitched behind an SUV or 4x4 bakkie, its low profile offers little wind resistance, thus keeping your towing fuel consumption down.

Engineering excellence

The 3 mm galvanised mild steel chassis with its bolted cross members has the capacity to flex in extreme off road conditions whereas a welded chassis may break. The 1.2 mm galvanised and powder coated body is glued and riveted together for extreme off road conditions.

Lightweight aluminium and stainless steel is also used where appropriate.

Manufacturing and assembly

“The three variations do have similar basic specifications and what we have described above is virtually giving you the full ‘Monty’. You can choose what you want to have included and depending on what we supply it will affect the end price,” explained Mulokhouver as he tried to make me his next customer.

“With our in-house capabilities we are able to manufacture most of the structural components that are used. They either come from the foundry or our fabrication department where we have press brakes, a guillotine and extruded aluminium profile equipment,” continued Brooks.

“We have even gone as far as setting up a department to manufacture the roof top tents, trailer tents and rapid awnings whereby we import international standard light weight fabric and design and assemble according to specification.”

“Supplying of materials and laser cutting is outsourced as is the purchasing of consumables such as the glasses, cutlery and crockery and the other optional items. We also have our specified suppliers of the wheels, fridges, stoves and electrical components. However, we will assemble all on site and when you tow away your camper it is a complete product.”

“The layout is ideal for quick roadside stops, brief overnight camping breaks and extended stays at one destination. And you’ll find there’s very little compromise of convenience compared with your home kitchen. Why rough it in the bush, after all?”

Tshwane Tanker Repairs

This is another company owned by the partners, which was only founded 18 months ago. Housed in the same 3 500 m² under roof complex that the company moved to in 2012, Tshwane Tanker Repairs offers a complete refurbishment of the external operations of the tanker shells only, even carrying out panel beating if necessary.

“We are situated in an area where there are a number of companies that make use of tankers as a transport mode for their product. We supply a number of the OEMS with original components and equipment so it made sense to offer a refurbishment, equipment replacement and pressure testing service. The nature of the areas that these tankers visit and the long distances that the tankers travel will lead to natural attrition. The fledgling business is growing rapidly and already we have contracts from Engen, Unitrans and BP to service their tanker shells, from both inside and outside of our borders,” said Brooks.

This new business has led to more manufacturing operations being added such as TIG and MIG welding, which can also be utilised in the other businesses.

Frantel Holdings employs 40 staff and prides itself in that it does not have any 2nd tier management. “We’re a hands-on company,” concluded Mulokhouver.

For further details contact Frantel Holdings on

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Around the world one dream unites foundry owners, regardless of their experience or specialty: greenfield capacity. Much can be accomplished with a clean slate. However in going this route, constraints such as cost, market opportunities, plant infrastructure, inaccessibility and local zoning rules are limiting factors to a foundry’s growth opportunities.

But there comes a time when a foundry reaches a point of no return if it is serious about staying in business. The need to expand its “production base” and support its customers becomes too great and an alternative plan has to be implemented.

The solution is to add new melting or moulding machinery, update cleaning and finishing systems, revise your foundry or moulding process and look at improving the many other operations that are associated with a foundry. But there are also difficulties that come with expansion and modernisation, especially when you have carved out a reputation over the last 17 years as a niche foundry with an emphasis on service. The decisions that owners take to limit loss of production will shape the ‘new’ operation for the future and offer insights to the choices that management has made.

Mould processing change

G.E Patterns & Foundry’s management took a major decision earlier this year to change its moulding process from CO2, the process that it had been using from inception, to the no bake process.

“The CO2 moulding process has many advantages over other forms of sand moulding. The more environmentally friendly, carbon dioxide (CO2) cured binder systems have been around for many years, but they have not gained much presence in the foundry market for good reason. The earlier versions offered a few significant benefits, but the trade-offs (such as poor work-ability and increased resin levels) out-weighed the benefits. The CO2 casting process is ideal where speed and flexibility is the prime requirement. But in the modern foundry it has become more economical to change to the no bake process, which we have done,” said owner and founder Garth Robins.

“We had been urged to change for some time. When you and your employees have been used to one system it takes commitment, education and tenacity to make this decision.”

New equipment

“Many positive influences and advantages of inorganic series core and mould production in foundry operations have already been mentioned. Others include odourless coremaking, odour-reduced casting, significantly less cleaning of machines and tools, and the resulting higher output quantity and production. All these advantages are in addition to the benefits to the casting process, such as faster solidification made possible by lowering of ingot mould temperatures.”

“Many PUNB (Phenolic urethane no bake) binders are available and produce good castings. How do you choose the most efficient? When considering a no-bake product, the overall cost should be a balance between material costs, performance, and emissions. The key to choosing the correct
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combination is to evaluate the total impact on your finished casting cost.”

“Implementing the no bake process has also involved a sizeable investment in new equipment, but ultimately the payback in savings on less scrap and being able to reclaim our sand will prove that we have taken the correct decision.”

“We engaged RC Systems to supply us with a closed loop no bake sand mixing and reclamation plant. The equipment includes a 5 ton an hour continuous mixer, two 15 ton silos for new and reclaimed sand, a cooler-classifier unit and a 3 ton an hour sand system to supply the mixer and includes a shakeout and dust collection unit.”

“The continuous mixer has been fitted with variable speed gear pumps that mix the blended chemicals with the sand. The chemicals are supplied by Applied Casting Solutions. They were very instrumental in converting us to the no bake system especially when we looked at the bottom line.”

Although we only implemented the new system and equipment just over two months ago we can already appreciate the cost savings and more importantly the improvement in the quality of castings that we are producing.”

Strike helps overcome obstacles

“We had always planned to install the new equipment in July this year. At the time of planning we were not aware that there would be a month long strike in the metal industry and even less so in July.”

“Although we lost a significant amount of production due to the strike it, in a funny way, helped us to install the new equipment with a relatively low amount of disruption.”

History

Robins reaches a personal milestone this year at the tender age of 56. December marks 40 years in the foundry industry for Robins. “My interest in woodworking was a primary reason why I took up a career in patternmaking.”

“When I started my foundry career in 1974 I could not have imagined that our industry would change as much as it has in just 40 years. Adapting and growing in an ever changing environment has never been more important than in the recent history. I remember back in the 1980s there were probably over 800 foundries operating in South Africa at the time.”

The number of foundries dropped down to 400 in the nineties and has dropped by another 50 percent subsequently. Fortunately this number has stabilised since the turn of the century otherwise it would spell disaster for industry in general in South Africa, not just the foundry industry.”

“If you compare this to the US, we are not alone. In the 1980s there were approximately 6 200 metalcasting facilities in the US and today there are fewer than 2 000.”

“My apprenticeship and experience as a patternmaker was gained at foundries that most of the youngsters of today do not even know existed. And there were some well known names as well.”

“There was such a need for patternmakers in the industry I could even further my studies and qualify as registered trainer, and also open up my own business relying solely on patternmaking requirements for the industry.”

“Although we still operate a patternmaking shop from our facility and I still own a separate patternmaking shop which I lease out, I hate to think of the drop in numbers of skilled patternmakers.”

G.E Patterns & Foundry’s venture into actual casting began
For over 10 years we have been supplying the South African molten metal industry with a range of Ferro alloys, cored wire, aluminium alloying additions, ceramic castings and filters, minor and special metals and minerals.

These include master alloys and alloys, fluxes, coatings, insulation materials (boards, blankets, wool, cloth, bricks and other textiles), filters, inoculants and nodulisers, hollowware, tin, mercury, linings, ceramic pre-cast shapes, crucibles, slide gate systems, filtration and degasser systems, furnaces, core shooting machines, moulding plants and systems, metal treatment and automation systems.

**Our international affiliation includes:**

- ICP (Industrial Ceramic Products): ceramic gating components
- Selee Corporation: filters for metal filtration
- HOESCH: grain refiners, master alloy’s
- Schaefer: non-ferrous die coats, fluxes
- Striko: aluminium furnaces
- Foundry Automation: core shooting machines
- IMF: turnkey moulding plants and systems
- Mammut: crucibles
- Progetta: molten metal treatment and automation systems for grey and ductile iron foundries
- Kennecott: FeMo
- Elkem: inoculants and nodulisers
- Ceralcast: local ceramic production facility
- CEDIE: cored wire
- RATH: refractory materials
in 1997. Robins remembers how he could not acquire the service he needed for his clients from the foundries he was dealing with so the only solution was start his own foundry.

“We did not want to grow into a soulless foundry whereby clients became a number. Still today we are a relatively small foundry, producing in the region of 20 tons of castings a month in SG, cast iron, plain carbon steel, high chrome manganese and a small amount of stainless steel and aluminium, with a staff compliment of 20. Our capacity is between 40 and 50 tons per month.”

“We are still in the same building that we started off in, although we have purchased the two buildings next door and expanded a bit. With the acquisition of the new equipment it will give us the opportunity to increase our tonnage; however the main purpose of the capital expenditure was to improve yields and quality, and save on costs.”

“We are located in Sallies Village, Brakpan, Gauteng and operate under approximately 1 500 m² under roof offering patternmaking, casting, heat treatment, including annealing, tempering, normalising and quenching and a range of finishing processes including cleaning to remove residual sand, oxides and surfaces scale, often by shot or tumble blasting, removal of excess metal or surface blemishes, (i.e. flash resulting from incomplete mould closure or burrs left from riser cut-off) by grinding, sawing or arc air (oxy propane cutting), rectification of defects by welding, machining, non destructive testing to check for defects, priming, painting or application of rust preventive coating and material analysis via our spectrometer.”

“When we moved in the Sallies Gold mine, located just up the road, was still thriving. More of a shock to the system is that our monthly electricity bill was R6 000.00 and now we pay R120 000.00 per month.”

“The castings that we manufacture are mainly for the mining industry however our general engineering clients have been increasing. Castings include trackpads, sprockets, gears, sheeve wheels, pumps, impellers, cam drums, spider arms and covers from one kilogram up to 750 kilograms in weight. We are limited to these sizes as we only have one 500 kilogram furnace and a one ton furnace.”

Succession
Robins’ eyes light up when I brace this subject. You get the feeling that retirement plans are already in place although, as he says, he would not be able to breathe if he could not have the smell of a foundry wafting past his nostrils for too long.

Son Chris joined the company in 2003 and has been one of the driving forces behind the upgrade and changes at G.E Patterns & Foundry. “It is my future,” said Chris who has recently been made a director of the company.

“Besides having my father as a mentor, I must pay tribute to the late Mario Viegas and Tony Warlon, both of whom gave up their time, and a few of my contemporaries in the industry to lecture and mentor us during the time when we were studying for our Diploma in Metallurgy. The company is also a member of the SAIF and I have attended the various courses that they offer.”

The company’s name is derived from the initials of Robins senior’s first names – Garth Edward – and currently G.E Patterns & Foundry is a level 4 BBBEE contributor.

For further details contact G.E Patterns & Foundry on TEL: 087 940 1632 or visit www.gepatterns.co.za
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Smelters and foundries need support to survive

Smelters and foundries need support if they are to survive. As a start, Eskom has to sort out its electricity supply problems, and government’s R4 trillion infrastructure plan needs to get under way soon, according to reports in the Business Day.

Better still, the private sector should be encouraged to provide more traditionally sourced energy.

BHP Billiton has turned off its Bayside aluminium smelter in KwaZulu-Natal. Smelting costs too much, even though the company has a hugely preferential electricity pricing agreement with Eskom.

Bayside, BHP Billiton’s Hillside aluminium smelter and the Možal smelter near Maputo in Mozambique together used about 9% of South Africa’s total electricity output.

A chunk of state infrastructure funding is being spent on building new energy capacity — mainly the delayed Medupi and Kusile coal-fired power stations, but also the Ingula hydropower project in KwaZulu-Natal.

The manufacturing sector is under pressure from strikes, above-inflation wages and increases in administered prices, as well as poor maintenance and development of infrastructure.

Smelters and foundries cannot run without a consistent supply of competitively priced electricity or gas to produce common metals such as aluminium and cast iron. Sasol’s monopoly on gas pricing adds to these competitive woes.

Smelters produce large volumes of molten metals from ores and downstream foundries process scrap metals. These processes make an array of products for industries including aerospace, electrical engineering, transport, containers and packaging and, especially, construction.

Bronze, brass, steel, magnesium and zinc produce castings of different qualities, shapes and sizes. These can be recycled in secondary smelters through remelting scrap metals. But many intermediate costs are involved, including for metals separation.

Alloys are closely associated with the iron and steel industry, which is also the main consumer of ferroalloys — alloys of iron with a high proportion of one or more elements such as manganese, aluminium and silicon.

The leading producers of ferroalloys are China, South Africa, Norway, Russia and Ukraine.

Much of the world’s ferrochrome, an alloy of chromium and iron used mainly in stainless steel production, is produced in South Africa, Kazakhstan, India and Turkey.

China’s entry into these markets has hugely altered the global balance. It has replaced South Africa as the top producer and Russia is catching up.

South Africa is the largest exporter of raw chromite ore to China and holds by far the world’s largest reserves. However, its exports of beneficiated ferrochrome to China are rapidly declining as a result of expensive and erratic electricity supply, and other rising costs. This is completely at odds with the government’s industrial growth plans.

China produces half the world’s steel, much of it used in manufacturing cars, industrial machinery and construction. This has pitted South African chrome ore producers — including platinum miners, which produce chrome as a byproduct — against the country’s ferrochrome producers over the export of “cheap” chrome ore.

The government is looking to impose cost-plus production agreements and export tariffs on industrial inputs including “strategic” minerals and scrap metals, to beneﬁciate raw materials.

Hernic Ferrochrome in the North West, which operates some of the largest ferrochrome furnaces in the world — some of which are shut at times for lack of power — says South Africa’s alloy smelting industry has significantly consolidated and rationalised in recent years.

The ferrochrome industry added new capacity last year, with local and foreign investment in FerroChrome furnaces near Rustenburg.

“The demand for ferroalloys is still growing in China and stable demand remains from Europe and the US, so the capacity utilisation of available smelters remains high,” Hernic Ferrochrome spokesman Samson Mafioane says.

He says all the ferrochrome smelters have arrangements with Eskom to cut back use during peak hours when asked to do so. The “massive tariff increases” for electricity over the past five years caused the industry “to remain marginal”, he says.

Some furnaces are used to smelt more competitive alloys but producers are also looking to establish lower-cost operations outside South Africa, in Malaysia and China, he says.

China is commissioning significant ferroalloy capacities that will keep the lid on ferrochrome price rises over the next two
A trusted industry leader

For 90 years, SCAW, a South African industry leader, has been a leading supplier of cast products to industries that are the backbone of our South African economy. When safety and productivity are at stake, customers depend on Scaw’s 90 years of experience and expertise to design and manufacture castings to the highest international manufacturing, safety and environmental standards.

With one of the largest foundries in the Southern Hemisphere, Scaw produces an extensive range of products cast, machined and delivered to customer specifications or under international licence. Customers, both nationally and internationally, continue to choose Scaw products and expertise.

www.scaw.co.za
years, according to industry analysts. “This increased capacity requires more raw material, of which South African suppliers will continue to export and share in the additional volumes,” Mr Mafoane says, but it raises alloy production costs.

Scrap metal ‘unaffordable’
The scrap metals industry has a complex and often adversarial relationship with the foundries industry. Many countries impose duties to prevent exports of scrap metals, while also heavily subsidising their metals industries, despite World Trade Organisation rules.

But South Africa has gone in the opposite direction since 1994, liberalising markets to the point that some in the private sector are pleading for protection, though others are baying for more open markets.

Bob Stone, chairman of the Non-Ferrous Metal Industries Association of South Africa, says inputs for metals producers, especially scrap metals, are not affordable.

Apart from tariffs, antidumping duties and subsidies elsewhere, market inequities are driven by high foreign demand and a highly favourable exchange rate for scrap exporters, which also charge local buyers export parity prices.

The Metal Recyclers Association of South Africa declines to comment — it is sensitive to accusations that it is involved in metals theft and that it is ignoring a government directive to offer product to local foundries and secondary smelters at a 20% discount to the international spot price.

The International Trade Administration Commission says it will soon issue new guidelines for the compulsory sale of ferrous and nonferrous scrap metals to the domestic market to stem exports worth billions annually.

John Davies, CEO of the South African Institute of Foundrymen, says the foundry industry remains under pressure. “However, if we can get the localisation programme really working well, it could provide impetus to the industry and make a real difference,” he says.

A decade of decline for embattled but crucial foundries
South Africa’s foundries have been in decline for more than a decade though there are still some centres of excellence.

About 180 companies are involved in alloying metals for a wide variety of applications and about 20 produce the bulk of the output, mostly for the automotive sector.

South Africa had about 450 foundries in the 1980s and just over 200 in 2003. Between 2007 and 2011 another 13% closed and employment in the industry declined by 30%.

Mark Krieg, executive director of the Aluminium Federation South Africa, says the metals castings industry has been in “dramatic decline”. This includes nonferrous metals such as aluminium and copper, and ferrous metals with a high iron content.

The recent turmoil in the mining sector contributed to a big drop in demand for digging-machine blades and ore-truck compartments capable of carrying loads of hundreds of tons; and grinding media — metal balls that crush rocks. Strikes also resulted in imports replacing the production of goods such as manhole covers, pumps and valves.

“About 80% of manufactured products have castings in them,” Mr Krieg says. “The foundry sector is one of the foundation stones for all manufacturing, and also tool and die making,” he says.

Tool and die making involves artisanal machinists making jigs, dies, moulds, machine tools, cutting tools, gauges and other products used in manufacturing ranging from cellphones to aircraft.

Mr Krieg says manufacturers need to produce in volume to compete with imports and to create economies of scale. Short-term tariff protections are needed to help establish industries. “Plug some of the holes with regard to import duties,” he says.

More efficient use of energy and a loosening of punishing environmental protection policies will help the industry, he says. South Africa also needs much-improved skills education and technology innovation.

Some of South Africa’s iron casting furnaces are 25 years old. In China, these average seven years. Mr Krieg says there is a mismatch between South Africa’s scrap metal inputs and the latest foundry technologies. “We are getting poor quality at a premium price,” he says.

The industry is at a crossroads, says Scaw Metals. “Due to the continuing poor local demand over the last couple of years, the remaining players have not invested in the required capital equipment and new technologies,” Ufikile Khumalo, Scaw’s executive chairman, says.

The increasing input cost of raw materials and electricity, poor and inconsistent local demand for foundry products, and rising imports are all contributing to the decline.
Endeco attach great importance to providing a full range of services to the foundry industry. When you buy an Endeco machine or a complete plant engineered by Endeco, you can depend on continuing interest in the performance and reliability of your equipment throughout its working life. The acquisition of Endeco equipment or services is not an end point but the beginning of lasting co-operation.
The publishers of castings sa will be publishing The 2015 Castings Industries Directory in February 2015. This is the fifth edition of this popular specialised buying and contact guide of Southern African foundries and suppliers to the industry.

The new directory will include offerings from all known foundries and suppliers to the industry and will provide a valuable resource for the manufacturing, design and engineering industry.

The Directory is divided into various sections with the buyer's needs in mind. These include:

- Useful Addresses – Local and International
- Foundry Company Details
- Art Foundries
- Alloy & Ingot Suppliers
- Patternmakers
- Heat Treatment Companies
- Spin Casting Companies
- Foundry Area of Activity Details

The foundries will also be listed according to what metal they melt (ferrous and non-ferrous) including aluminium, brass, bronzes, copper, irons, stainless steel, SG/ductile, steels, zinc and mixed metal and whether they are production, jobbing, production and jobbing, in-house, or special foundries.

The foundries will in addition be divided into which province/area they are situated in and production figures of each foundry will be given.

Suppliers company details and suppliers activity details
A comprehensive listing of supplier’s company details and supplier’s activity details will also be given. The suppliers will be categorised according to what they supply under the headings Equipment; Consumables; Raw Materials and Metals and Services.

Free listing
There is no cost for a listing. The Castings Industries Directory is published by BA Crawford Specialised Publications (Pty) Ltd and is distributed to the industry via the castings sa magazine - a specialised journal covering the technology, processes and materials field for castings – and Metalworking News - a specialised journal covering the technology, processors and materials field for forming, shaping and assembling in the metalworking engineering industry.

Entry deadline
The basic entry details are listed below. Please can you email these details back to the publisher by the 2nd February 2015 to ensure that your company details are listed.

Advertising in the Directory
With a shelf life of over two years The 2015 Castings Industries Directory presents an ideal opportunity to get your message across to prospective buyers, both local and abroad. Contact the publishers for further details.

The Directory will also be promoted at the South African Pavilion at GIFA/Newcast, which takes place in Düsseldorf, Germany in June 2015.

The 2015 Castings Industries Directory will be available after publication at R350.00 a copy including Vat and postage.

To ensure that you take advantage of the free listing in the 2015 Castings Industries Directory fill in your relevant company details below, and email them back to the publishers.
Foundry Details

Company Name: ________________________________
Holding Company: _______________________________
Postal Address: _________________________________
Street Address: _________________________________
Tel: ____________________________________________
Fax: ___________________________________________
Email: _________________________________________
Website: _______________________________________

Contacts
MD: ___________________________________________
Sales & Marketing: ______________________________
Foundry Contact: _______________________________
Buyer: _________________________________________
Number of Employees: ___________________________
Number of Foundry Related Employees: _____________
Type of Foundry: ________________________________
Casting process: ________________________________
Typical Castings Cast: ___________________________
Size of Castings: ________________________________
Weight of Castings: ______________________________
Tons cast per month (Per metal): _________________
Net weight of castings per month: _________________
Ancillary services (Machine shop etc.): ____________
Speciality: _____________________________________
Accreditation: _________________________________
Association/Institute membership: _______________
Countries exporting to: _________________________

Supplier’s details

Company Name: ________________________________
Postal Address: _________________________________
Street Address: _________________________________
Tel: ____________________________________________
Fax: ___________________________________________
Email: _________________________________________
Website: _______________________________________

Contacts
MD: ___________________________________________
Sales: _________________________________________
Marketing: _____________________________________
Production: ____________________________________
Company activity: ______________________________
Speciality: _____________________________________
Accreditation: _________________________________
Association/Institute membership: _______________
Countries exporting to: _________________________
Casting a line, online

Over 3 000 unique users from 103 countries.

As clichéd as it is, it seems like just the other day that Crawford Publications decided to take its first plunge into the vast sea of the wide world web that is the internet. It was something that we had been toying with for a few years, but at the beginning of 2014, we finally leapt off the diving board, and haven't looked back since.

For us, professionalism, relevance and the age-old concept of ‘content is king’ remains of the utmost importance to our business, and on the internet, this is no different - it's about making our site and our content valuable to our readers. If the content is relevant to the user, they will consume it. After all, it is what you have come to expect from our publications. You need to know what your readers want to know. You need to know what they will “Google”, thereby placing yourself, and your content, at the top of the search results when they hit the ‘enter’ button on their keyboard or mobile browsing device like a smartphone.

But it's not just about search results and being at the top of the rankings. The internet has levelled the playing field when it comes to competing with the big boys, and our industry is a large playing field. You have one shot at making a good first impression, and getting that person to return to our sites – we need them to become regular users. This is one of the key strategies that have remained top of mind for us right from the beginning. Sleek, professional layout with an uncluttered user experience is what makes browsing our sites such a pleasure for our users and one of the many reasons why we have a high rate of returning visitors.

We currently employ an array of software to monitor and evaluate what our users are doing on our sites and the insight gained thus far has been nothing short of fantastic. We often find that the Castings SA Online website is amongst the top search results across a number of different search engines including Yahoo! and Bing, as well as the most widely used Google, thereby ensuring the person that searched for a particular term or company, will likely click through to the Castings SA Online website. Of course this expands across a number of different search phrases too. That’s probably why, in just seven months, the number of visitors making contact with the Castings SA Online website has increased significantly. We have reached users that have likely never before read our magazines, but we know that they now want to read our publications. This is incredibly fulfilling for us, because our brands – and your brands – are now reaching markets that were previously unattainable. We now even have users from various parts of the world specifically searching for the online versions of our publications.

Exploring those numbers, Castings SA Online has had visits from 103 countries, with nearly 9 500 pageviews coming from 3 000 unique users. The average visitor is viewing 2.5 pages per visit, and spending nearly 3 minutes on the site with each visit. This can mean only one thing – active engagement. Users are actively consuming content while they are visiting. Thus far, we can tell that the top visiting nations are South Africa, the United States, India, Germany, United Kingdom, Brazil and China, respectively – and what this means is that the Castings SA magazine content has opened itself up dramatically to new markets with visitors specifically searching search engines for the current issue. In fact, nearly 20% of current searches coming into the Castings SA Online website are for the latest issue of the publication. If we drill down a little closer, 14% of Castings SA Online’s September 2014 (measured from the beginning of September 2014 – 10 September 2014) pageviews have come directly from searches on the internet.

Castings SA’s sister publication, Metalworking News, boasts equally exciting figures: visits from 120 countries, nearly 18 000 pageviews from 7 000 unique users averaging 2.5 pageviews per visit, with nearly 3 minutes spent on each visit. Again, this equates to engagement with the content.

It goes without saying that this is highly beneficial for us because we can tell exactly what people are searching for, and how they are ending up reading our content. And at the end of the day, this doesn’t just mean a brilliant brand extension for us, but also to our readers, and of course our clients – some of whom are already experiencing the benefits of joining us on this online journey. We have also created a space for ourselves for opportunity and further growth down the line such as our job listing portfolio – somewhere that you can tailor a listing, and find the right person, saving time and unnecessary job advertising costs. Also look out for improvements and growth within the ‘Showroom’ section of the website.

We all know that the internet never sleeps, and essentially, ignoring the power of the internet and this important potential marketing platform is similar to saying: “I don’t need any new business.” Traditional methods of advertising have not changed a great deal, but to use an analogy – a skeuomorph – where we look at the old through the new – a website that speaks in a sophisticated manner crosses time zones and cultures. For us, it’s simple: The internet is crowded, and people don’t like to look very hard to find meaningful content. Research indicates that 75 percent of users never scroll past the first page of search results. So, even if we manage to make it into the first
page of the search results, 70 percent of those users don’t trust a website with poor design.

Search isn’t everything, and online privacy is all but a thing of the past – for example, do you read all those terms and conditions when you download that latest ‘free’ app for your smartphone? Chances are you’ve allowed the company that manufactures that app access to your phonebook, email addresses, photographs – and even your camera and microphone.

So, a holistic approach is a necessary one. Nowadays, search engine algorithms are based on the quality of content, and matched to a large degree to a user’s internet profile. These ‘bots’ that decide whether our content is qualified to be of use to you also look at website design and layout – that’s why your user experience flows in the way it does when you visit our sites. It’s easy on the eye, and this all benefits us immensely because we know that our content is going to be related to what our users want to know, thereby increasing our chances that our content will appear on those first pages of search results.

Castings SA is part of the Crawford Publications (www.crawfordpublications.co.za) stable, which includes Metalworking News (www.metalworkingnews.info), a business-to-business publication dedicated to the metalworking industry. Crawford Publications brands are distributed to decision makers – owners, management and senior employees that are involved in decision making, buying and manufacturing – working in metal working and metalcasting facilities of all sizes – from small job shops to OEMs and component manufacturers. They provide suppliers, foundries, job shops, service centres and industry related companies a variety of opportunities to advertise.

Full details on the Castings SA publication and to see how you can reach a wider market via the Castings SA website can be found on www.castingssa.co.za or contact the publishers directly on TEL: 011 463 0489 or email online@engnews.co.za.

Onward and upward (in the search rankings), as they say.

Damon Crawford is the online editor at Crawford Publications and has an Honours degree in Journalism from the University of Cape Town.
The Rapid Product Development Association of South Africa (RAPDASA) will hold its 15th Annual International Conference from 5 to 7 November 2014 at the Stellenbosch University’s Center for Advanced Studies (STIAS) situated in the heart of the Winelands region, Western Cape. This year’s conference will be hosted by the Department of Industrial Engineering, Stellenbosch University and is endorsed by Global Alliance of Rapid Prototyping Associations (GARPA).

Additive Manufacturing (AM), better known as “3D Printing”, has matured from a prototyping technology (in the 1990’s) into the fully-fledged manufacturing technology, which it is today. AM products are used as final products in aerospace, automotive, medical and the consumer product industries. This fairly new technology has proved itself in improving the quality of life and it is the best aid for product designers to take a virtual design and turn it into an actual product in just a few days.

The 15th Annual Conference theme is “Talent Driven Innovation”. The conference will offer opportunities for participants from industry, R&D institutions, academia and government to listen to presentations and meet with world experts in this field and for the South African additive manufacturing community to showcase the cutting-edge work carried out in this country.

Pre-conference workshops will be presented on 5 November 2014, one on medical applications and a second one on foundry and tooling applications at a cost of R750.00 per person.

RAPDASA (Rapid Product Development Association of South Africa) was officially launched during the first annual international conference, held in 2000 at the CSIR, following a number of meetings held nationally, to establish a community of practice. RAPDASA embraces the complete product development value chain (starting from idea/concept, to design, prototype development into manufacturing and commercialisation).

RAPDASA aims to become a government-recognised activity or industry cluster/group, as it currently creates strategic links between academia, science councils and industry. It was started by volunteers, and is still being driven by individuals with a passion for innovative product development.

Who should attend?
RAPDASA invites product designers, toolmakers, production staff, technical directors and managers from industry involved in design, development and manufacturing of products and components, as well as participants from the international product development communities, academia, national R&D and educational institutions, to participate in the conference.

Conference package
The conference will be hosted at the Stellenbosch University’s Center for Advanced Studies, Western Cape, South Africa. An all-inclusive package of R4 800.00 (ZAR) per delegate includes:

• Full conference participation
• Lunches and conference dinner
• Refreshments (tea/coffee breaks)
• Welcome Function
• Gala Event
• NB – this package does not include accommodation or travel expenses

Online registration opened on the RAPDASA website and there are calls for papers and an early bird registration fee, discount will apply.

For further information please contact K Smith on TEL: +27 21 808 4234 or email rapdasa@cut.ac.za or visit www.rapdasa.org
New sand plant by Omega delivers significant benefits to Thomas Foundry

“Having identified the need to both reduce our sand costs and improve the quality of our moulds, Thomas Foundry’s management team set about finding a suitable partner to help us achieve these objectives. After an extensive search, we chose Omega to be this partner.

Thomas Foundry’s sand processing plant and new mixers were commissioned in two phases between January and April 2014. Thus far, we’ve been extremely satisfied with our choice of Omega as our partner in this venture.

The quality of our moulds, levels of reclamation and cost saving opportunities have all either met, or surpassed, our expectations.”

Barry Butler
Operations Director

Clayton Anderson
Chief Executive

Omega Foundry Machinery Ltd
Morley Way, Peterborough, PE2 7BW, UK
T: +44 (0) 1733 232231
F: +44 (0) 1733 237012
E: sales@ofml.net  W: www.ofml.net

Mondeco
Omega Foundry Machinery Ltd is exclusively represented by:
Mondeco Solutions (Pty) Ltd
Johannesburg, South Africa
T: +2779 448 1277  E: info@mondeco.co.za
Countdown to
The Bright World of Metals 2015 has started

The four successful trade fairs GIFA, METEC, THERMPROCESS and NEWCAST are being held again in Düsseldorf under the motto “The Bright World of Metals” from 16 to 20 June 2015.

The target group for the 13th International foundry GIFA 2015 are all the companies around the world that are interested in presenting their operations in the following areas: foundry and melting plants, refractories technology, machines and equipment for moulding and core making, moulding sands and moulding auxiliaries, sand preparation and reclamation, gating and feeding, casting machines, knock-out, fettling, finishing, pattern and die-making, control systems and automation, environmental protection and waste removal as well as information technologies.

GIFA has been a major part of the Messe Düsseldorf portfolio since 1956 and set a new record the last time it was held in 2011, with 780 exhibitors from 45 different countries and 48,700 trade visitors (53 per cent of them from countries outside Germany).

METEC, the 9th International Metallurgical Trade Fair, reported another increase in exhibitors in 2011. A total of 486 companies from 33 countries presented their know-how about the growing metallurgical sector and demonstrated that they are actively involved in making sure that operations are both efficient and environmentally sound in future, thanks to their product developments. METEC has been one of the four trade fairs since 1979 and focusses on equipment for iron, steel and non-ferrous metal production, for casting and forming steel, for environmental protection, waste removal and gas purification, for electrical engineering and process technology, for measurement and test technology, for information technology, for metallurgical plants, rolling mills and steel mills. In 2011, more than 19,000 trade visitors came to METEC to obtain information, with half of them travelling from European countries outside Germany or from overseas.

THERMPROCESS has a long tradition too: the international trade fair has been the place to find innovative thermo process technology since 1974. Presentation of the latest trends for solutions relating to the production and operation of industrial furnaces and heat treatment plants enables visitors to obtain information that keeps them up-to-date with industry developments. The range includes industrial furnaces, industrial heat treatment plants and thermal processes, equipment for special uses, components, equipment and other supplies, occupational safety and ergonomics. Both exhibitors and visitors gave THERMPROCESS 2011 top marks: 96 per cent of them said that their involvement in the trade fair had been a complete success, for example. All in all, 305 companies from 30 different countries presented their products and services to 7,900 visitors, 45 per cent of which came from outside Germany.

The newest addition to The Bright World of Metals is NEWCAST, which has been the fourth member of the quartet since 2003. It is the most important trade fair in the world for precision castings, is the highlight of its industry every four years and has recorded excellent growth rates. The sectors covered by the castings range from car manufacturing and the aerospace industry to machine and plant manufacturing and medical engineering. In 2011, 374 companies from 30 different countries exhibited their products and services at the 3rd NEWCAST. More than 3,500 trade visitors, over 50 per cent of them from outside Germany, were impressed by the large selection of exhibits: ferrous metal castings, iron, steel and malleable foundries, non-ferrous metal castings, aluminium, zinc, copper, magnesium, nickel and other non-ferrous metal foundries, services, forgings, sintering, trade and logistics. They gave NEWCAST excellent marks, with 95 per cent of them saying that their trade fair visit had been extremely positive.

Online registration for the four trade fairs is possible via the following links: www.gifa.de/2330, www.metec.de/2330, www.thermprocess.de/2330 and newcast.de/2330.
Trade Fair Travel and Castings SA tour to
GIFA, METEC, THERMPROCESS AND NEWCAST 2015

Trade Fair Travel, a specialist travel agency for trade fairs internationally and in particular Germany, in conjunction with the SA German Chamber of Industry and Castings SA have put together a very reasonable tour package to visit this exhibition.

The tour includes return airfare Johannesburg/Düsseldorf, airport taxes, airport/hotel transfer, accommodation, full breakfast daily and medical and travel insurance.

For a booking form contact Trade Fair Travel on TEL: 031 916 1414, Fax: 031 916 5674 or email peter@tradefairtravel.co.za or visit www.tradefairtours.com.

Trade Fair Travel is also able to offer you individual packages, tailored to your requirements.

For more information contact Peter Stephenson on the number above. Booking forms can also be downloaded from the website.

**Tour 1**

**Depart South Africa 14 June 2015 and return 19 June 2015 arriving 20 June 2015**

Due to the extremely positive response from clients who travelled in 2011, we were asked by numerous clients to again book rooms at the Lindner Hotel Rheinresidenz. Although the hotel has been taken over by the InterContinental Hotel Group (IHG) and renamed the Indigo Hotel (www.hotelindigo.com) we are pleased to confirm that we are holding a substantial room allotment*.

The hotel is located a short walk from the banks of the River Rhine, and a 15 minute walk to the Alstadt and famous shopping at Konigsallee. The “U” Bahn station, “Nordstrasse” is located 350m from the hotel and then a seven minute journey direct to Messe Düsseldorf.

* Due to the extreme booking conditions placed on us by the Indigo Hotel, we are required to pay for all rooms sold by the 10th December 2014. For this reason we will invoice all clients for the accommodation before this date and all unsold rooms will be returned to the hotel. Bookings after this date will subject to availability.

**Tour 2**

**Depart South Africa 15 June 2015 and return 20 June 2015 arriving 21 June 2015**

On arrival, you will be met by our driver who will transfer you by private coach to the 2 star, tourist class Ibis Hotel Hauptbahnhof (www.ibishotel.com).

As the name implies, the hotel is adjacent to the main rail station, where the journey time to Messe Düsseldorf is only 15 minutes. The famous Old Town (Altstadt) and Konigsallee are a short walk away. Accommodation is reserved in twin bed or single rooms, with buffet breakfast. Holders of fair entrance tickets are allowed free travel on the Düsseldorf transport network. The cost of these tickets will only be known early next year. We will be pleased to order the tickets at the advertised price.

**Prices include:**
- Return airfare Johannesburg/Düsseldorf
- Airport/Hotel transfer
- Accommodation for 4 nights
- Full buffet breakfast daily
- Entrance ticket to Fairgrounds
- Medical/travel insurance
- Düsseldorf City Guide

**Optional extras**
- Special reduced domestic add on fares available
- Passengers wishing to extend their stay may do so at an additional cost
- Passengers wishing to travel to London or other cities, may do so on payment of the additional fare

N.B. No refunds given to passengers not utilising airport transfers and Trade Fair Travel regret they are unable to accept payment by credit card.

**Entrance passes allow free public transportation**

For GIFA, METEC, THERMPROCESS AND NEWCAST 2015, Messe Düsseldorf offers a service to all exhibitors and attendees: Visitor, exhibitor and press entrance passes allow free use of all public transportation within Düsseldorf on all days of the shows.

The entrance passes can be used as a free public transportation ticket on all buses, streetcars, underground trams (U-Bahn), urban railways (S-Bahn) and the German rail service within the Rhine-Ruhr regional network (VRR). This region extends north to south from Dorsten to Langenfeld and east to west from Dortmund to Mönchengladbach.

Further details on the entrance tickets and ordering of the exhibition catalogues can be obtained from the Southern African German Chamber of Trade and Industry on TEL: 011 486 2775, email: info@germanchamber.co.za or visit the website: www.germanchamber.co.za
Speciality chemical firms Ashland and Clariant have completed the sale of ASK Chemicals, a foundry chemicals manufacturer, to investment funds affiliated with Rhône for €257 million.

After adjusting for debt and assumed liabilities, Ashland and Clariant received €128 million in cash and a €21 million buyer note. The proceeds will be equally divided among the companies under the terms of the 50/50 joint-venture (JV). An agreement to the transaction was signed in April 2014.

ASK Chemicals offers a range of foundry resources, such as binders, coatings, feeders, filters and release agents, as well as metallurgical products, including inoculants, inoculation wires and master alloys for iron casting.

In 2013, the company reported €513 million in revenues.

"The sale of Ashland’s equity interest in ASK Chemicals will allow us to focus on our core speciality chemicals business as we reposition the company for sustained sales and profit growth."

Ashland chairman and CEO James J O’Brien said at the time: "The sale of Ashland’s equity interest in ASK Chemicals will allow us to focus on our core speciality chemicals business as we reposition the company for sustained sales and profit growth."

"At the same time, the divestiture will give ASK Chemicals an opportunity for new investment as it works to build on its position as a leading foundry chemicals manufacturer."

Rhône said: "We are excited to be partnering with ASK Chemicals' management team and look forward to working with them to further develop the business in this new phase of ASK’s expansion, leveraging on its leading technology platform, long-standing customer relationships, global manufacturing base and talented personnel."

Rhône is a global private equity firm with investments in various industries, including chemicals, consumer products, food, industrial, materials, mining and shipping.

New Chief Executive Officer

ASK Chemicals has also announced the appointment of Frank Coenen as its Chief Executive Officer, succeeding Stefan Sommer in the role. Mr. Coenen most recently served as Chief Executive Officer of Tessenderlo Group, a global, Belgian-listed speciality chemicals group.

For further details contact Applied Casting Solutions on TEL: 011 922 1701 or visit the website www.chemsystems.co.za or www.ask-chemicals.com

QME takes over Künkel Wagner

Insolvent Alfeld, German foundry machine builder Künkel-Wagner has been thrown a lifeline with the announcement that an investor has acquired the company. The investor, QME from Qingdao (Tsingtao) in China, was due to take over the insolvent machine builder from 1 September 2014, it was announced by the liquidators recently. No purchase price was disclosed.

Künkel-Wagner was established in 1907 as a mechanical engineering company specialising in foundry technology. Since then, the headquarters of the internationally operating company including administration, a research and development division, fabrication division and project management has been located in Alfeld near Hanover, Germany.

Since the construction of the very first hand moulding machines in 1911, Künkel-Wagner has developed a wide range of foundry equipment.

In the late 1950s, Künkel-Wagner was one of the first companies offering fully automatic moulding plants. Innovative moulding techniques were developed and the first alternatives to jolt-squeeze moulding machines were presented, followed by integrated moulding sand preparation equipment, core sand separation, simple casting machines and automatic pouring equipment.

There is no information available on QME from Qingdao (Tsingtao) in China except that Tsingtao was a German concession from 1897 to 1914. The German influence is still evident in the architecture of the old town, and in its brewery, which produces the well-known Tsingtao beer.
Vesuvius plc, a global leader in molten metal engineering, announced the signing of binding agreements for the acquisition of two businesses, Ecil Met Tec and Process Metrix, in pursuit of the strategy to build a presence as a leading technical services provider to the steel and foundry industries.

The total consideration for these acquisitions will be approximately GBP 30 million, and it is expected that both will be completed during 2014. Both companies are profitable, and the acquisitions are expected to be earnings enhancing in 2015.

Ecil Met Tec is a manufacturer and supplier of consumable thermocouples used to measure, amongst other things, the temperature of molten metal in the steel making process. With operations in Piedade, near Sao Paulo in Brazil, and Cleveland, USA, Ecil Met Tec has 550 staff. The total consideration is up to BRL 86 million on a cash free debt free basis, with the majority payable on completion which is anticipated to occur towards the end of the year.

Process Metrix, based in Pleasanton, Northern California, is a supplier of laser units used to measure refractory wear in vessels used in the steel making process. The total consideration is USD 10 million on a cash free debt free basis. Of this, USD 6 million is payable on completion, which is expected by the end of September 2014, with the remainder payable over a 5 year period subject to the achievement of certain pre agreed targets.

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Closing date: 30 November 2014
PJSC Energomashspetsstal, located in the Ukrainian town of Kramatorsk on an area of around 138 hectares (340 acres), specialises in manufacturing very big, heavy and complex castings, components like steam and hydro turbine housings, steam turbine rotors, hydro rotors, trusses, ring gears, screw blades and hubs, support rollers for hot and cold rolling mills as well as die fixing blocks.

Considering the high value of the castings it is not surprising that they are subject to comprehensive quality controls including – among other criteria – the specified surface cleanliness. For this reason, the castings with dimensions of up to 12 (L) x 7 (W) x 5 (H) metres and weights of up to 250 metric tons undergo an intensive blast cleaning process. A new custom engineered blast cleaning system, actually one of the biggest shot blast machines in the world, has been designed to fit precisely into the available space at the customer’s premises.

PJSC has strict quality controls in place to ensure the extremely high quality and long service life of these components. For example, all external and internal surface areas of the castings are visually inspected. In addition, they undergo a magnetic particle test or an ultrasonic inspection to search for cracks in the material. This requires a clean surface free of any scale in compliance with the Swedish surface preparation standard SA 2,5. In the past this surface preparation operation was done manually.

Part size and weight and the on-site space restrictions posed a significant technical challenge for the Rösler engineers. But the engineering task became even more difficult, because the customer specifications called for integrating the shot blast system into the overall EMSS manufacturing line. The shot blast machine had to be placed on the foundation of an old water jet blast system in a building with numerous support pillars. At the same time engineers had to ensure that the machine design allowed utilisation of the existing rail part transfer system with turn table for transporting the work pieces from the foundry through the blast machine to the quality control department. Because of the high weight of the castings a spinner/hanger shot blast system was not feasible.

The Rösler continuous rail shot blast system RDS 80/70 is one of the biggest shot blast machines ever built in the world, and is certainly the biggest ever built by Rösler. To prevent spillage of blast media the blast machine inlet and outlet areas are equipped with double wing steel doors lined with wear resistant rubber. The inside of the 30 m long machine is divided into three sections: inlet and outlet chamber and the actual blast chamber with inner dimensions of 10.5 (L) x 8 (W) x 7 (H) m. The large width of the blast chamber allows complete rotation of parts with a length of up to 7 m during the blast cleaning process.

The RDS 80/70 is equipped with eight Hurricane H42® turbines mounted to the ceiling, respectively one side wall, of the blast chamber with an installed drive power of 22 kW each, throwing over 2,000 kg of blast media per minute. After their first pass through the blast machine parts longer than 7 m are picked up from the transfer system turn table by the existing bridge crane, rotated by 180 degrees and placed back on the turn table for a second pass through the machine. This ensures all around blast cleaning of parts which, due to their length, cannot be rotated on the turn table. For optimum wear protection the blast chamber is fabricated from manganese steel and lined with easy to exchange overlapping manganese wear plates. To allow manual spot cleaning of critical surface areas the RDS 80/70 is equipped with a pressure blast system and lighting in the blast chamber.

A special technical feature of the shot blast machine is the extra large media hopper allowing the storage of 30 metric tons of blast media. This ensures that even in the case of work pieces, which are extremely cup-shaped, the shot blast process must not be interrupted because of lack of blast media in the system due to media carryout.

A blast machine consisting of many more individual sections than other machines

The blast media thrown by the turbines is collected in two large hoppers placed in the foundation pit from where the media is transferred to the transport system of the media cleaning and classification unit. This posed another technical challenge, because the rails of the part transfer system allowed an access opening of only 2 x 2 m for placing all these equipment components in the foundation pit. For this reason, the media collecting hoppers below the blast chamber had to be fabricated in 15 individual sections instead of the normal 4 sections.

A five story high maintenance platform allows quick and easy access to all equipment sections requiring regular maintenance work.
Casting relationships as strong as steel

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Saint-Gobain Abrasives has introduced the latest generation of medium diameter cut-off wheels for foundry environments, under the Norton brand. Developed with the new Foundry X bond technology, the cut-off wheels are engineered to increase cut rate and wheel life in all foundry cut-off applications.

The new range is available in standard Norton (good tier) and Norton Norzon (better tier). Foundry X bond technology offers three major features and benefits compared to existing Norton bonds.

First, improved thermal stability ensures increased resistance to heat and thermal degradation allowing longer tool life and reduced cost per cut for the end-user.

Second, higher mechanical strength ensures high performance in even the most demanding cutting conditions.

Finally, Foundry X technology is compatible with an extensive range of abrasive blends, providing flexibility and guaranteed performance on a wide range of materials.

Improved cut-rate, shorter cycle time and longer tool life are key factors to lowering overall process cost for cutting applications in the foundry market.

According to Saint-Gobain the cut-off wheels last longer, cut faster, reduce cycle time, reducing the cost per part produced, they are versatile and their efficiency cuts a wide range of material types, including cast iron, alloyed and stainless steels.

Other features include improved thermal stability compared to existing Norton bonds B65 & B25, high mechanical strength provided to the cut-off product, compatible with a wide range of abrasive blends, including premium grain technology (Norzon). The benefits include increased heat resistance results in longer abrasive life, performances assured in the most demanding cutting conditions and an improved cut-rate provides shorter cycle time and lower total cost.

For further details contact Willie Gillan on TEL: 012 657 2800, or email: willie.gillan@saint-gobain.com
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The new Tegramin preparation system offers innovative solutions to improve your preparation results and help you deal with a variety of specimens and materials. The sturdy and rigid design ensures high quality preparation results and reliable day-to-day operation. Reproducibility is ensured by automated process control yet it is remarkably easy to operate. Tegramin is available for three different disc sizes: Tegramin-30 for 300 mm discs, Tegramin-25 for 250 mm discs and Tegramin-20 for 200 mm discs.

Advanced functions such as automatic tube cleaning, different user levels, built-in consumable and method database, material removal by amount and the ability to store up to 200 user methods.

Additionally, the Tegramin is equipped with a variable disc speed of 400-600rpm and a variable specimen mover head speed of 50-150rpm. The variable speed feature of the head and the disc allow for greater functional use during preparation of very sensitive materials at low speeds, as well as preparation of standard materials utilizing high speeds to achieve higher material removal.

Environmental and safety features such as an emergency stop button, a transparent cover to encase the work environment, and the ability to connect to a recirculation cooling system help provide an improved work environment. The transparent cover encloses the entire preparation area keeping fumes contained.

When the cover is connected to an exhaust system exposure to fumes is limited. The Tegramin cannot be started when the cover is open and if the cover is lifted during the preparation process the machine will stop. The cover assists in keeping personnel safe from rotating parts and fume exposure, while making the lab area a less hazardous work environment.

Convenient automatic dosing
Dosing modules increase reproducibility and keep consumable consumption under control.

Easy access and cleaning
The spacious oval bowl, a new MD-Disc design and a removable bowl liner facilitate cleaning.

Methods ensure reproducibility
The built-in method database ensures full control of all preparation parameters and improves reproducibility. With the LAN option consistent procedures can easily be implemented in all labs.

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Production is often seven days a week, 365 days a year, so intelligent spare part management is indispensable to guarantee maximum availability of the facility. An important part of this spare part management is the fast restocking of spare devices, spare parts and consumables. With Endress+Hauser's Online Shop, one can streamlines the process for replacing or sourcing new measuring instruments.

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A shortened melting-free process, reduced gas consumption and an improved material yield: to increase still more the efficiency of your StrikoMelter melting furnaces, the StrikoWestofen Group (Gummersbach) has now developed a heat-resistant shaft cover. This so-called “hot gas baffle” reduces the duration of the melting-free process during furnace cleaning by approximately 20 minutes each time says StrikoWestofen.

“We have now been able to develop a material which permanently stands up to the high exhaust gas temperatures of about 900 degrees Celsius. The hot gas baffle not only reduces the energy consumption during the melting-free process by about 15 percent and the overall efficiency of the system also rises by about five percent,” said developer Rudolf Hillen from StrikoWestofen.

Efficiency in day-to-day foundry operation means more than just keeping energy consumption and metal losses low. The availability of the system also makes a substantial contribution. Every hour of downtime means a loss of revenue. Nevertheless, regular maintenance cycles for the melting furnaces during day-to-day melting operation are indispensable in order to ensure the permanent efficiency and high performance of the systems. This includes furnace cleaning, which is usually carried out once per shift. During this process, the melting chamber has to be melted free at full burner power. Only then can the remaining dross be removed.

“The duration of the melting-free process has an immediate effect on the productivity of the system and should therefore be as short as possible,” explains StrikoWestofen manager Rudi Riedel.

Against this background, the manufacturer of thermal process technology has now developed a hot gas baffle which covers the melting shaft. The design withstands the exhaust gas temperatures, which develop during the melting-free process.

“The shaft cover reduces the production downtime accumulating during the melting-free process by about 20 minutes per shift. As a result, one more hour is available for production each day. At the same time, the energy consumption during the melting-free process is reduced by about 15 percent. The hot gas baffle also reduces the consumption of cleaning salts,” Riedel explains.

The fire-resistant shaft cover is available for all StrikoMelter melting furnaces and can also be retrofitted to existing systems.

“Our hot gas baffle is especially efficient when used with furnace sizes displaying a melting performance of upwards of two tons of aluminium per hour. In systems with a performance upwards of this figure, the payback period for an investment of this kind is usually less than one year in length,” said Hilden.

For further information contact Ceramic & Alloy Specialists on TEL: 011 894 3039 or visit www.ceramicalloy.co.za
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Online research is a key part of the industrial buying cycle, particularly during the consideration and selection stages. castings sa Online is where buyers search, research and learn about new product technology and new process innovations. Aligning your message with the areas where prospects are likely to look for technical solutions is the essence of contextual advertising and brand development.

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Residue-free castings with Miratec TS from ASK Chemicals

Top surface technology increases OEM supplier excellence.

As a partner to the automobile industry, foundries are under the pressure of ever increasing demands. An important component in the competitive environment is the casting of engine blocks with a minimum amount of coating residue.

Coating residues in the cavities of the engines tend to clog the filters prematurely and endanger quality standards. For this reason, and to lengthen the service life of an engine, coating residue is limited to 300 mg per engine block.

Since it is impossible to shot-blast the fine geometries that are found in water jackets and oil galleries, high demands are made for the use of coatings to produce absolutely flawless castings with a minimum of coating residue. In difficult cases, an investment must be made in a special washing machine in order to meet the demands OEMs are making, which increases costs for the foundry and reduces productivity.

Morgan Advanced Materials has announced the launch of its new generation of degassing rotors for secondary aluminium processing applications. Building on its extensive experience of materials science and metal casting products, Morgan has produced the first one-piece degassing rotor in silicon carbide, delivering a cost-effective and high-performance alternative to the graphite material traditionally used for this task.

The presence of gas – typically hydrogen – and other particles inside gravity or sand castings has the potential to severely compromise both appearance and performance through the presence of bubbles and a deleterious effect on overall component strength and density. This makes effective degassing integral to the casting process.

Graphite has traditionally been the most widely used material for degassing rotors around the world. However, to address the high replacement costs and frequent changeovers associated with this material, Morgan has leveraged its advanced silicon carbide crucible technology and materials expertise to develop a range of rotors which last up to five times as long before requiring replacement. This increased life can be attributed to the excellent wear resistance and anti-oxidation qualities of silicon carbide, and the high density of the isostatically pressed single piece design. Furthermore, the rotor head has been optimised to reduce bubble size and deliver optimum gas dispersal through an innovative six-vane design.

Field tests at metal casting facilities have shown significantly lower oxidation levels of the silicon carbide degassing rotors at operating temperatures, compared with their graphite counterparts. It was noted that the degassing performance of the graphite rotors deteriorated as head geometry became distorted, while melt densities using the Morgan rotor were in fact notably higher over time than with graphite rotors.

The one-piece silicon carbide degassing rotor is available in a wide range of diameters with shaft lengths up to 1.2m depending on application requirements. Morgan can also offer a selection of adapters to allow the rotors to operate with different degassing machines. The range is completed by a clay graphite anti-vortex plate which helps to prevent the reintroduction of hydrogen and aluminium oxide particles into the treated molten aluminium by reducing the circular metal flow caused by the rotation of the degassing rotor.

Mirco Pavoni of Morgan Advanced Materials explained: “Aluminium alloy cleanliness is one of the most important considerations for modern casters. The industry has seen a dramatic shift to tighter casting properties that can only be met through effective removal of hydrogen and other particles.”

“Our one-piece silicon carbide degassing rotor adds significant value through its longevity and effective hydrogen removal. In tests, it achieved a usable life of more than 800 cycles in a heavy fluxing application - nearly three times the average of 300 cycles for comparable graphite products. Furthermore, several customers noted that the fluxes did not seem to attack the silicon carbide as they did the graphite. They also saw a measurable reduction in gas content and an increase in metal density using the silicon carbide rotor.”

For further details contact Morgan Advanced Materials South Africa on TEL: 011 815 6820 or visit www.morganthermalceramics.com
When G.E Patterns and Foundry cc decided to upgrade their production facility, they turned to RC Systems for the design and installation of a no-bake sand mixing and reclamation plant, and to Applied Casting Solutions for our Novaset 745 Alkaline Phenolic Resin. The plant designed by RC Systems includes a 5 ton per hour continuous mixer fitted with variable speed gear pumps that feed the Novaset 745 resin and catalyst into the sand.

The Applied Casting Solutions team worked closely with RC Systems to ensure the plant was up and running on Applied Casting Solutions resins in the most efficient time frame. Our team also dedicated their time to G.E Patterns & Foundry, training their operators and ensuring complete proficiency with the technology.

The advantages for G.E Patterns & Foundry are considerable:

- Substantial increase in productivity
- Improvement in quality
- Far shorter lead times on casting deliveries
- Substantially reduced scrap

The teamwork and co-operation of these three companies has been a huge success and Applied Casting Solutions has taken another big stride to strengthen long term relationships with both clients and key players in the industry — living proof of our drive to ensure our clients enjoy the competitive edge.
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