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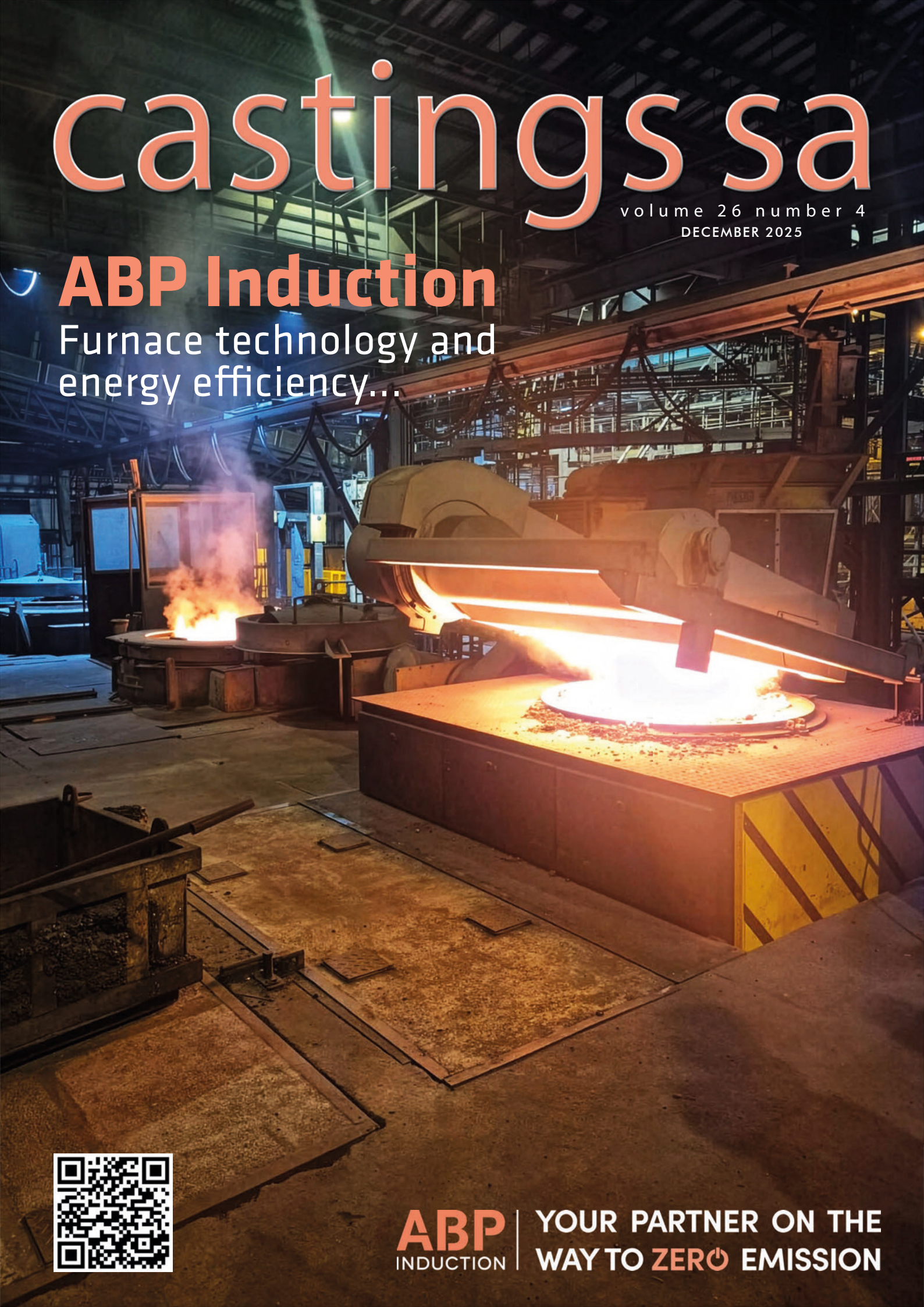
ABP Induction

Furnace technology and energy efficiency...



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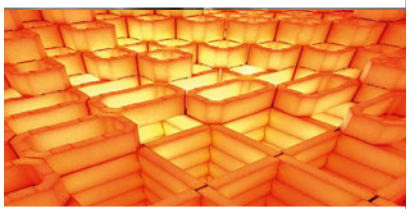

The evolution of foundries: Enter the humanoid robot

I wonder how long the foundry as we know it will still be around? Certainly, when I got my first taste of this industry some 20 years ago, the industry looked a lot different to what it does now.

Sure, for the foreseeable future, there will always be a place for a traditional foundry as we know it. Foundries won't be disappearing overnight, and even blacksmithing is making a comeback as people look to use their hands again and are drawn to the natural human need for making things with their hands.

But now foundries are evolving.

This is partly due to legal and environmental pressures, and partly due to the natural evolution of workplace practices and the pressures of technology adoption.

I doubt many of us would have imagined a foundry adopting artificial intelligence (AI) and industrial robots 20 years ago. For one, AI wasn't even around, and two, something like computer-aided quality assurance for a foundry would have been laughed off as impossible by the foundrymen of yesteryear.

But this is how industrial r(e)volution works. New technologies emerge and humans and industries adopt them at varying paces. The foundry industry has however seen a rapid adoption of new technologies in recent years. And if you don't stay abreast of developments you will lose out on competitive advantages.

Nexery's study published earlier this year and titled 'Humanoid Robot Study 2025' reveals that this year will already see "the first market-ready humanoid systems crossing the threshold into industrial use."

A few years ago, this would have been hard to believe. But now it's a reality.

The study says that these new robots combine several key technologies including: "High mobility through advanced joint and drive systems enabling complex handling tasks; artificial intelligence for navigation and decision-making, allowing safe operation in dynamic, unstructured environments; safe human-robot collaboration thanks to advanced sensor technology and real-time collision avoidance; and, modular, adaptable gripping systems for handling a wide variety of workpieces and tools."

A few takeaways assume a drastic adoption of these humanoid robots including that expected market volume by 2030 will amass $1 trillion with 20 million humanoid robots deployed; that up to 40% of manual activities in manufacturing companies can be automated; and that the expected average purchase price for one of these robots will fall significantly by 2030 to potentially around $55 000. That could bring about a very quick ROI.

Continued Tobias Bock, Managing Partner at Nexery and an expert in technological strategies for industry: "These features make humanoid robots a viable economic option for foundries for the first time – not just as a technological showcase, but as a productive addition to daily operations."

With regards to specific use cases in foundries, Bock states: "The greatest current potential lies in two areas: Intralogistics and quality assurance. In intralogistics, humanoid robots can handle material transport between stations, prepare tools, or sort components. In quality assurance, they can perform visual inspections, detect surface defects, and classify components accordingly."

"In the medium term – as technology matures – further tasks will become feasible: Operating machinery, finishing cast parts, carrying out maintenance work, or even assisting in setup processes."

"The most promising benefits are: Reduction of physical strain on employees; consistent process quality regardless of shift, daily condition, or staffing levels; and, higher process stability, even with smaller batch sizes or varying orders."

Bock concludes saying, "Those who act today will gain a competitive advantage. In addition to short-term efficiency gains, there is the strategic opportunity to proactively meet future requirements – such as stricter occupational safety regulations or higher quality demands."

"Humanoid robotics marks a turning point in industrial automation. Especially in foundry technology, these systems close gaps for which there have previously been no economically viable solutions. They combine the flexibility of human labour with the precision and endurance of machines."

"Companies that address this technology now will secure not only their productivity but also their long-term competitiveness."

So I wonder when I will see my first humanoid robot in operation in a foundry? Probably sooner than I think.

You can download a presentation on the complete Humanoid Robot Study 2025 from www.nexery.de

South African Institute of Foundrymen

The aim of the SAIF is to promote and develop within Southern Africa the science, technology and application of founding for individuals and involved industries.

Office bearers elected at 2025 AGM

Andrea Moz
Kevin Van Niekerk
Ryno van Rooyen
Jacques Swanepoel
Antoine Mulaba
Terence Stopforth

Upcoming SAIF Events for 2025
SAIF Annual Golf Day:
November 2025 at Reading Country Club, Alberton

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ABP Induction installs high-performance induction furnace at South32 Hillside in record time

New FS40 system with digital DICU3 control commissioned in just 19 days at South32's South African site.

ABP Induction has successfully demonstrated its ability to deliver highly efficient project execution with the installation of a state-of-the-art FS40 induction furnace system at South32 Hillside

ABP Induction has successfully demonstrated its ability to deliver highly efficient project execution with the installation of a state-of-the-art FS40 induction furnace system at South32 Hillside. Equipped with digital DICU3 technology, an emergency UPS tilting system and advanced digital functionalities, the solution enhances both safety and process optimisation – another milestone in the sustainable transformation of the metals industry. It reflects ABP Induction's commitment to its guiding principle: "Your Partner on the Way to Zero Emission."

The project was carried out at the globally active mining and metals company South32 Hillside under the leadership of ▸

Installing state-of-the-art equipment in converter room, assisted by Irfan Yenigelen

Streamlined furnace charging – powered by charge bucket system

Thinus Mostert, Nikki Wilson, Irfan Yenigelen, Ahmed Rizk and Vitali Herdt. Remarkably, the complete installation was finalised within only 19 days. Several partner companies contributed to this achievement, including MTM Elektries, Sovereign Engineering, SKM Engineering, Philco Systems and Yandisa.

Byron McCall, General Manager of ABP South Africa, expressed his deep appreciation for the outstanding performance of the ABP team and subcontractors. He also commended South32 Hillside's project management team as among the most exceptional project management engineers he has worked with.

South32 is a diversified mining and metals company that generates value through the production of raw materials used across many areas of modern life. Its operations, growth options and exploration programmes span a wide range of commodities and regions. The company's strategic approach aligns closely with ABP Induction's philosophy of supporting industry partners in their transition toward advanced, sustainable and digitalised processes.

At the South African site, ABP Induction installed an FS40 furnace system using the digital DICU3 unit to control the rectifier and inverter, along with an S7-1500 PLC and 22-inch HMI for furnace operation. The Digital Inverter Control Unit serves as the technological core of ABP's thyristor-based melting systems. Compared with its predecessor DICU2, DICU3 represents a significant technological leap, enabled by a new processor platform and advanced remote-service capabilities. Being fully M2M-ready, DICU3 enables remote troubleshooting, providing a key step toward Industry 4.0 readiness.

In addition, DICU3 offers exceptional operational reliability. Faster and more precise regulation reduces downtime, compensates for construction-related variations in

At the South African site, ABP Induction installed an FS40 furnace system using the digital DICU3 unit to control the rectifier and inverter, along with an S7-1500 PLC and 22-inch HMI for furnace operation

replacement transformers, and stabilises critical inverter situations more efficiently, protecting semiconductor components from potential damage.

The system installed at South32 also includes a UPS-based emergency tilting system, which significantly outperforms traditional nitrogen-based solutions. The UPS keeps the PLC and DICU3 operational even during power outages, giving operators greater control of the furnace in emergency situations.

The complete technology package improves operational safety while offering advanced features that prepare customers for future-ready processes, particularly in connection with ABP's TWIN-POWER® technology. This allows simultaneous furnace operations: melting in one furnace while sintering or holding in the other. The benefits include increased inverter utilisation, reduced maintenance and investment costs, and improved environmental performance. These efficiencies are driven by ABP's PRODAPT® melting processor, which calculates energy demand based on furnace content and ensures optimal energy management for both melting and holding operations.

Irfan Yenigelen testing equipment during installation and commissioning

ABP Induction offices established on site

ABP Induction

ABP Induction is a leading provider of induction melting and heating systems, aftermarket services and digitalisation solutions for the global foundry, forging and steel industries. ABP maintains sales, manufacturing and service locations in the USA, Germany, Sweden, Mexico, Thailand, India, China and South Africa.

Contact ABP Induction on TEL: 011 623 1814/17 or cell number 072 158 1117 or email byron.mccall@abpinduction.com You can also visit www.abpinduction.com for further details. ■

Fully installed, ready-to-run FS40 induction furnace

nftn
NATIONAL FOUNDRY TECHNOLOGY NETWORK

Enabling a sustainable and competitive South African Foundry Industry

The mandate of the NFTN is to manage, coordinate and facilitate growth and transformation within the casting industry through focused support interventions designed to improve the competitiveness and sustainability of the SA foundries.

Casting partnerships towards success through:

- Regulatory and compliance support
- Technical capacity building
- Technology transfer and localisation
- Skills development

For manufacturers who would be interested in being linked up with a local foundry and more information, kindly contact us at nftn@csir.co.za

www.nftn.co.za

The National Foundry Technology Network is an initiative of the dtic, hosted by the CSIR

the dtic
Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA

CSIR
Touching lives through innovati

Atlantis Foundries continues its endeavours beyond just a smart foundry to becoming a greener foundry too

Atlantis Foundries have recently been in the process of commissioning and adding the final touches and testing to their new Full Core Pack (FCP) line. The new line involves vertical pouring and is well-suited to producing castings in the volumes and sizes that require complex internal cavities. The line is also modular in that Atlantis Foundries will be able to ramp up production by adding further cooling station lines to the existing automated line, for example, amongst many other modular additions and efficiency improvements

Green and foundry are not commonly interchangeable terms. However, in the case of Atlantis Foundries, these two words are about as close to that as you'll get in this industry.

For nearly a decade, Atlantis Foundries has been a world-leader in implementing process improvements to their foundry operations, largely driven by the adoption of Industry 4.0 technologies and smart manufacturing processes.

This includes the adoption of automated moulding lines and the deployment of robots right through to artificial intelligence software to aid in the monitoring of casting defects. Over and above this, the foundry's drive to go "green" will see it operating virtually off-grid via renewable resources very soon.

Now the foundry is about to embark on its next venture – vertical casting using the Full Core Pack method.

The new FCP line has also been supplemented with a manipulator for loading and unloading of the core packs. The manipulator has six axes of movement and a lifting capacity of up to 3 600kg. It is fitted with replaceable bronze finger tips and has variable gripping force via a pressure-reducing valve, allowing the same robust unit also to handle smaller, more delicate parts. Electric force feedback in the operator's control handle prevents damage to surrounding equipment. Features such as heavy-duty spherical roller bearings, advanced polymer shock absorbers, and high-pressure-rated cylinders and motors ensure that the manipulator is highly reliable, even in the harsh environment of the foundry

New Full Core Pack line undergoes final testing and preparations for full production

Traditionally, Atlantis Foundries uses cold box technology to facilitate the full spectrum of shapes and sizes across the engine blocks it casts for parent company Daimler Truck. Operating fully automated core dipping facilities to connect to its tunnel indexing core drying oven and using green sand moulding techniques to be able to cast the full range of automotive component grey cast iron grades for its heavy-duty engine blocks that weigh in excess of 400kg, the foundry is continuously growing its skillsets.

Now Atlantis Foundries have recently been in the process of commissioning and adding the final touches and testing to their new Full Core Pack (FCP) line. The new line involves vertical pouring and is well-suited to producing castings in the volumes and sizes that require complex internal cavities. The line is also modular in that Atlantis Foundries will be able to ramp up production by adding further cooling station lines to the existing automated line, for example, amongst many other modular additions and efficiency improvements.

Explains Cordell Rautenbach, Senior Manager Technical Engineering and Logistics at Atlantis Foundries: "We manufacture heavy-duty engine blocks and that is what we do here. Traditionally this has been done on our green sand horizontal moulding lines. As we are continuously looking at improving our efficiencies and optimising our equipment within the plant, refining our processes is something we are always looking at."

"The major difference with the FCP method as compared to our well-known horizontal method is that the entire block is now going to be cast as a complete core package. With testing on our pilot line, we have already realised significant quality efficiencies and reduced input costs. Another benefit is that the facility is scalable, and this will allow us to increase our capacity as and when we need to."

While the FCP method is not a new method, the intellectual property lies in how to cast the full block in the core package given the constraints of having to cast such a large, heavy and complex product. While there haven't been many major design changes to the engine blocks themselves, the new FCP process promises substantial benefits for Atlantis Foundries, over and above the anticipated cost and raw material savings.

"Firstly, what is critical in any expansion like this, and because you are driving technology, you need to realise that as a foundry, you cannot make anything without tooling. On this, we work very closely with world-renowned toolmakers to advance ourselves on that front," continued Rautenbach.

"Secondly, we collaborate closely with the original equipment manufacturers as even though there is some off-the-shelf equipment we can use for a project like this, much of it is fully customised to our needs. For the FCP line, you really need to mix and match different technologies with

While the FCP method is not a new method, the intellectual property lies in how to cast the full block in the core package given the constraints of having to cast such a large, heavy and complex product. While there haven't been many major design changes to the engine blocks themselves, the new FCP process promises substantial benefits for Atlantis Foundries, over and above the anticipated cost and raw material savings

The waste material will exit the line directly via a conveyor processing line and enter the drum where it will be rotated to remove the sand and dust and then come out clean at the end of the process when it is discharged from the drum. From here it will be transferred via another process line to a bunker before being transported via a further process line to be repoured

different suppliers to reach a solution that works for you."

"This project has been ongoing for some time and has been through many iterations for us to reach the point where we were able to commission the pilot line. Now that we have reached the phase whereby final testing has been approved and we are happy with the process and of course, the final blocks themselves, we will be ramping up the line to full production by early 2028."

Traditionally Atlantis Foundries has dealt with its waste coming off the green sand moulding line that included flashings and other waste by assigning it to a pre-prepared bunded area, after it had come off at various waste-off positions and bins along the line. After leaving the various collection points, material would then be separated using a magnetic process and although the water that had come off the line had been segregated and treated, the reusable waste material would still end up – after separation – with sand and other impurities like dust when it was to be remelted. This would create slag and created further problems for the furnaces. This process has now been replaced by a new rotary sprue cleaner drum, which was in the process of being installed

"We have seen significant improvements in terms of the quality of the blocks themselves, as well as reduced input when it comes to finishing. Further to this the efficiencies of the process itself are also significantly better than the traditional green sand method."

"Specifically for the new FCP line, we have invested in a new ladle pouring machine. A core feature of this pouring machine is its ability to record and analyse all process-relevant parameters, linking the pouring operation directly into the foundry's digital Industry 4.0 data software."

"It uses a model-based predictive control system together with iterative optimisation software that manages material and energy use efficiently. Combined with precise casting process control, the measuring technology helps maximise the use of available melting capacity and improves overall material efficiency."

The FCP's vertical casting method for example, also works better for geometry complexities resulting in better material flows. It will also provide better overall stability to the core pack. Better dimensional stability leads to better optimisation stabilities.

The new FCP line has also been supplemented with a manipulator for loading and unloading of the core packs.

The manipulator has six axes of movement and a lifting capacity of up to 3 600kg. It is fitted with replaceable bronze finger tips and has variable gripping force via a pressure-reducing valve, allowing the same robust unit also to handle

The sand waste, dust and other impurities are removed from the waste material. The new process also offers significant overall environmental benefits through the containment of the cleaning process

Atlantis Foundries have also invested in a new rotary sprue cleaner drum. The photo was taken during the installation period

smaller, more delicate parts. Electric force feedback in the operator's control handle prevents damage to surrounding equipment. Features such as heavy-duty spherical roller bearings, advanced polymer shock absorbers, and high-pressure-rated cylinders and motors ensure that the manipulator is highly reliable, even in the harsh environment of the foundry.

The machine is custom-built to Atlantis' specifications to ensure maximum equipment efficiency and above the physical supply and commissioning of the equipment, support will be ongoing and be provided through annual inspections and upgrades to the machine's PLC control system throughout the equipment's lifetime.

"We are not looking to phase out the green sand moulding line at all. In fact, the incorporation of both lines will give us greater flexibility in terms of overall production and it will also allow us to follow tighter maintenance plans going forward. Long-term, both lines will be run in the most economical manner possible," said Rautenbach.

"We like to look at our relationships with suppliers as long-term partnerships. We don't see these relationships as traditional ones – we really need to look at them as long-term strategies where open communication is key. Change is inevitable, what it comes down to is how you embrace that change together."

Rotary sprue cleaner drum

Traditionally Atlantis Foundries has dealt with its waste coming off the green sand moulding line that included flashings and other waste by assigning it to a pre-prepared bunded area, after it had come off at various waste-off positions and bins along the line.

After leaving the various collection points, material would then be separated using a magnetic process and although the water that had come off the line had been segregated and treated, the reusable waste material would still end up – after separation – with sand and other impurities like dust when it was to be remelted. This would create slag and created further problems for the furnaces when it came to remelting.

During the procurement process, Atlantis Foundries considered a number of manufacturers of rotary drums. A final decision was made on a flexible design, a focus on safety, and proven expertise in rotary drum technology. For Atlantis Foundries, the solution was an investment in sustainable operations and future cost reductions.

With the implementation of the new drum, the waste material will exit the line directly via a conveyor processing line and enter the drum where it will be rotated to remove the sand and dust and then come out clean at the end of the process when it is discharged from the drum.

From here it will be transferred via another process line to a bunker before being transported via a further process line to be repoured. Now, the sand waste, dust and other impurities are removed from the waste material. The new process also offers significant overall environmental benefits through the containment of the cleaning process.

Further developments

"We have constructed a new building that has been put up over a bunded area where we will be storing all of the waste and oils. This building was designed to prevent hazardous substances from escaping into the environment, protecting the soil, water as well as the employees," explained Atlantis Foundries' Engineering Manager Mike Hartung.

"Over and above this we have also constructed a specialised spray booth for cleaning our equipment such as the forklifts. Here waste materials are washed off with high pressure hoses and all of the waste such as oils can be safely confined to a specific area and recycled appropriately."

"Currently under construction is our new gas farm. The building will safely house four large LPG gas tanks. The tanks will be covered with sand within the bricked structure and the area will similarly be bunded. Additionally, we are constructing our new diesel service station that will more efficiently supply our onsite diesel needs," said Hartung.

Employee upliftment

A new canteen has been designed and renovated for the fettling team. The space has been completely overhauled and includes tributes from the past such as plaques from some of the old machinery that have been used at the foundry over the years.

Says Alan Fell, Improvement Specialist at Atlantis Foundries: "I have tried to make it as much as possible a fun place for the team. I was able to use some creative license with the project and above all, I wanted the new space to be a tribute to them and what they do – their space. I am a firm believer of the philosophy that environment influences behaviour."

Looking ahead, Atlantis Foundries has a long-term goal of equipment standardisation. Naturally, this in turn will optimise spares availability and bring about further cost improvements. With these improvements, not only are plant efficiencies improved but areas for further efficiency improvements come to the fore – continuous improvement is something Pieter du Plessis, Atlantis Foundries' Chief Executive Officer – says is at the core of Atlantis Foundries' endeavours.

Currently Atlantis Foundries supplies 80% of Daimler Trucks' engine block needs from its 420 000m^2 production facility.

For further details visit www.daimlertruck.com ■

Local aluminium foundry advancing up the supplier chain of a leading industrial fan OEM manufacturer

"The National Foundry Technology Network (NFTN) has adopted the strategic approach in facilitating alignment between OEMs with appropriate casting suppliers with the aim to address market access challenges many local foundries are struggling with," said Isidore Kilongozi, Senior Project Manager at NFTN.

"In 2016 a local aluminium casting foundry, with a mix of 80% sand casting and 20% gravity die casting, that manufactures mainly manifold and fan blade castings from various grades of aluminium material specification, was faced with a directive of Section 24G from the Gauteng Department of Agriculture and Rural Development (GDARD), whereby the business was threatened with closure due to the unlawful commencement of the business without obtaining the approval of the relevant environmental requirements," continued Kilongozi.

"The directive does allow a person or entity to apply for retrospective environmental authorisation for activities that were started without the required prior environmental authorisation (a process known as Environmental Impact Assessment or EIA). The GDARD is the competent authority responsible for processing these applications in the Gauteng province."

"To prevent liquidation and subsequent job losses, management of the foundry at that time decided to sell the controlling shares to the previously disadvantaged shareholders."

"The foundry owners then approached the NFTN for support during the transition. A strategic plan, which incorporates all the necessary attributes to ensure increased production and pollution control, was developed for the way forward. These included strategies to grow the company significantly as well as implementing modifications to the plant layout and capital equipment modernisation necessary for pollution control and environmental compliance. Other essential needs such as a sand reclamation plant to minimise sand dumping were recommended," said Kilongozi.

"The NFTN successfully initiated a series of interventions at the foundry that included the facilitation of the SG24 application, the implementation of the lean manufacturing process layout and the fulfilling and certification of the Quality Management System so as to allow easier market access. These interventions resulted in stabilising the foundry and thus ensuring its survival and then positioning the business for localisation opportunities," added Kilongozi.

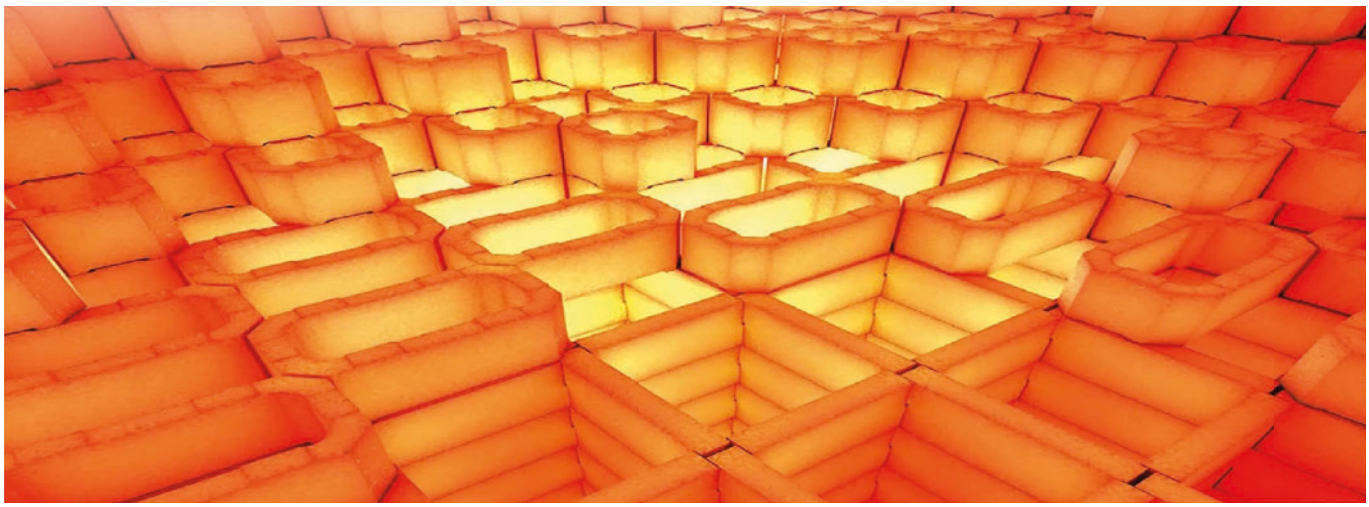
"As a result of the introduction of these interventions, the foundry has seen positive changes and is now approved by a leading OEM manufacturer of industrial fans locally to supply the aluminium fan blade castings that are then fabricated into a turnkey industrial fan system. These turnkey industrial fan systems are used by big corporate companies such as SASOL, ESKOM and Simunye Energy, as well as other companies operating in the mining sector and food processing industry."

"The exclusive contract signed between the two parties for the next three years for the supply of the aluminium fan blade castings ensures market access security and secures more than twenty direct jobs."

"The firm has also seized the opportunity to improve its position in the market place by investing in a sand reclamation plant to the value of R1 400 000.00. The impact achieved is a showcase of the NFTN contribution towards improving foundries' competitiveness and growing the local economy," concluded Kilongozi.

For further details visit www.nftn.co.za ■

Ceramic and Alloy Specialists secures agency for electric arc furnace roof brick manufacturer Magscie



Ceramic and Alloy Specialists have secured an agency for electric arc furnace roof brick manufacturer, Magscie

"2025 has not been without its trials and tribulations for the family and employees of Ceramic and Alloy Specialists. By far the hardest was losing Mr. Mike Retief who has been the owner and driving force behind Ceramic and Alloy Specialists for over 25 years," said Wouter Retief, Director of Ceramic and Alloy Specialists.

"Not just has it been a challenge to adapt to the current economic strains our industry has been going through but making sure there is growth has been quite a task on its own. One of the more unpleasant immediate actions required was the closure of our ceramic manufacturing facility. It was one of the hardest but necessary steps forward we had to go through."

"Management and staff have all pulled together with resilience and discipline when we were coming to grips with the new norm of daily life without Mr. Mike Retief. Staying power and with 2025 coming to an end we are positive about the future."

New electric arc furnace roof brick agency

"Despite the year's challenges, Ceramic and Alloy Specialists have secured an agency for electric arc furnace roof (EAF) bricks manufactured Magscie. These are stocked by us and imported by Ceramic and Alloy Specialists directly from the manufacturer in China."

"It has been proven that the quality is superior to anything else on the local market as well as the products being hugely competitive commercially. The relationship has grown quickly and Magscie now also supplies various insulation materials to Ceramic and Alloy Specialists."

"Magscie was a supplier that interested me," explained Retief.

"So, I did my research, and then had some drawings done and sent to China to have the patterns and dies made. This was a success and they have now been making high alumina bricks for us."

"We are importing three different size EAF roof bricks. We have also started working locally in conjunction with Unique Refractory Services (URS) for installations and manufacturing. Although URS specialises in refractory installations, they also supply refractory castables and pre-casts shapes."

"With the agency agreement with Magscie, Ceramic and Alloy Specialists has now been importing a variety of their insulation products that they make including blankets and other textiles, paper and glass rope, to name a few. In total it is about 20 different insulation products that we import."

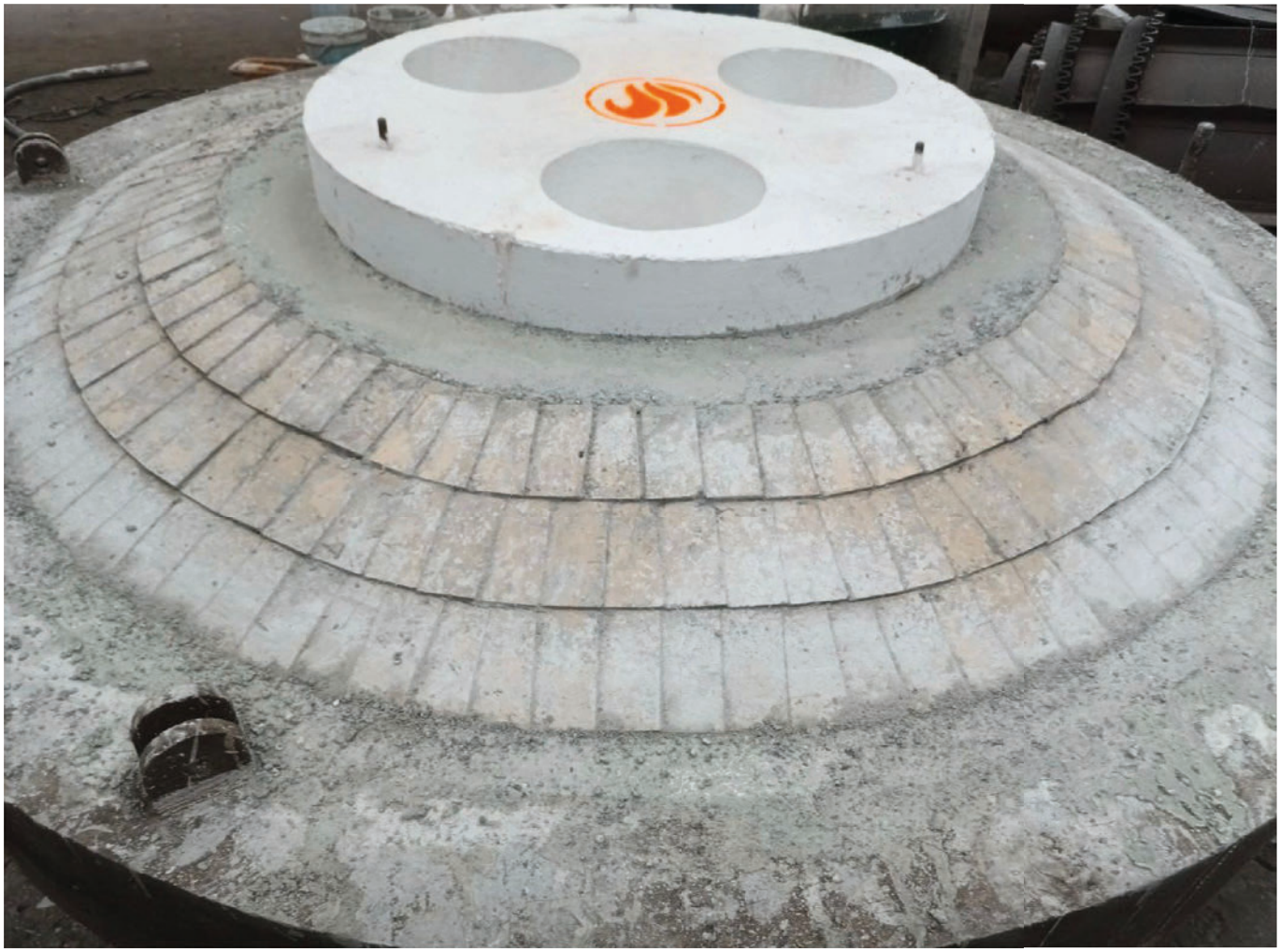
About Magscie

Magscie is a specialised manufacturer dedicated to providing refractories and related services to customers worldwide, mainly serving a variety of industries including the steel industry, non-ferrous metal furnaces, cement rotary kilns, glass furnaces, and others.

Magscie is headquartered in Tianjin Binhai Hi-Tech Industrial Park, which is only 60 kilometres away from Tianjin Port, and has three production bases including a Basic Refractories Production Base, specialising in the production of magnesia refractories. The base covers an area of 200 000m^2, has 600 staff with 80 engineers in the team, including 15 senior engineers. The base includes three ultra-high temperature tunnel kilns, with an annual production of 90 000 tons of burnt bricks, 40 000 tons of unburnt bricks and 20 000 tons of unshaped products.

The Al-Si Series Refractories Production Base specialises in the production of Al-Si series refractories, has a R&D centre which is fully responsible for testing, research and product innovation with 13 senior engineers, 69 engineers and 29 assistant engineers. It is one of the leading refractory manufacturers for producing clay bricks, high alumina bricks, andalusite bricks, mullite bricks, bricks for CDQ furnaces, silica bricks, con-casting refractory products, and more.

The Insulation Materials Production Base is committed to providing energy-saving products and services to society, focusing on the development of core products such as insulation fire bricks (IFB). With a dedicated R&D team, advanced technology, and modern equipment, the company ▸



Ceramic and Alloy Specialists supplied drawings to Magscie who then made the patterns and dies to make the high alumina bricks that Ceramic and Alloy Specialists import

has successfully passed the ISO 9001:2008 quality verification system. The production line for IFB manufacturing features a high-quality testing system for raw materials, an intelligent batching system, an automatic shaping system, an energy-efficient high-temperature tunnel kiln, and precise cutting and grinding devices. Currently, the company has achieved an annual production scale of 8 000 metric tons of IFB.

Magscie also manufacture a variety of insulation products. These include blankets and other textiles, paper and glass rope, to name a few. In total, Ceramic and Alloy Specialists import about 20 different insulation products manufactured by Magscie

"We have been working hand in hand with the manufacturer and installer of various refractory and Ceramic pre-cast shapes, Unique Refractory Services," continued Retief.

URS is an independent product and service provider to Ceramic and Alloy Specialists.

"The company specialises in the manufacturing of delta sections for EAF and the installation thereof.

Together URS and Ceramic and Alloy Specialists has proven that the workmanship and quality of the materials and bricks has been a hugely successful project that we look forward to building on from it."

"We have also started looking into smaller pre-cast shapes for ferrous and non-ferrous applications and month by month we see growth with more potential and diversification into various areas of our industry," concluded Retief.

Ceramic and Alloy Specialists are located on the corner of Dormehl and Main Roads, Anderbolt, Boksburg and you can contact them on TEL: 011 894 3039 or send an e-mail to wouter@ceramicalloy.com or visit www.ceramic-alloy.co.za ■

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ITAC is proposing to reduce the PPS discount on scrap steel from 30% to 25%

The International Trade Administration Commission of South Africa (ITAC) has announced that a revised Guidelines for the Price Preference System (PPS) have been drafted. However, ITAC has gazetted only modest changes to the contentious PPS for scrap metal, reducing the discount for domestic ferrous scrap consuming industries from 30% to 25%.

The PPS follows from a trade policy directive issued on 10 May 2013 by the then Minister of Economic Development directing ITAC to exercise its powers under the International Trade Administration Act, 2002 (Act No. 71 of 2002) to regulate the exportation of ferrous and non-ferrous waste and scrap metal.

The guidelines set out the framework for the implementation and administration of the PPS in relation to the exportation of ferrous and non-ferrous waste and scrap metal. Interested parties were invited to submit comments on the revised Guidelines.

Review

In April 2025 the Department of Trade, Industry and Competition directed ITAC to review the Price Preference System (PPS) on scrap steel.

Minister Tau issued a policy directive to ITAC instructing them to review the Price Preference System (PPS) on scrap steel. ITAC had to investigate the merits or otherwise of modifying the scrap metal, ferrous and non-ferrous waste. This was according to a notice gazetted by the Department of Trade, Industry & Competition, which – in addition to issuing the necessary directive – summarised its underpinning rationale.

The Trade Policy Directive was issued in terms of Section 5 of the Act, 2002, in the Government Gazette of 14 April 2025. In the directive, the minister noted the challenges being alleged by the integrated steel value chain and directed ITAC to exercise its authority under the Act to investigate as a matter of urgency whether, in light of the alleged challenges being faced by the integrated steel value chain, and any other relevant considerations, the current level of the PPS discount on ferrous scrap at 30%, requires modification.

Following a review, ITAC gazetted amended PPS guidelines on October 31, 2025, that also confirmed changes to the administrative aspects of the scheme, including the establishment of a Technical Working Group (TWG) to assist it with the administration of the PPS.

Membership of the TWG would include a representative from the Metal Recyclers Association, the South African Iron and Steel Association, the Copper Development Association Africa, the Nonferrous Metal Association, the International Zinc Association of Southern Africa, and the Recyclers Association of South Africa, and would be convened at the request of ITAC.

The new discount on ferrous scrap was decided on the basis of developments in the market that had affected international demand, as well as economic modelling conducted by ITAC. No changes were made to the non-ferrous scrap discount.

Should the PPS be scrapped or reduced it will have significant consequences for both scrap dealers as well as manufacturers. ■

Industry stakeholders reject scrap metal PPS changes

In a response endorsed by Recycling Association of South Africa CEO Nancy Strachan, Metal Recyclers Association chairperson Quintin Starkey, and Scrap Recycling Coalition chairperson Mark Fine, the changes are described as "a betrayal of fair trade and economic justice".

South African steel value chain stakeholders have criticised the International Trade Administration Commission's (ITAC) amendments to the Preferential Price System (PPS), in effect as of the beginning of this month, as having ignored evidence-based recommendations, amongst a series of uncorrected errors, according to a report in Business Report.

In response to the gazetted amendments, steelmaker ArcelorMittal South Africa (AMSA) said the revised regulations again prioritise a small group of scrap-based mini-mills, to the detriment of the broader steel manufacturing ecosystem, including primary producers, downstream fabricators, recyclers, waste pickers, and industrial consumers.

It said the concerning amendments are in addition to the delayed release of an independent scrap-industry study commissioned by the Department of Trade, Industry and Competition (DTIC), despite being completed months ago.

This comes as ITAC CEO Ayabonga Cawe announced reducing the discount for domestic ferrous scrap-consuming industries from 30% to 25%, establishing a Technical Working Group (TWG), and restricting transactions to the use of electronic payment instead of cash.

AMSA Head of Corporate Communications Tami Didiza said independent economic research shows that the PPS and related export restrictions have long suppressed scrap prices significantly below global parity; constrained investment and employment in formal recycling; eroded the economic base of integrated steelmaking to the detriment of the economy; and failed to deliver substantial jobs and reduced industrial competitiveness across energy-intensive value chains.

"It is in the national interest to immediately suspend and review the amended PPS, release the DTIC scrap-sector report so it can be compared to the independent econometric report provided to ITAC and the DTIC, and then correct the error of having both the PPS and export tax; and for a transparent, evidence-based policy process to be followed focusing on the full industrial value chain," said Didiza.

He said the consequences have been clear: Shrinking output, job losses, reduced export capability, and rising vulnerability in critical supply chains. These outcomes conflict with the government's own stated objectives of reindustrialisation, localisation, and green industrial growth.

Didiza said while presented as supporting industrial development, the policy continues a decade-long approach that has weakened the country's steel sector, undermined recycling livelihoods, and constrained industrial competitiveness, adding that the country could not afford policy choices that favour a narrow subset of beneficiaries while placing the wider sector and industry at risk.

The PPS is quoted by AMSA as one of the main reasons why AMSA Newcastle/Vereeniging have closed, directly causing the loss of 3 500 direct jobs due to the unequal competitive playing field between AMSA and the PPS-supported scrap-based mini-mills.

Recycling entities – the Recycling Association of South Africa, Metal Recyclers Association, and the Scrap Recycling Coalition – also dismissed the amendments.

In a joint response, the bodies said describing a mere 5% reduction in the ferrous scrap discount – from 30% to 25% – as a "balanced" decision that "will not make any of the parties happy" is not policy wisdom; it's a mockery of the exhaustive submissions we've made over years, perpetuating a broken system that drains the economy while enriching a select few.

"This isn't compromise; it protects 5% of the steel value chain while overlooking the other 95%. As AMSA's operations wind down amid policy distortions, we urge the immediate review and potential scrapping of the PPS in favour of market-aligned reforms. South Africa's sustainability and industrial future require a more equitable framework," they said. ■

PPS for scrap metal is being reviewed again – and its (mostly) not good

"ITAC is proposing to reduce the Price Preference System (PPS) discount on scrap steel from 30% to 25%., but.... always the but.... keep reading...," says Donald MacKay in his blog on his Global Traders Advisors web page.

"PPS provides a raw material subsidy to scrap consumers such as mini-mills by forcing factories, mines, construction companies and SOE's to accept less for their scrap metal. This value transfer amounts to about R8.5 billion per annum at present. But PPS is about more than just the discount on the face value. It is a deliberate shift in market power to the scrap consumers, so in addition to the discount, the sellers have to cover the cost of transport to the buyers and the buyers can block exports without ever actually taking delivery of the product," MacKay continued.

"Let's take a moment to understand the unusual economics of scrap metal first through the eyes of a manufacturer. Our manufacturer buys steel from a supplier. They cut it up to make their widgets and then sell the waste bits of scrap to a recycler. The price they are paid is directly linked to how much the recycler believes they can sell the scrap for and what PPS does is force down that price by any competition to the consumers of scrap metal, by foreign buyers. Although the primary mechanism of PPS is the forced discount, it is 'complemented' by export duties so that when no one wants to buy the product locally, an export duty is still payable."

"There is an important cash flow issue to consider. For most scrap purchases, the recycler needs to pay cash from the scrap metal and given that banks are reluctant to fund the industry, the buyer often turn to a less formal and more expensive forms of lending from people in the industry who better understand the risks."

"When the recycler owns the scrap, they take it to their yards, sort it and sometimes partly process it before selling it on. All of these are costs they need to cover, still with no certainty on the exit price they will receive. You will notice that scrap yards tend to be large (scrap takes up a lot of space) and well secured (people steal scrap all the time), so a scrap yard is expensive even without counting the value of cash tied up in stock."

"When everything is ready for sale, the scrap recycler approaches ITAC and tells them how much they have for sale of each type and grade of metal. ITAC then circulates these notices to potential local buyers who make offers, or not, as the case might be. There are a few characteristics of these offers that are worth noting. Firstly, the seller has to always cover the cost of transport to the buyer. Most of the scrap consumers are in Gauteng, but scrap metal is generated all over the country. This means that companies further away from Gauteng end up recovering less for their scrap."

"The gazette proposes to reduce the PPS discount for scrap steel (good), but still ensures the sellers need to cover transport costs. In the past buyers had 15 days to finalise their negotiations after which ITAC was supposed to make a decision. In reality the deadline was never respected but

now the deadline has been removed. This will have very serious consequences. There is huge incentive to submit 'blocking' offers, where an offer is made but is not fulfilled on time forces down prices for recyclers, further increasing the effective discount."

"The refusal to review seller-funded transport obligation allows mills to continue issuing uniform purchase offers across provinces at PPS-discounted rates (e.g., 25 – 30% below international benchmarks). Since sellers absorb transport expenses – which rise with distance – suppliers in remote provinces such as KwaZulu-Natal get blocking offers from Gqeberha, for example and cannot viably compete or sell inter-provincially, allowing local mills to maintain low prices without upward pressure from broader market dynamics. This risks underestimating economic distortions, as no explicit analysis of transport impacts on pricing is provided."

Too much steel in South Africa

"There is too much steel in South Africa which is one of the reasons Mittal closed its Newcastle operation. There are around 10 mini mills in South Africa, with a new Chinese-owned mill opening in Nigel adding another 600 000 tons of long steel to the market. PPS forces down the price of scrap metal and friendly finance from the IDC (R14 billion into mini mills, according to then Minister Patel) is creating a scrap consumption bubble. Because no one sets up a factory to produce scrap metal, and because PPS artificially suppresses the prices of scrap, we are very likely to see shortages."

Steel billets exported

"When there is no local demand, scrap steel is melted into billets or ingots and mainly exported. These semi-finished products are a combination of scrap steel and electricity (a scarce resource). They also don't attract an export duty, so although there is nothing inherently wrong producing semi-finished products, these exports are artificially high because of the arbitrage created by PPS, export duties on unprocessed scrap steel, and friendly IDC finance."

"These exports represent the PPS discount, forced on local generators of scrap, transferred to foreign buyers of steel. Some of that discount returns to South Africa as cheap steel which competes with our own local steel industry. In the last 12 months, just shy of R4.2 billion was exported like this."

What happened to the last PPS review?

"A 13-month review of PPS was undertaken by ITAC, but no report has yet been released, an important pre-condition before a decision is taken on this new proposal."

"According to ITAC's Chief Commissioner, "ITAC had made a determination based on the balance of evidence that had been placed before it and the economic modelling it had conducted." This determination is an administrative decision and should be made available once that decision is implemented, which presumably will happen after all comments have been received on the current proposal." ■

Atlantis Foundries signs renewable energy supply agreement

Clean energy supply reaches impressive 92% of requirements.

Atlantis Foundries, one of Africa's largest foundry operations, has signed a long-term power purchase agreement with a South African renewable energy business. Atlantis Foundries is one of over 40 production sites around the globe of major vehicle manufacturer Daimler Truck AG. The German multinational automotive corporation is one of the world's largest commercial truck and bus manufacturers and is headquartered in Stuttgart, Baden-Würtemberg. Daimler Truck acquired full ownership and control of Atlantis Foundries, a foundry casting grey iron castings for the automotive industry with a focus on bus and truck medium to heavy-duty engine blocks, in 2020.

According to the terms of the agreement the renewable energy business will supply renewable, clean energy that will replace the majority of Atlantis Foundries' current energy consumption. Based in the Atlantis Industrial area, approximately 50kms north of Cape Town, along the West Coast of South Africa, Atlantis Foundries has been manufacturing castings since 1979 and is now regarded as one of the world's leading smart foundries by embracing the Fourth Industrial Revolution. Since the company embarked on its ambitions in 2017 with a project that aimed to combine various technologies available to gather and analyse process data with the objective of improving product quality and cost efficiency, Atlantis Foundries has made numerous equipment and process investments.

Collaborating for renewable energy adoption

"Atlantis Foundries constantly sets and exceeds global best practice. Our commitment is to both our shareholders, stakeholders and the environment. With these renewable energy projects, we are setting new standards in the South African foundry and automotive industry and alleviating pressure on our constrained national grid," commented Pieter du Plessis, Atlantis Foundries' Chief Executive Officer.

"Our parent company Daimler Truck AG, which was established over 125 years ago, is committed to the transformation to CO2-neutral driving. As one of the leaders in the world in our field we need to constantly review our environmental best practices. The struggle for clean air is about having the possibility to breathe healthy air every day," continued du Plessis.

"There are varying opinions of the significance of the cost of energy as one of the major challenges facing the foundry industry. In the midst of numerous production and sales challenges, does it really benefit a plant to spend time and

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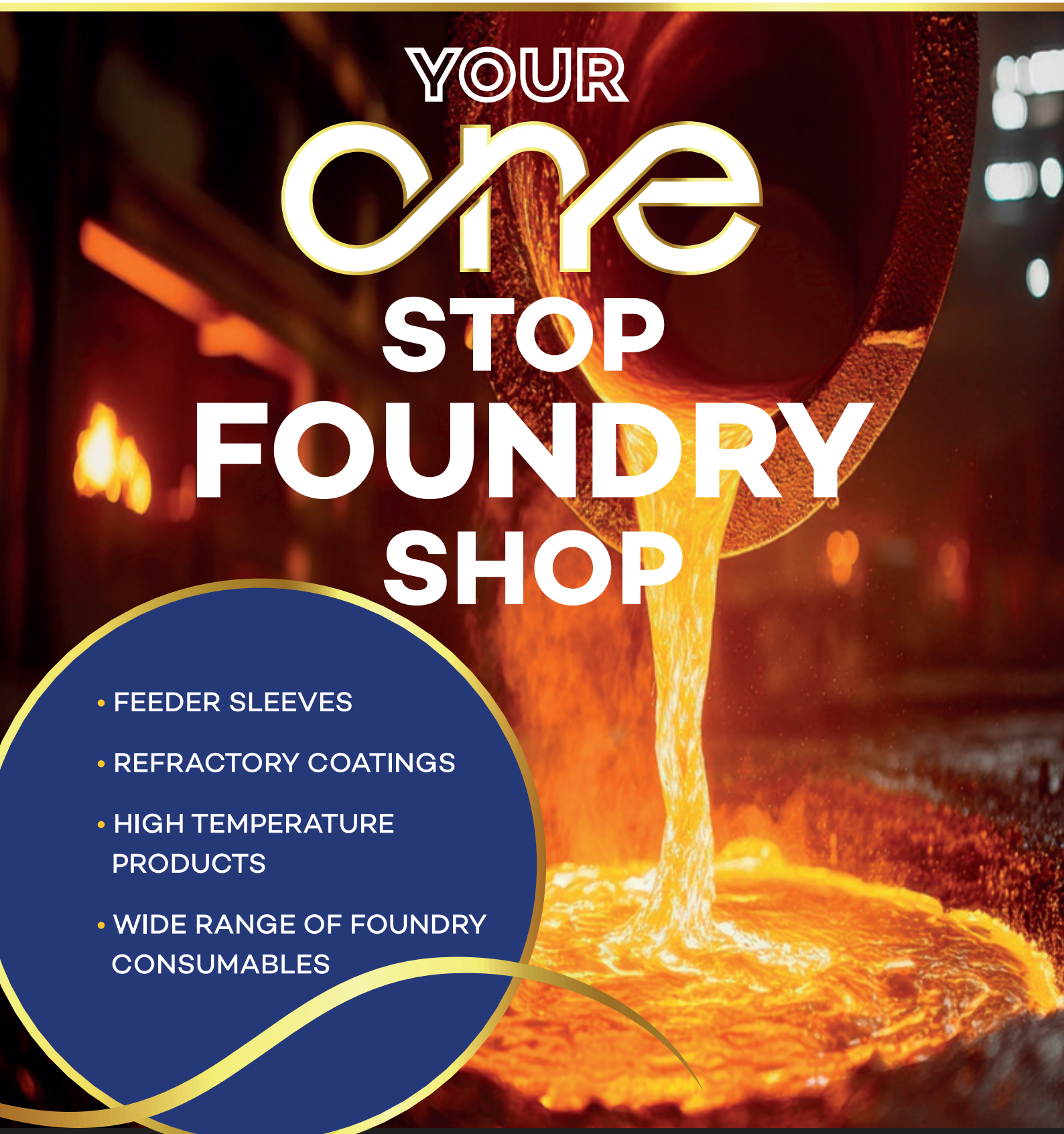

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money on energy management?"

"Evidence suggests that it is not only worthwhile, but it is a business imperative, particularly in light of the energy insecurity we face in South Africa."

Solar energy system supplies 21% of requirements

"In 2023 we signed an agreement with a solar energy system supplier to engineer, finance, construct and operate a ground-mounted solar energy system, comprising more than 20 000 solar panels with a total rated capacity of 13.5MWp."

"This project is now complete and fully operational delivering 104% of the design specification. Phase 1 of the project utilises maximum space for the ground mount system and already supplies us with 21% of our plant requirements. We knew this from the beginning and we began investigating alternative supply sources and systems."

Renewable energy platform

The renewable energy supplier is a platform within a major South African financial services and private healthcare group that was founded in 1992. The renewable energy supplier was established in 2023 to unlock access to clean, affordable power at scale for large and small businesses. The company is headquartered in Sandton, Gauteng and is listed on the JSE.

"The company seeks to address South Africa's most pressing energy challenges: An unreliable, fossil-fuel-dependent grid and limited opportunities to cut carbon emissions. We recognised these challenges facing business and industry and devised a business to offer clients greater price certainty in electricity spend, a tangible way to reduce their carbon footprint and a path to energy resilience and long-term sustainability," said a spokesperson for the renewable energy company.

"Through our energy wheeling framework, we can enable companies to source up to 100% of their electricity needs from large-scale wind and solar projects, with 90% as the standard, using the national grid for transmission. It leverages insurance principles of risk pooling to offer price-certain, affordable clean energy, and has formed partnerships with major companies."

"Our model is built to offer long-term, price-certain clean energy. In this case, we developed a customised structure that integrates seamlessly with Atlantis Foundries' existing solar asset and planning horizons. This partnership reflects a purpose-built approach by supplementing what's already in place, not replacing it," added the spokesperson.

"The agreement is positioned for growth. We see this as a foundation for future collaboration, with scope to extend and evolve over time to align with Atlantis Foundries' sustainability goals."

"This partnership builds on the company's broader strategy to deliver price-certain, clean energy solutions for South African businesses. The journey began with the Overberg Wind Farm, a 150MW project that marked a significant step toward large-scale renewable generation. Building on that success, we then secured a 20-year power purchase for energy from the Tournee Solar Park, a 300MW solar development in Standerton, Mpumalanga, and one of the country's largest renewable projects. Tournee was locked in at a time when grid supply is constrained, ensuring affordable, predictable pricing for clients and reinforcing energy resilience."

"We have already signed long-term agreements with a producer of responsibly sourced commodities that are essential to modern life, which is part of a global diversified natural resources company, as well as with a leading fully integrated platinum group metals (PGMs) producer that has seven mining operations, refining and processing facilities, and a refining business."

Atlantis Foundries' 79%

"As I said previously, we can supply up to 90% of a company's renewable clean energy requirements through the current legislation. Atlantis Foundries' solar park supply project already accounts for 21% of their requirements. Our company can now guarantee 90% supply of the remaining requirements, which works out at 79%," said the spokesperson.

"Our drive to become a smart foundry has not only been focussed on equipment and processes. It is our duty to be responsible manufacturers as well. We are achieving this through extensive cooperation between the Atlantis Foundries and our energy supply partners such as the solar energy system supplier and the renewable energy supplier, in conjunction with the Western Cape Government and the City of Cape Town. Thank you to everyone involved," commented du Plessis.

"Now we need to formulate a plan to accommodate the remaining outstanding 8%," concluded du Plessis.

For further details visit www.daimlertruck.com ■

ITAC proposes ban of cash sales for scrap metal

The International Trade Administration Commission of SA (ITAC) has moved to bar cash transactions in scrap steel, part of a review of the 2013 price preference system.

The move is part of the review of the 2013 price preference system (PPS) for scrap metal, and comes as South Africa's finally been removed from the Financial Action Task Force (FATF) grey list. ITAC's mandate is to foster economic growth by establishing an efficient system for the administration of international trade subject to the International Trade Administration Act.

In an interview broadcast on The Money Show, Chief Commissioner Ayabonga Cawe explained that they are targeting the scrap that would otherwise be destined for (legal) export.

"Under our export control regulations, this scrap would require a permit from the Commission, and if it indeed constitutes a duly completed offer to the domestic buyer, then that transaction must not happen in cash."

"Looking at the broad questions around the FATF, there is this need for these transactions on controlled metals to be undertaken through the national payments system so that they can be picked up there."

Cawe notes that this development of government moving towards these transactions having to be undertaken through an electronic system rather than cash on delivery, was already signalled in 2022. ■

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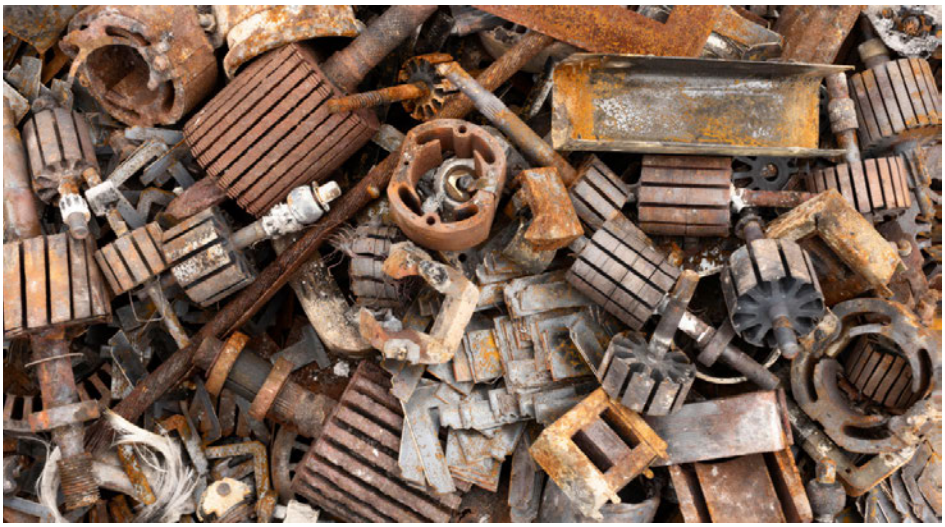
Calls for scrap metal inquiry after price-fixing-cartel ruling

Recyclers want deep-dive into policy situation.

Three bodies representing scrap metal recyclers in South Africa have called for an inquiry into all policies impacting the sector after a ruling by the Competition Tribunal that some buyers were involved in price fixing, says a report in Moneyweb.

In a statement, the Recycling Association of South Africa (Rasa), the Metal Recyclers Association (MRA), and the Scrap Recycling Coalition welcomed the tribunal's ruling, which "confirms the existence of a buyers' cartel in the scrap metal market," while urgently calling for a full, independent inquiry into all government policies impacting the metal recycling sector.



South Africa's recycling industry is urging an investigation into government policies that allegedly sustains anti-competitive pricing in the industry

ArcelorMittal and Columbus both admitted liability and reached settlements with the Competition Commission (CompCom). Scaw Metals was given corporate leniency after agreeing to cooperate with the investigation. This relates to events the tribunal says ended 17 years ago.

Cape Gate denies the allegations, but this was rejected by the tribunal. The company has stated that it will appeal the ruling, asserting that its purchasing practices have always been fair and undertaken with the full knowledge of the Department of Trade, Industry and Competition (DTIC) and the CompCom. This is disputed by scrap metal recyclers.

"This guilty finding is a vital step towards accountability, but it underscores a disturbing pattern of collusion that has persisted for over two decades, eroding the viability of the metal recycling sector," says Rasa in a statement.

"Recyclers have long borne the brunt of artificially depressed prices, and the tribunal's confirmation validates years of complaints about buyer power abuses. However, the real crisis today lies in how government policies – intended to support local industry – are being exploited to perpetuate this harm."

Two key policies

Metal scrap recyclers have complained for years about two policies in particular:

The price preference system (PPS) for scrap metal, which forces them to sell to local steel mills at 30% or more below international prices; and

Export duties that make it uneconomic to export scrap.

They further allege that local mills – in which the Industrial Development Corporation has R14 billion investment exposure – abuse the PPS by placing fake orders to purchase scrap, and then cancel them later to frustrate efforts to export the material and earn international prices.

Both the PPS and export duties were introduced to promote domestic beneficiation, but have been used by dominant buyers to foreclose competition, say the three scrap metal bodies. Recyclers report that low PPS benchmarks and selective export blocks have forced them to compete for sub-grade materials at unviable prices to the ultimate benefit of larger mills.

This has effectively wiped out intermediate processing and threatens thousands of jobs in a sector contributing over R40 billion annually to GDP.

Deep-dive outlined

"We are not just asking for a review," says MRA in a statement. "We demand a thorough, transparent inquiry involving all stakeholders to investigate the origins of these policies, their implementation flaws, and any undue influence from cartel participants."

"The International Trade Administration Commission of South Africa's administration of the PPS must be scrutinised for fairness, and the CompCom should probe whether these mechanisms facilitate ongoing exclusionary conduct. Without urgent reform, the circular economy goals of the National Waste Management Strategy will remain unattainable."

The three scrap metal bodies have launched an anonymous whistle blower channel for industry insiders, suppliers, and observers to submit information securely. They note that while Cape Gate may appeal the tribunal's ruling, it remains in force until overturned by the Competition Appeal Court.

Cape Gate responds

Cape Gate chair Oren Kaplan replied by saying that the company's purchasing practices have always been fair and conducted with the full knowledge of the DTIC and the CompCom.

"At no point did sellers of scrap metal agree among themselves or with Cape Gate to fix or determine local prices. We are in the process of appealing the tribunal's decision. It should also be noted that, during the time of the alleged cartel activities, scrap suppliers were unrestricted with regards to exports, giving them access to international markets at international prices, meaning they were not forced to sell at a ▸

particular price."

"The PPS was established in 2013 by the government, five years after the commission acknowledges the alleged behaviour ceased, to ensure that steelmakers and foundries have access to sufficient and affordable scrap metal before it is exported. This PPS was designed to enable competitive beneficiation of scrap metal within South Africa and to prevent valuable scrap resources from being exported for processing abroad into finished steel products – a cycle that undermines local industrialisation and jobs."

"Cape Gate supports the objectives of the PPS and believes that, when administered optimally, it strengthens South Africa's manufacturing base and contributes to industrial growth and much-needed job creation. Many countries protect domestic scrap supplies to secure a sustainable input for their steel industries that use the scrap to create steel products."

"Cape Gate remains committed to fair competition, local beneficiation, and the responsible development of South Africa's steel value chain."

Not so fast

Scrap suppliers dispute Cape Gate's claim of unrestricted export access, pointing to the tribunal's finding of a coordinated pricing formula that suppressed domestic purchase prices and disadvantaged suppliers. Even if exports were technically available, this created economic pressure on suppliers to accept lower local offers, distorting market dynamics.

The associations further claim the introduction of the PPS mirrors the cartel's prohibited pricing template by linking domestic prices to global indices but with fixed discounts and premiums, "thereby perpetuating anti-competitive harm to suppliers and the economy."

"This linkage raises concerns of undue influence in policy design, potentially violating prohibitions on anti-competitive agreements."

The whistle blower channel

The scrap recycling bodies set up the anonymous, encrypted whistle blower channel to receive tips on cartel activities, policy abuses, or unfair practices without fear of reprisal.

They say all contributions will be handled confidentially and forwarded to relevant authorities, including the CompCom. ■

ArcelorMittal confirms Newcastle Works production has stopped

JSE-listed steel producer ArcelorMittal South Africa (AMSA) has confirmed that production has ceased at the Newcastle Works, in KwaZulu-Natal, and that the process to place its long-steel business into care and maintenance is proceeding.

In a further cautionary announcement to shareholders, the JSE-listed company said that limited trading would continue to "despatch the remaining stock".

"Engagements to explore alternative solutions continue. Further announcements will be made in relation to these matters as and when appropriate," AMSA said in a statement, which came amid reports suggesting that the company could be sold.

"Accordingly, shareholders are advised to continue to exercise caution when dealing in the company's securities until a further announcement is made."

AMSA also confirmed that it had applied for leave to appeal a Labour Court judgment stipulating that retrenched workers from its longs operations in Newcastle and Vereeniging be reinstated.

The National Union of Metalworkers of South Africa approached the court in early October 2025 seeking an interdict to compel AMSA to either issue a new Section 189 retrenchment notice, or to engage in further consultations under a notice issued in January 2025.

AMSA confirmed that the court found that the company should conduct further consultations, that no further dismissals should take place until these consultations were completed and that employees should be reinstated.

"ArcelorMittal South Africa has applied for leave to appeal the decision." ■

Negotiations between AMSA and IDC breakdown

The collapse of the negotiations between ArcelorMittal South Africa (AMSA) and the Industrial Development Corporation (IDC) represents a pivotal moment for the country's steel industry. After nearly two years of discussions that began in November 2023, the parties have failed to reach an agreement on a deal that would have transferred ownership of ArcelorMittal South Africa Limited (AMSA) operations.

The Luxembourg-based steelmaker and the state-owned development finance institution reached an impasse over valuation, with ArcelorMittal South Africa steel mill sale talks ending without agreement despite extensive government involvement. The Trade and Industry Department participated directly in negotiations, recognising the strategic importance of preserving domestic steel production capacity.

These negotiations began in late 2023, following AMSA's announcement of plans to close two major steel plants that had long served as key suppliers to the country's industrial and mining sectors.

The Newcastle plant, once a cornerstone of South Africa's long-steel production, has already been closed, along with its associated iron-ore mine. Meanwhile, the Vanderbijlpark flat-steel operation continues to run, albeit under significant operational and financial strain.

These closures have had a ripple effect across industries, leading to reduced domestic steel supply and increased reliance on imports, further impacting local manufacturing competitiveness.

Policy tensions and labour disputes

Relations between ArcelorMittal South Africa and the government have grown increasingly tense, with key disagreements surrounding electricity tariffs, scrap-steel imports, and industrial policy frameworks.

AMSA has criticised some government policies, suggesting they have created an uneven playing field and limited the company's ability to remain competitive.

At the same time, AMSA is appealing a Labour Court ruling ordering the reinstatement of thousands of workers retrenched after the Newcastle closure – a decision that could further affect its financial recovery.

Implications for the mining and engineering sectors

The collapse of talks between AMSA and the IDC introduces renewed uncertainty for South Africa's mining and manufacturing industries, which rely heavily on a stable domestic steel supply.

For the engineering sector, reduced steel output could impact infrastructure projects and the manufacturing of heavy industrial equipment. The situation underscores the interconnectedness between mining, engineering, and metallurgical industries in South Africa's industrial ecosystem.

The failure to reach a deal between ArcelorMittal South Africa and the IDC highlights the complex challenges facing the nation's steel industry, from rising energy costs to global price pressures and regulatory hurdles.

For Africa's mining and engineering community, this development reinforces the importance of industrial collaboration, infrastructure investment, and policy alignment to secure the continent's manufacturing and resource-processing base.

South Africa's ability to stabilise its steel sector will play a defining role in shaping the competitiveness of its mining, engineering, and construction industries in the decade ahead. ■

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Sallies Holdings acquires G & W Base and Industrial Minerals

Sallies Industrial Minerals Group has announced that it has recently acquired G & W Mineral Resources. The acquisition is part of Sallies' focus on continuous improvement and strategy to supply an expanding range of high-quality products.

The Competition Commission approved the proposed transaction whereby Sallies Holdings acquired G & W Mineral Resources, with conditions. Sallies Holdings controls several firms and owns two mining and processing operations for agricultural lime. These mines are located in Zeerust and Ottoshoop in the North-West Province and produce and process dolomitic limestone, fluorspar deposit and aggregates. The mines' processing facilities are also used to reprocess some agricultural lime used in animal feed products.

Sallies Holdings

With roots in the marketing and distribution of lime and gypsum to the agricultural sector, Sallies Industrial Minerals is today a fully-fledged industrial minerals mining, marketing and distribution business.

Since incorporation, the group has expanded its operations to include several mines and industrial minerals production facilities. In 2015 Sallies Limited, a company with a history in gold and industrial minerals mining dating back to 1903, was acquired, giving birth to Sallies Industrial Minerals.

G & W Mineral Resources

G & W Base and Industrial Minerals (PTY) Ltd, T/A G & W Mineral Resources, is a supplier of specialised industrial minerals in South Africa and has been servicing the needs of both local and Sub-Saharan customers for more than 72 years.

G & W Mineral Resources supplies more than 70 different products to a wide range of industries, and exports to Sub-Saharan Africa, as well as marketing a range of specialized industrial minerals and other products that are sourced both locally and internationally. These products are processed at the Wadeville plant and distributed directly to customers.

Matsopa Minerals, a subsidiary of G & W Mineral Resources, is responsible for all mining activities and as such operates 6 mines in South Africa and Mozambique.

Iron foundries

Coal dust supplied by G & W Mineral Resources is used in the casting of medium and large castings in foundries, due to features such as high-volatility, low ash and sulphur content. The company also supplies bentonite MD foundry grade, a product that is used in all types of green sand moulding systems. The high-cation exchange capacity is a benefit to the foundry process.

Industries that the company supplies product to include agricultural, automotive, ceramics and potters, chemical, civil engineering and construction, ferrochrome, food and beverages, iron foundries, manufacturing and refractories.

G & W Minerals Resources was part of the Zimco Group, which also includes Castle Lead Works Zambia Ltd, Sondor Performance Foams (Pty) Ltd and Africa Anodes (Pty) Ltd. The Zimco Group was acquired by Leif 853 in 2023. Leif 853 is jointly controlled by AutoX Proprietary Limited and Trinitas Equity Partners Proprietary Limited. AutoX is controlled by Trinitas Fund General Partner Proprietary Limited in its capacity as a juristic representative of Trinitas Private Equity Proprietary Limited.

Acquisition conditions

To address competition concerns arising, the merging parties have committed to continue to supply other downstream third parties with the required calcitic limestone as was the case before the merger.

To address public interest concerns, the merging parties have agreed to not retrench any employee as a result of the merger. ■

Hillside Aluminium to support aluminium manufacturing growth in Richards Bay

R200 million in funding to be made available.

Hillside Aluminium (Hillside) has partnered with the Automotive Industry Transformation Fund (AITF) and the Department of Trade, Industry and Competition to strengthen downstream aluminium manufacturing in South Africa. Together, the partners are providing around R200 million in concessional financing to support Bingelela Alloys' continued production of rim alloys in Richards Bay.

Hillside supplies Bingelela Alloys with liquid aluminium, which is manufactured into a rim alloy product at its semi-fabrication facility at the former Bayside Casthouse, supporting local jobs and downstream industry growth.

The product produced by Bingelela Alloys is supplied to Maxion Wheels and Borbet and ultimately reaches six out of the seven local original-equipment manufacturers in South Africa, including BMW and Toyota.

The financing will enable Bingelela Alloys to buy two new furnaces and relocate the rim alloy casting line within the Casthouse, improving production and supporting the sustainability of South Africa's downstream aluminium sector.

Hillside Aluminium Vice President Operations Calvin ▸

Mkhabela said the partnership demonstrates South32's commitment to supporting local industry.

"Hillside is proud to support Bingelela Alloys. Its rim alloy products are supplied to some of the world's largest and prestigious automotive manufacturers after further processing," Calvin said.

"As the only producer of primary aluminium in South Africa, downstream manufacturers like Bingelela Alloys depend on the liquid aluminium supplied by Hillside on competitive terms, to support the growth of the local industry and create local jobs in the Richards Bay area.

"We will continue to help South Africa's downstream aluminium industry to grow and to play a leading role in accelerating its development."

Bingelela Alloys Chief Executive Officer Sizwe Khumalo said the collaboration highlights what can be achieved when industry and government work together.

"This partnership is a prime example of how targeted, strategic collaboration between the private sector and government can drive industrialisation. It demonstrates a shared vision for achieving high industrial growth and fostering economic prosperity."

South32 continues to assess a pipeline of opportunities to support the growth of the downstream aluminium industry in Richards Bay, helping develop local capability and creating lasting benefits for the region.

"The DTIC will continue to support the development of automotive component manufacturing companies such as Bingelela. This is through the South African Automotive Masterplan 2035, whose key objective is to deepen local value addition and reach 60% by 2035," says DTIC policy analyst Mzwakhe Mbatha.

The South32 Hillside Aluminium smelter is located on the north coast of KwaZulu-Natal in the city of Richards Bay. Hillside Aluminium is the largest aluminium smelter in the southern hemisphere. ■

ITAC to submit steel tariff review to Minister as it calls for comment on more changes

The International Trade Administration Commission of South Africa (ITAC) has confirmed that it has made a final determination in relation to a far-reaching review of steel tariffs and will now forward its report to Trade, Industry and Competition Minister Parks Tau.

The outcome, ITAC said in a Gazette notice, would be made public once the Minister had considered the report.

The review was launched in March and deals with chapters 72, 73, 82 and 83 of the Customs and Excise Act, which covers steel and stainless steel products where the combined yearly imports are valued at an estimated R66-billion.

Having received 150 comments by the initial comment deadline – including requests for duty increases to the World Trade Organisation (WTO) bound rate, the creation of rebate provisions, and the inclusion of specific products under import control – the commission published a preliminary determination on August 20 for further comment and received an additional 109 written submissions.

"The Commission has since made its final determination on all the areas published on 20 August 2025 and a report to this effect will be forwarded to the Minister for his consideration after which it will be made public."

ITAC said the comments on the preliminary determination included additional requests for products to be considered for possible duty increases, as well as requests for additional rebate provisions to be created and for more products to be considered for addition on the import control list.

The November 21 Gazette notice thus includes a further call for comment on possible additional changes that are outlined in three tables, with the first table listing a further 20 products where the duty could be increased to the WTO bound rate of between 10% and 15%.

The second table outlines products that could be covered by the creation of proposed rebate provisions, while the third table lists products that could be subjected to import permit controls.

XA Global Trade Advisors said the notice implied that South Africa could increase the duties on an additional 20 steel tariff codes, in addition to the 105 from the original investigation; impose import control on another 49 steel tariff codes, in addition to the 392 from the original investigation; and rebate import duties on an additional 46 steel tariff codes.

Any submissions and/or comments regarding the proposed interventions must be sent to ITAC before 5 December 2025, by emailing submissions/comments to rmolala@itac.org.za / nsikhakhana@itac.org.za / pmatsepane@itac.org.za. ■

Transnet rolls out 200th locally manufactured Traxx 23E locomotive

More than 60% of the total contract value has been produced locally. Size specifications have been checked.

In a significant milestone in Transnet's modernisation programme, the 200th state-of-the-art Traxx 23E locomotive has rolled off the assembly line, a development seen as pivotal to South Africa's industrial and economic recovery. The locomotive is part of the 240 units that Transnet has procured as part of its fleet renewal programme.

Transnet group chief executive, Michelle Phillips, speaking at the facility to mark the completion of the locomotive, said the Traxx 23E project was the cornerstone of the company's effort to modernise its freight rail fleet.

"Modernising our fleet is a critical component of the national mandate to lower the cost of doing business and enable economic growth. Today's celebration of this milestone is a manifestation of our commitment to modernise our fleet and enhance freight capacity through sustained and focused investment in rolling stock assets."

Transnet Engineering chief executive Bessie Mabunda said 187 locomotives had already been delivered to Transnet Freight Rail.

"The commitment and the work that we've done to date has resulted in the delivery of 187 locomotives to the client. We've assembled over 220 3E locomotives out of the 240 that have been ordered," she said.

Following a 2023 settlement agreement with Alstom (which acquired the original contractor Bombardier), Transnet Engineering initiated an aggressive ramp-up of the project.

Transnet Engineering general manager for Manufacturing, Tshwanelo Tswai, highlighted the localisation achievements: more than 60% of the total contract value has been produced locally, with sustained procurement spend from inception reaching R165.5 million on machining services, bogie assembly material and raw steel supply.

Mabunda said that by implementing a 24/5 shift pattern and stabilising the material supply chain, the project had achieved its best-ever performance in 2024, delivering 43 locomotives in a single year. It is now firmly on track for completion with the delivery of the remaining 40 locomotives by June 2026.

Alstom MD, Tristan le Masne, said the Traxx 23E fleet had recorded 98% availability against a contractual requirement of 95%, with only one fault per million kilometres travelled.

Le Masne said the project had been defined by collaboration, perseverance and unwavering commitment to excellence.

"Frankly, when the dust settles and all is said and done, you will look back at today with pride and satisfaction that you wrote a glorious chapter in the South African rail history books."

"The next few years are ripe with opportunity and, with continued reforms, investment and deepening collaboration, South Africa's railways are set to become the backbone."

"As Transnet Engineering positions itself to become a leading Original Equipment Manufacturer (OEM) for the continent, the 200th Traxx 23E locomotive stands as proof of its capability, resilience, and central role in moving South Africa forward," said Phillips. ■

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Sintokogio buys Bosch's ceramics unit, plans global AM expansion

Japan's Sintokogio Group is buying Bosch Advanced Ceramics to expand its work in 3D printed technical ceramics. The agreement was signed on November 18 and formally announced at the Formnext event in Frankfurt. Once the deal closes on January 1, 2026, Bosch Advanced Ceramics will change its name to Sinto Advanced Ceramics Europe GmbH, becoming a subsidiary of Sintokogio.

Over the last 10 years, Bosch Advanced Ceramics has grown from an internal venture at Bosch Business Innovations GmbH into a global supplier of 3D printed technical ceramics, with production in Immenstadt and sales offices abroad. The company does not build 3D printers but acts as a contract manufacturer, using industrial ceramic AM systems such as Lithoz LCM printers and 3DCeram stereolithography platforms to produce high-precision ceramic parts for customers. The firm reported 115% year-over-year revenue growth at the end of Q3 2025, pointing to both rising demand and its strong position in a niche but growing field.

For Sintokogio, the acquisition fits its plan to expand in high-performance ceramics and additive manufacturing. The Nagoya-based group is best known as a major supplier of foundry equipment and has been investing in new materials and production technologies to grow beyond its core business.

Bringing Bosch Advanced Ceramics into the group gives Sintokogio an experienced AM ceramics manufacturer with an established customer base and a proven production workflow. At the same time, Bosch Advanced Ceramics gains access to Sintokogio's global network, capital resources, and technical infrastructure.

Both companies say the change in ownership will not alter existing processes or customer relationships. Manufacturing capabilities, materials, and service offerings will remain the same, with the company continuing to specialise in additive contract manufacturing of technical ceramics.

Under the new structure, Nikolai Sauer, who began as an intern and is currently CTO of Bosch Advanced Ceramics, will become Managing Director of Sinto Advanced Ceramics Europe. And Sophie Berninger, the company's current CEO, will move to a new position within the Bosch Group.

Technical ceramics have been gaining traction in sectors such as electronics, energy, medical devices, and industrial machinery thanks to their high strength, heat resistance, and chemical stability. Additive manufacturing has pushed ceramic use further by allowing companies to create complex shapes, fine details, and internal channels that traditional ceramic shaping and sintering methods cannot easily create.

Sintokogio's president, Atsushi Nagai, said the acquisition supports the group's plan to expand its capabilities in high-performance ceramics and additive manufacturing. The deal was signed and announced live on stage at Formnext, highlighting its importance for both companies.

Contact Rui Dias on TEL: 011 907 1785 or visit www.endeco-omega.co.za for further information. ■

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DISA celebrates 125-year anniversary with customers and employees

DISA, a global leader in green sand moulding technology celebrated its 125th anniversary on 21 November 2025.

Famed as the inventor of high-speed vertical moulding, DISA equipment has helped foundries produce high-quality castings efficiently and cost-effectively for many decades.

"Since 1900, we've shaped the future of foundry solutions, combining expert engineering with cutting-edge innovation," says Ulla Hartvig Plathe Tønnesen, President of DISA Industries. "We now serve foundries in over 100 countries and our commitment to sustainability, precision, and customer success remains unwavering."

DISA's legacy of innovation began in 1962, with the introduction of the revolutionary DISAMATIC flaskless vertical moulding machine. Its direct descendants are today's sophisticated, flexible and highly-productive DISAMATIC D and C lines. Along with horizontal solutions like the DISA MATCH and DISA FLEX, these advanced green sand technologies ensure tighter tolerances, smoother surfaces, and cleaner castings – helping foundries achieve outstanding quality and efficiency.

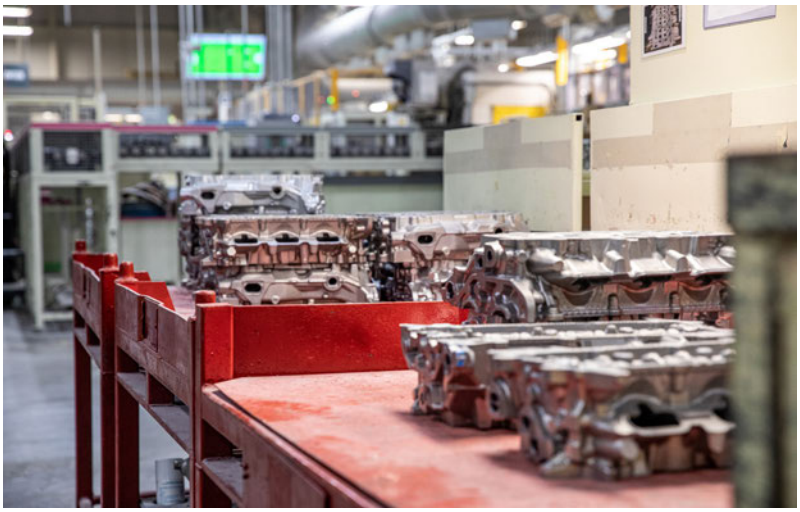
Beyond these iconic blue machines, there's a comprehensive portfolio of mixers, casting coolers, and advanced digital and automation tools. From sand preparation and moulding to aftermarket support and process optimisation, DISA continues to deliver the industry's most complete green sand foundry solution, engineered to work seamlessly together for maximum uptime, productivity, and the lowest cost per casting.

"As one of the world's leading foundry suppliers, reaching this huge milestone is a testament to DISA's premium, reliable machines and the trust of partners worldwide," says Ulla. "We'd like to thank all our employees and customers for making this possible. Here's to the next chapter of progress!" ■

Toyota boosts hybrid production with $912 million investment

More cast parts needed for Toyota Hybrids: The automakers' two aluminium casting operations are due to be expanded with four new production lines as part of wider capital-investment programme to increase capacity for hybrid electric vehicles.

Two Toyota Motor North America metalcasting plants will share $128.5 million in capital investments in the next three years as part of the automaker's effort to increase its hybrid electric vehicle production volume. Toyota announced a $912 million programme of improvements at five plants to expand hybrid vehicle production, about one week after it made a five-year, $10 billion capital investment commitment for its US manufacturing base.



"Customers are embracing Toyota's hybrid vehicles, and our US manufacturing teams are gearing up to meet that growing demand," stated Kevin Voelkel, senior vice president, manufacturing operations. "Toyota's philosophy is to build where we sell, and by adding more American jobs and investing across our US footprint, we continue to stay true to that philosophy."

Toyota's hybrid electric vehicles have a gasoline engine and an electric motor and generator, alternating between them or using both for optimal efficiency according to driving conditions. In addition to the engine, electric motor/generator, ▸

a power control unit, and a hybrid battery, the system uses a planetary gear set to blend power and manage battery charging.

At the Jackson, TN, aluminium casting operation, $71.4 million will be invested to increase output of hybrid transaxle cases and housings and engine blocks for hybrid vehicles. This investment programme will involve three new production lines and will increase production capacity by nearly 500 000 units annually, starting in 2027 and 2028, and the plant will add 33 jobs as a result.

Toyota's Troy, MO, plant will have a new production line installed to cast aluminium cylinder heads for hybrid vehicles, to start in 2027. This will increase plant capacity by more than 200 000 cylinder heads annually and bring 57 new jobs to that location.

On its website, Toyota describes the Troy facility as using recycled aluminium to build thousands of cylinder heads per day.

Both plants were included in a $373.8 million investment program that Toyota announced earlier this year. That involved an increase in 2.5-litre cylinder head production at Troy, and modifying the Jackson operation to produce hybrid transaxle cases and housings and 2.5-litre engine blocks.

Among the goals of Toyota's new projects, Toyota announced that it will be introducing a new hybrid-electric Toyota Corolla, with assembly to take place at the Blue Springs, Miss., plant. That project represents a $125 million investment.

The largest investment of the hybrid-vehicle expansion – $453 million – will be made at Toyota's Buffalo, W.V. plant to increase assembly volumes for four-cylinder hybrid-compatible engines, sixth-generation hybrid transaxles, and rear motor stators. The new production capabilities will be available in 2027, bringing 80 jobs.

The last of the new investments announced involves $204.4 million for a new machining line for four-cylinder hybrid-compatible engines at Toyota's largest plant, in Georgetown, Ky. The new capabilities will result in 82 additional jobs there starting in 2027.

The Georgetown plant already has a series of projects estimated in the billions in support of a new battery-electric sport utility vehicle. ■

EU announces aluminium scrap export restrictions

The European Commission has begun preparatory work on a new measure that will ensure Europe's aluminium recycling industry has access to adequate volumes of aluminium scrap, trade and economic security commissioner Maros Sefcovic announced at the European Aluminium summit in Brussels that was held recently.

The European Commission officer says he considers restricting aluminium scrap exports to be fully in line with a circular economy logic.

In a mid-November speech to a European aluminium producers trade association, a trade official with the Brussels-based European Commission (EC) said he was "pleased to announce that we are launching the preparatory work on a new measure to address the issue of aluminium scrap leakage."

In his address to members of European Aluminium, EC Commissioner for Trade and Economic Security Maroš Šefčovič quickly added, "We do not want to completely block aluminium scrap exports."

Continued Šefčovič, "We want to prepare a balanced measure that will allow industries using aluminium to access adequate quantities of this strategically important material at competitive prices, in order to pursue their path towards decarbonisation, fully in line with a circular economy logic."

The government official said the measure he would like to see adopted by the spring of 2026 "will take into account the interests of all actors in the aluminium value chain, from producers, to recyclers, to downstream sectors, and will respect the international obligations of the European Union."

Šefčovič also encouraged attendees of the trade group meeting to participate in a public consultation and a "call for evidence" the EC intends to launch by the end of this year.

Groups representing recycled metal processors and traders already have expressed their viewpoints as the notion of an export ban has been discussed throughout 2025.

In a September statement, the Berlin-based Association of German Metal Traders and Recyclers (VDM) and the Düsseldorf, Germany-based Federal Association of German Steel Recycling and Disposal Companies (BDSV) said such policies are "the wrong way to go – especially at a time when the sales situation in Germany is extremely tense for many companies in the recycling industry."

On the same day as the speech by Šefčovič, Brussels-based European Aluminium said it "warmly welcomes" the announcement by the EC official.

"This is a strong and timely statement of intent from the Commission," says Paul Voss, director general of European Aluminium. "Europe's future will to a large extent depend on its ability to secure access to the raw materials that our economy and our society require. It is therefore hugely encouraging to see the EU acting so decisively to save our scrap."

The metals producing association ties the measure to wider global trade policies being put in place this decade, including "the doubling of United States Section 232 tariffs on aluminium to 50 per cent."

Delegates and speakers at the European Aluminium summit welcomed the commission's announcement. Paul Warton, head of Hydro's extrusions business and chair of European Aluminium, said he was "very pleased" by the announcement, while European Aluminium director-general Paul Voss called the current situation with aluminium scrap leaving Europe in greater quantities "the definition of a market failure".

The EU and UK together exported around 1.6 million tons of aluminium scrap in 2024, almost a quarter higher than in 2022 and around 60 per cent up on 2019. ■

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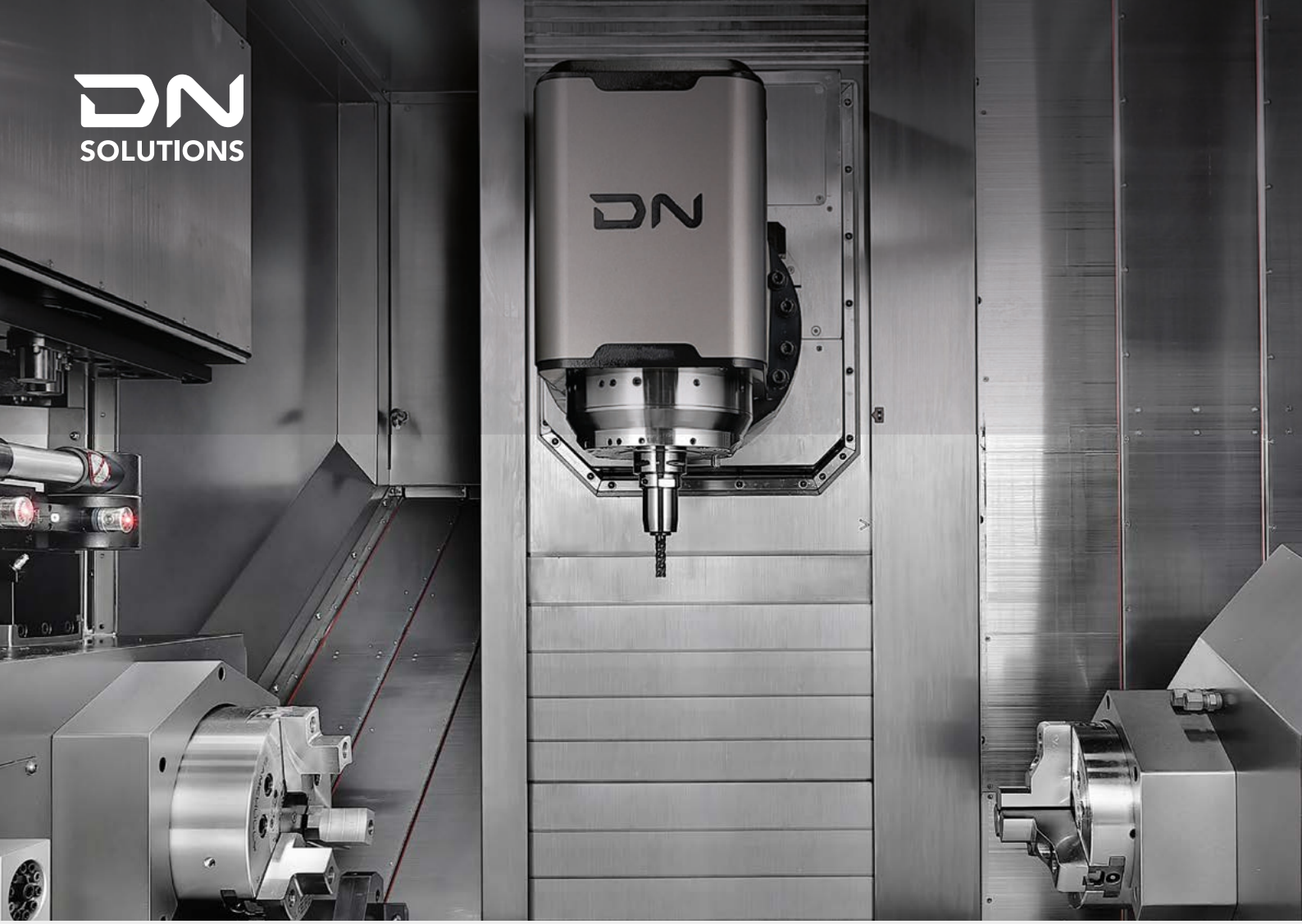

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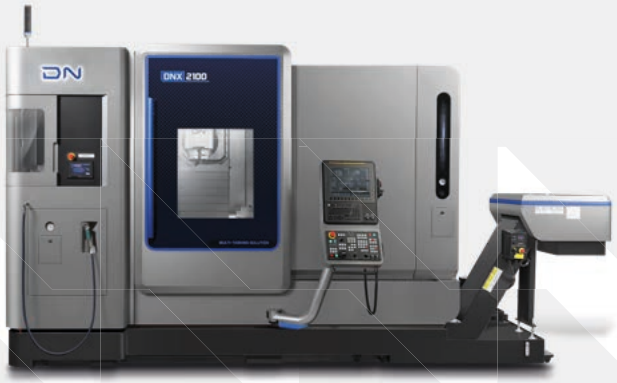

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Renishaw and Tekna advance use of coarse titanium powders

Renishaw, headquartered in Wotton-under-Edge, Gloucestershire, UK, recently highlighted its collaboration with Tekna Holding AS, based in Sherbrooke, Quebec, Canada. Together, the companies explored using coarse titanium powders to reduce costs and increase throughput compared to additive manufacturing with traditional fine titanium powders.

The challenge

Titanium alloys, especially Ti64, are widely used in industries such as aerospace and medical for their exceptional strength-to-weight ratio, corrosion resistance, and biocompatibility. However, the fine titanium powders (15-45 microns) used in Laser Beam Powder Bed Fusion (PBF-LB) Additive Manufacturing machines are associated with high production costs, explains Renishaw.

More broadly, the use of such fine powders can also present issues with handling. Classed as dangerous materials, airborne powders small enough to be considered dust can create health risks to operators exposed to them, requiring companies to incorporate containment systems and increased safety measures. As they are also reactive, requiring specific storage and transport considerations, their use involves costs beyond the initial investment.

Solutions

To address these issues, Renishaw reached out to Tekna to explore the use of coarse variants of titanium alloys. Tekna produces these using its radio frequency (RF) induction plasma atomisation technology, a process in which titanium wire is fed into a high-temperature plasma torch. The intense heat melts the wire, transforming it into fine droplets that solidify into spherical powder particles as they cool.

This process is said to offer advantages in sphericity, flowability and consistency. The RF induction plasma process also maintains strict control over alloying elements, reducing contamination risks.

Tekna's proprietary plasma atomisation process is continuous and does not require any consumables that may interrupt or contaminate the process. Without any external gas jets or electrodes in contact with the material, the powder remains free from contaminants, making it well suited to demanding applications in aerospace, medical and industrial sectors.

Using this methodology, Tekna developed and optimised a large-cut variant of Ti64 powder. Renishaw worked with the company to validate the new powder, reporting the results of extensive laser parameter optimisation and powder flow testing. This workflow enabled the product to meet the performance and consistency standards required for advanced Additive Manufacturing machines.

"By combining our expertise, Tekna has developed a large-cut titanium powder that supports Renishaw's objective of increasing overall process efficiency to their customers, while also reducing direct costs associated with the powder," stated Amir Nobari, Technical Sales Manager, Tekna. "The coarser powder works seamlessly with Renishaw's LPBF systems, enabling faster printing with thicker layers, while preserving essential material properties."

Results

Through Renishaw and Tekna's collaboration, customers can realise production cost-efficiencies that enhance the use of AM as a volume production process. This is an important step as metal PBF-LB Additive Manufacturing technology experiences greater adoption.

Additionally, coarser powders enhance overall process sustainability by increasing yield efficiency and reducing material waste. These powders also mitigate certain health and safety concerns associated with traditional AM powders, as they are not classified as dangerous goods. Fewer safety precautions during transportation lowers logistical costs and aids operational efficiency, Renishaw stated.

By utilising a thicker 90 µm or greater layer setting, users can also experience a substantial increase in build speed compared to 30 µm or 60 µm layers. This allows for improved productivity, enabling faster turnaround times.

"Renishaw's material qualification expertise was critical in ensuring that Tekna's large-cut titanium powder performed optimally on our systems," stated John Laureto, Renishaw's AM Business Manager. "Our collaboration allowed us to test rigorously and refine the material to meet the high standards required for reliable, high-quality AM."

"The benefits of this powder extend across a variety of industries. In motorsport and automotive, it supports high mechanical strength, while making parts more lightweight. The powder is already being applied in the aerospace and defence sectors in various application areas," he concluded. ■

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DISA and pour-tech AB announce collaboration

DISA Industries and pour-tech AB are bringing moulding and automatic pouring together in a collaboration that was recently announced by the two companies. The partnership brings together DISA's expertise in high-performance moulding technology and pour-tech AB's advanced pouring solutions to create a seamless, highly efficient pouring process.

The partnership simplifies operations by offering a single-source supplier solution, meaning just one contract and a dedicated contact point for foundries. With a proven equipment interface, the integration of moulding and pouring processes becomes seamless, ensuring faster installation and start-up without the need for customer intervention. The collaboration also introduces real-time machine communication and process control, which enhances efficiency, improves pouring quality, and minimises labour needs by reducing manual intervention.

DISA Industries, based in Taastrup, Denmark, is a global leader in metal casting and moulding technology. With over 120 years of engineering expertise, DISA provides green sand foundry solutions. It is renowned for delivering the lowest mismatch in the industry, most casting per hour and unmatched uptime and reliability.

As part of Norican, DISA serves foundries in over 100 countries with expert consultation, unrivalled equipment and full-service support.

pour-tech specialises in automatic pouring systems for iron foundries. Using laser technology to market the pourTECH System. They provide complete pouring systems featuring unheated ladles for new installations. They also supply lasers, pouring controls and actuators for integration with other equipment, such as furnaces and existing ladles. ■

Waffer Technology unveils the world's largest magnesium thixomolding machine

Waffer Technology recently held a grand inauguration ceremony for the opening of the Waffer R&D Centre for Lightweight Materials and the Thixomolding Magnesium Alloy Application Centre. The event also marked the introduction of the world's first and largest 7 000 ton dual barrel Thixomolding machine.

The centre is a joint venture with Haitian Die Casting and the Magnesium Alloy Engineering Research Centre of Chongqing University. Five magnesium injection moulding (thixomolding) islands of different sizes, all made by Haitian, were installed at the Waffer R&D centre.

The Haitian HMG 7000 has a clamping force of 70 000kN, is equipped with two Φ180mm screws, has an injection weight exceeding 38kg, and is equipped with a millisecond-level closed-loop injection control system. The dual screw can inject the semi solid metal in both synchronous or asynchronous configurations.

Waffer said: "This advancement will drive the development and manufacturing of large, integrated structural components, such as vehicle body, frames and inner door panel brackets, significantly elevating the application potential of lightweight materials to unprecedented levels."

The new R&D Centre is affiliated with the Automotive Components R&D Branch of Waffer Technology (Maanshan) Limited, situated in Dangtu County, Maanshan City, Eastern ▸

China. It has been officially approved by local authorities as a research and development hub for new lightweight material applications in vehicles, including the establishment of a postdoctoral fellowship workshop.

This new 7 000 ton magnesium thixomolding machine is not the first, nor will it be the last, of the “Giga sized” machines for semi solid forming of magnesium alloys. The arrival of the HMG7000U breaks a key bottleneck in large magnesium alloy forming. It supports semi-solid moulding of large integrated parts such as vehicle frames and door inner panels, helping shift magnesium alloys from small components to mainstream large structural applications.

While Tesla did not invent large-scale die casting, the carmaker deserves credit for popularising the concept and pushing it to unprecedented scales. The transformation is starkest when examining Tesla’s own evolution: The Model 3’s rear structure comprises 171 separate metal pieces, whilst the Model Y achieves the same structural integrity with merely two megacast components. This dramatic simplification eliminates approximately 1 600 welds – a reduction that speaks to both the elegance and audacity of the approach.

Chinese electric vehicle manufacturers NIO and XPeng have commissioned 12 000 ton machines from Tesla-supplier IDRA, whilst established automotive powers are taking notice. It may be worth mentioning that IDRA is one of China’s top five manufacturers of injection moulding machines.

Volvo, Nissan, Ford, Toyota and Hyundai are among automakers either using or planning to use megacasting in their production operations. Volvo Cars represents perhaps the most significant Western adoption beyond Tesla.

The first Volvo car to use megacasting as part of its production is expected to be the all-electric Volvo EX60. The cast parts will be for the rear chassis section, made from a single aluminium casting and is expected to confer 15 to 20% section weight reduction. The EX60 makes its debut in January 2026. ■

When you cannot afford to waste time or money: PFERD TOOLS

"End users in the metalworking industry are wasting valuable time and needlessly weakening their productivity and bottom line," says Tobias Zipperer, Product Manager for Tool Drives at PFERD TOOLS, which manufactures tools for work on surfaces and the cutting of materials. "This is unsustainable in an era of cost pressures and a constant demand for greater efficiency."

"We know that at least one parameter isn't quite right in 90% of the applications we come across in our end users' companies," says Zipperer, referring to everyday working life in the metalworking industry. "These companies are wasting money here and causing cost pressures instead of adding value."

The most common mistake made in this respect concerns the choice of drive system. While workers usually choose the tool based on the material being machined and the application in question, when it comes to the drive system many simply use what they already have or have always used. An optimum rotational speed and the correct power output are essential factors for efficient, profitable working.

"A deviation of just 10 to 20% in the rotational speed significantly changes the machining process," explains the Product Manager.

If we then also take a closer look at the choice of tool, we uncover huge potential to increase productivity. “We conducted tests with customers who were using a tungsten carbide burr with a conventional cross cut and a sub-optimal rotational speed, for example. By replacing the drive and using coated burrs with the ALLROUND HC-FEP and STEEL HC-FEP cuts, we soon increased the stock removal, in some cases significantly. We see this every day, and it’s precisely the potential that many companies fail to exploit, in an era when they cannot afford to waste any time or money.”

Holistic advice is key to drawing on these reserves of untapped productivity. “We must understand that milling, grinding and cutting processes involve various different parameters which all have to match one another – the material being machined, the application in question, the tool, and the right drive.” These aspects have to be coordinated with one another in order to ensure an economical process.

In this regard, PFERD TOOLS doesn’t just have the necessary expertise, it also occupies a unique position on the market as no other manufacturer offers the tool and drive from a single source in conjunction with application expertise spanning over 225 years. Time and time again, the company’s customers confirm that a single conversation or test is often enough to deliver major improvements. What’s more, the focus here isn’t just on productivity, as Tobias Zipperer highlights: “We’re also seeing increased interest in improving ergonomics, such as reducing vibrations, noise and dust. That’s usually something we can achieve as well.”

PFERD TOOLS has published a white paper on optimising rotational speeds and processes, which answers many questions and illustrates how customers can exploit their reserves of untapped productivity and save time and money, simply by changing one particular area. The white paper can be downloaded from the PFERD TOOLS website (https://www.pferd.com/your-solution).

For further details contact PFERD South Africa on TEL: 011 230 4000 or visit www.pferd.com ■

Mitutoyo's SurfaceMeasure-S Series sensors optimise in-line inspection with smarter, faster, and more accurate laser sensors

Mitutoyo's SurfaceMeasure-S Series sensors SM0303S and 2929S are an innovative collection of line-laser sensors engineered for in-line inspection. The SurfaceMeasure-S line is a series of smart sensors that use Mitutoyo's unique optical system in addition to our conventional sensor technology. The series delivers measurable advancements in quality and operational efficiency.

Inspect and measure with high accuracy in-line scanning and build a customisable inspection routine with the SurfaceMeasure-S Series. The system features integrated web-based software and offers 2D and 3D scanning, intuitive inspection tools and capabilities to perform operations and dimensional inspections ranging from 2D profile to 3D surface measurements.

The SM0303S, is the high-resolution model in the SurfaceMeasure-S Series. It offers an accuracy of 9 micrometres and a resolution of 13 to 17 micrometres in the X direction. The 2929S features the series' largest field of view and working distance – 292mm wide by 290mm deep – while achieving a scanning accuracy of 65 micrometres.

"The SurfaceMeasure-S Series sensors can seamlessly integrate into existing infrastructure or serve as the foundation to achieve precision in your inspection systems by supporting digital transformation and smart manufacturing initiatives," said Michael Browner, Sensor Product Manager at Mitutoyo America Corp.

Key features of the SurfaceMeasure-S series

- Smart integrated software: Includes tools for measurement, inspection, OCR and barcode reading without external controllers
- High-speed design: IP67-rated with up to 10kHz profile acquisition and part matching for reliable use in any orientation
- Easy configuration: Easy to set up and operate immediately after mounting.

Contact RGC Engineering on TEL: 011 887 0800 or alternatively visit www.rgcengineering.co.za for further details. ■

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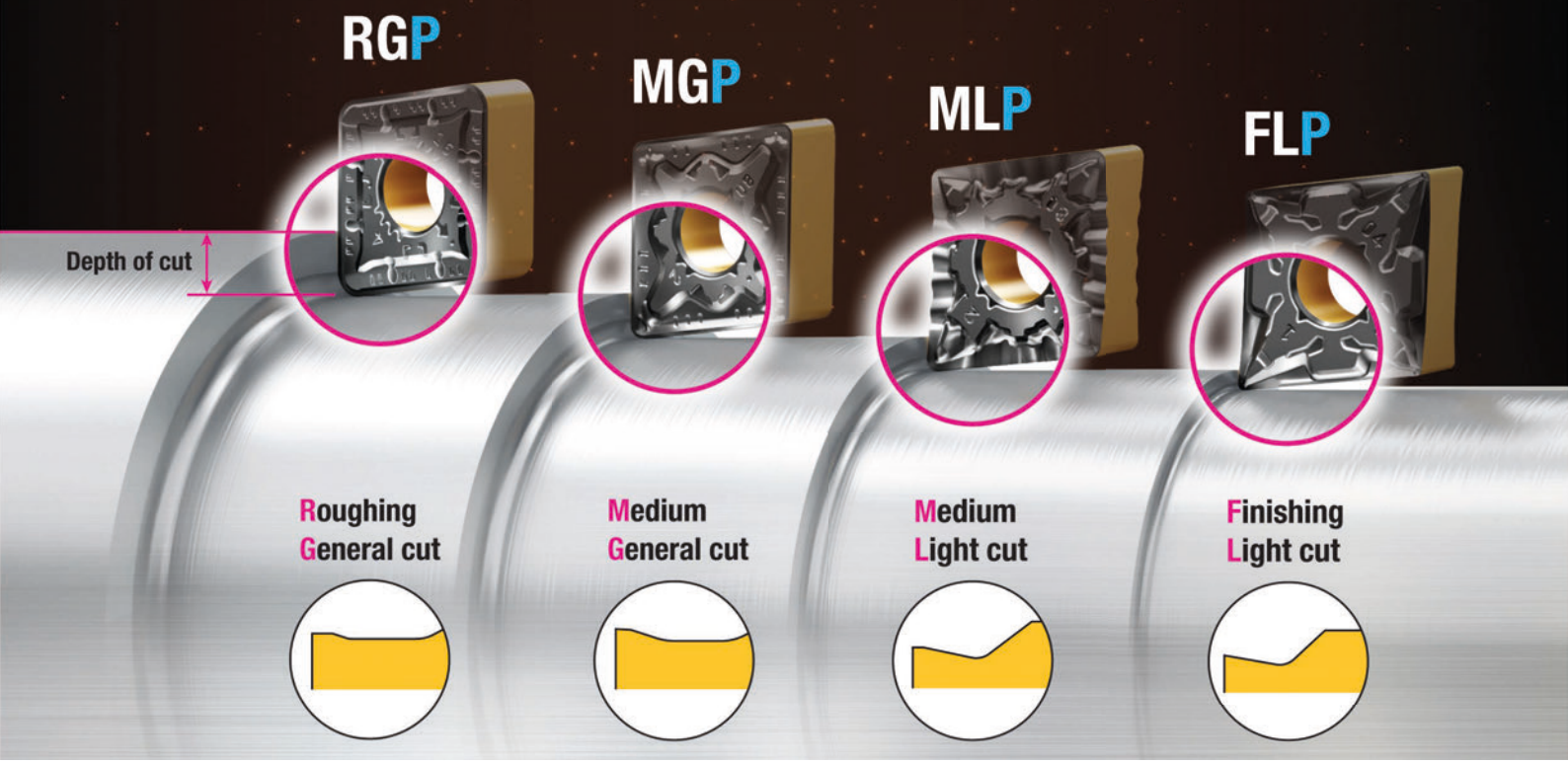

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Why Extending Your Brand Online Matters

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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.

Online Advertising Opportunities

Extend your brand and put your message in context and receive the actionable results needed to grow sales while expanding your brand's digital presence. The castings sa website (www.castingssa.com) includes the latest issue of the publication in both digital and PDF format to download, industry events, international and local exhibitions and links, news, employment opportunities and a showroom giving you details of supplier and metalcasting engineering companies' activities.

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