

castings sa

volume 27 number 2

August 2026

SPECTROPORT LIBS PXL01

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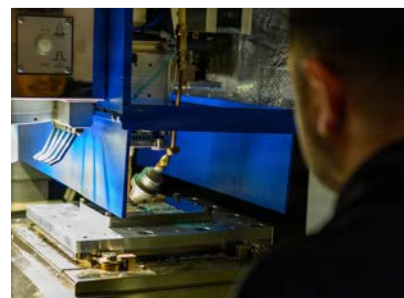
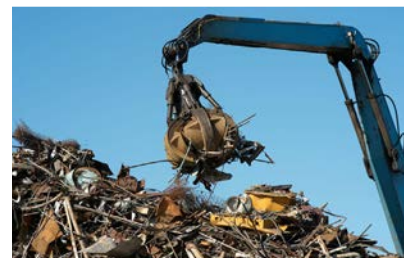
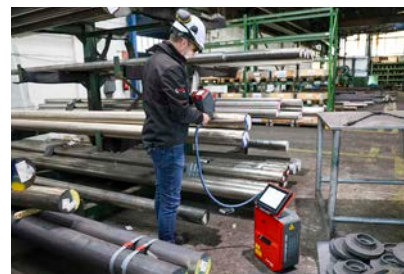
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What's the most important thing in your foundry?



WAIC 2026 – a work robot and artificial intelligence exhibition took place in Shanghai in China this past July. What it showed via the more than 1 000 exhibitors that showcased their technologies is that the era of booth toys is over and humanoid robots are almost ready to do real work. Some already do, but we are still at least a decade away before any kind of mass deployment is likely to take place.

Robots in foundries are not a new concept – Atlantis Foundries has been using heavy duty payload robots and artificial intelligence in its foundry for more than a decade already. But the robots don't and won't know what we know any time soon.

That knowledge resides within the minds of humans and software systems we have built to partially or fully retain processes, yet that information is still to be imparted to an artificial workforce and blue-collar work is going to be around for a while still.

I recently visited a machine shop where the owner wasn't able to be there during the time of the visit. But can I tell you who knew how the entire operation worked? A blue-collar worker who had been working there for 20 years. He knew everything about that shop floor and he knew how to run every machine.

He understood the components he and his team were manufacturing and the critical safety factors involved due to the environments where these components were to be ending up. Showing me one process, he took immense pride running a few programmes on a 5-axis CNC grinder and finished his component to within two microns tolerance. He had five microns to play with, but that wasn't good enough for him. He wanted his component to be as perfect as it could be.

We need to start preserving this knowledge and

transferring it to a younger workforce or it will be lost when people like this retire and leave the industry.

No tertiary education or training institutions can impart this kind of knowledge and experience so it's going to be up to us as an industry to take this one by the horns and find ways to keep safe an industry as old as the metalcasting industry.

I have an idea of this man's background and where he's come from and the kind of life that he lives. He's not wealthy but his skills are priceless and my experience of touring his shop with him wouldn't have happened in the manner that it did if the owner had been there.

And industry will never remember him. He'll have been just another face on a shop floor.

I am not alone in harbouring these views, it was stated at the 34th European Investment Casters Federation EICF Conference held in Seville, Spain in May 2026, that, "The

foundry industry is facing a decisive transformation phase. Its long-term success will depend less on technology alone and more on people, specifically talent attraction, skills development, and knowledge preservation."

"Organisations must foster working environments in which people want to stay, develop, and take responsibility."

But, how do we attract people to the foundry industry? So few people even know what a foundry is, let alone how many critical components foundries produce that we just take for granted in our daily lives.

The closing message at the EICF Conference was that, "the foundry industry must communicate its value more effectively both externally to attract talent and customers, and internally to strengthen engagement among employees and leadership alike. Companies that succeed in attracting people, preserving knowledge, and deliberately shaping their culture will not only secure their own future, but also enhance the long-term resilience of the industry as a whole."

This publication will continue do its bit as it always has. What are you doing to help?

The foundry industry is facing a decisive transformation phase. Its long-term success will depend less on technology alone and more on people, specifically talent attraction, skills development, and knowledge preservation

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.

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Office bearers elected at 2026 AGM

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Upcoming SAIF Events for 2026

SAIF Annual Golf Day:
November 2026 at
Benoni Country Club

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SPECTRO introduces SPECTROPORT LIBS PXL01 portable OES metals analyser

SPECTRO Analytical Instruments has introduced the SPECTROPORT LIBS PXL01 portable OES metals analyser for metals analysis in the field. When testing the elemental makeup of metals in the field or at the worksite, mistakes matter. An alloy ID error at a pipeline or shipping dock can miss a bad weld, require a batch rework, or trigger a lost contract. Accurate measurements of carbon (C) are critical to identifying many low alloy steels. And while handheld LIBS analysers can extend elemental coverage beyond XRF limits in some cases, their ability to measure light elements remains restricted – handling carbon only partially, and phosphorus (P) and sulphur (S) typically not at all.

The SPECTROPORT LIBS PXL01 portable OES metals analyser has no such limitations. It delivers reliable, on-site identification and concentration of these three key light elements, and more.

Based on LIBS technology, a type of optical emission spectroscopy (OES), the SPECTROPORT LIBS expands SPECTRO's portfolio of mobile metal analysers and bridges the gap between handheld and mobile devices. Its split-body design enables it to surpass the performance of handheld XRF analysers, and even most newer LIBS handheld instruments. So, it provides accurate identification, verification, and determination of concentrations of most alloys, rapidly and reliably, right on the spot.

The analyser boosts productivity via broad elemental coverage plus fast measurements within just two to six seconds. It also consumes a fraction of the argon that traditional mobile or portable arc/spark systems require. Results: The right mix of power, portability, and usability that today's applications demand for reliable metals identification, right in the field.



SPECTRO Analytical Instruments has introduced the SPECTROPORT LIBS PXL01 portable OES metals analyser for metals analysis in the field

Long-lasting quick-change batteries

For transportability, the SPECTROPORT LIBS PXL01 can be configured with two replaceable batteries and an ultra-light argon cartridge, all loaded into the instrument body, and a wheeled carrying case. The long-lasting quick-change batteries enable up to 120 measurements per hour (at a six-second measurement time) for up to 4.5 hours of operation when two batteries are installed.

Upcoming mobility offerings include a backpack frame, a docking station for small parts analysis, and a mobile workstation using a standard argon bottle with mains or battery power options. The split-body design incorporates two optical systems, so it can optimise for both shorter vacuum ultraviolet (VUV) and non-VUV element wavelengths. Results: Higher resolution, a greater range of elemental wavelengths, and often lower limits of detection (LODs).

Spark Analyser Pro software

The latest generation of SPECTRO Spark Analyser Pro software – known from SPECTRO's stationary metal analysers – is now also available on the SPECTROPORT LIBS. It empowers ►

users to define testing modes and sample identification fields quickly and intuitively. Clear, predefined views omit unnecessary selections and guide users directly to the task at hand. Operators get straightforward options for applications such as grade identification, grade control, and also pass/fail sorting.

Predefined calibration packages and a SPECTRO-exclusive iCAL 2.0 diagnostics software eliminate repeated standardisations and delays. Perform a single-sample standardisation at the start of testing, and the instrument is set for the day.



The SPECTROPORT LIBS system is available with two probes. The standard probe offers fast, flexible, laser-based performance for routine alloy identification in the field. A second probe option integrates ultraviolet (UV) optics for applications that require reliable measurement of carbon, sulphur, and phosphorus



iCAL diagnostics ensure stable performance throughout a typical day regardless of most temperature shifts.

The SPECTROPORT LIBS PXL01 provides flexible, comprehensive control of metals data management. Its advanced tools accurately and definitively verify, record, and document complete testing results for every field check, every incoming shipment, and every outgoing product. Via WebApp plus PC connections from WLAN/LAN to USB, it offers wide options for data availability on devices throughout the worksite.

Two probes

The SPECTROPORT LIBS system is available with two probes. The standard probe offers fast, flexible, laser-based performance for routine alloy identification in the field.

A second probe option integrates ultraviolet (UV) optics for applications that require reliable measurement of carbon, sulphur, and phosphorus. Both probes also feature a built-in display, so users can run the instrument from the probe and view fast results at the point of measurement. Both probes can be operated with or without argon. Generating an argon-assisted measurement atmosphere supports more stable and sensitive analysis – and with the UV probe, analysis of more elements, such as carbon, phosphorus and sulphur.

AMECARE Performance Services support SPECTRO analytical reliability and uptime through a global network of hundreds of experienced service engineers operating in more than 50 countries.

For more information about the SPECTROPORT LIBS PXL01 portable OES metals analyser, contact SPECTRO Analytical Instruments South Africa on TEL: 011 979 4241 or visit <https://www.spectro.com>



The SPECTROPORT LIBS PXL01 provides flexible, comprehensive control of metals data management. Its advanced tools accurately and definitively verify, record, and document complete testing results for every field check, every incoming shipment, and every outgoing product

Based on LIBS technology, a type of optical emission spectroscopy (OES), the SPECTROPORT LIBS expands SPECTRO's portfolio of mobile metal analysers and bridges the gap between handheld and mobile devices

Foundry Solutions, a small non-ferrous foundry evolves

There are many stories of successful engineering companies emerging where the original owner established his business moonlighting as a result of the desire to increase his earnings with a second income, while still being employed full time. With an ethic of hard work and the aspiration to be successful, the need to expand shop floor space to cater for an increase in capital equipment inventory

needed for new orders and the advent of adding staff, would soon surface and the anticipated expansion could no longer be accommodated in the garage attached to the owner's home where the business was established.

But there are not many examples where a business has been started whilst not having the security of an income while still being employed. The desire to be successful is no less and through circumstance the need to succeed becomes somewhat more pressing.

At the tender age of 25 Paul Britz found himself in a sink or swim position having already been part of the foundry industry for eight years. During this time Paul worked in the family foundry business learning all aspects of sand casting, mainly casting non-ferrous metals. This experience stood him in good stead and was a precursor to him opening up his own foundry in Vereeniging, Gauteng.

"It is never easy in the beginning especially if you reflect on the pressure that you are operating under because very few companies are willing to give a 'rookie' an opportunity. But through experience and long hours you eventually emerge, evolve and more importantly, you gain the trust of your clients because of the quality of work you are producing and supplying. But it does not end there as we all know. You have to constantly face up to the challenges thrown at you and learn how to overcome those obstacles of running a business when they are not amongst your skillset."

"In those early days there was one decision I did make that ultimately allowed me to still be in business 12 years later and expand the business on all fronts."

"I decided that I should concentrate on casting non-ferrous metals and as few variations of castings as possible. This decision led to me focusing the production on manufacturing bushes and liners for the wear parts and spares sections of industry."

"We kept it simple as well because at that stage of my life I did not have the capital to even contemplate purchasing new equipment but



"Our company can produce a full range of non-ferrous castings in both copper and aluminium base alloys, which includes the standard range of materials as defined in the BS1400 spec. These include PB1, PB2, aluminium bronze, HTB's, aluminium alloys, copper alloys including brass, gunmetal, lead alloys including antimonial lead, white metal and virgin lead ingots, speciality metals, tungsten copper, zinc, beryllium copper and chrome zirconium."

managed to get enough money together to buy two 300 kilogramme second-hand furnaces, a couple of second-hand conventional lathes and a bandsaw.”

“Generally speaking, you can’t start casting metal in your garage unlike if your business just involves machining and you have a three-phase power source in your garage. To cast metal in your garage safely and effectively you would have to comply with a number of regulations and also have the blessing of your neighbours.”

“I started Foundry Solutions in 2014 in a relatively small factory in Vereeniging, Gauteng but with an ambition to grow into my own factory. This happened quite quickly. In 2016 we moved to a factory that we had constructed on the smallholding in the Meyerton, Gauteng area where I lived. The factory was not much bigger than a double garage size, which suited our needs at the time.”

“The next few years was a settling down period and a time to establish ourselves in the market. This we did quite successfully, always with us concentrating on quality, delivery and service.”

“Tons per month, clients and staff requirements grew and it led to us building another factory space on the smallholding – but much bigger – 1 000m². We took occupation in 2024 and already we are starting to look at extending the area under roof. This is one of the benefits of working on a smallholding – you have the space to expand.”

“In between we have also invested in a new two ton furnace, which allows us to cast up to 3 tons per casting if you combine the pour with our existing furnaces.”

“Our monthly figure is now up to 25 tons but it is a challenge to keep up this figure currently because of the scarcity of material. We are ordering daily just to keep up with demand.”

“Our company can produce a full range of non-ferrous castings in both copper and aluminium base alloys, which includes the standard range of materials as defined in the BS1400 spec. These include PB1, PB2, aluminium bronze,



Foundry Solutions have invested in a new two ton furnace, which allows the foundry to cast up to 3 tons per casting

HTB’s, aluminium alloys, copper alloys including brass, gunmetal, lead alloys including antimonial lead, white metal and virgin lead ingots, speciality metals, tungsten copper, zinc, beryllium copper and chrome zirconium.”

“Our target market are the gold, platinum, and coal mining industries, as well as material suppliers and engineering companies but it is not limited to these.”

“An interesting new client that we have just acquired an order for is the SA Navy where we will be casting some bronze shafts for them.”

Copper hammers: Jack Hammer

“Another important development in the company is the launch of our own range of copper hammers for the mining industry or any application where spark-resistant copper hammers are required.”

“We have been developing the Jack Hammer, as we call it, with a client that supplies the mining industry over the last eight years. We have now perfected the mechanism of where it is very improbable that the hammer shaft will disengage from the copper hammer head.”

“Copper is a soft, non-ferrous metal that will not cause possible fatal sparks when the strike on the medium takes place unlike steel-on-steel. The soft copper head absorbs the impact and therefore does not create a spark, which is highly important when used in hazardous, combustible environments such as underground mining or other gas-rich areas.”

“There are other advantages for the Jack Hammer such as reduced vibration and noise pollution, it prevents damage to machinery components and they reduce operator fatigue. They are also tough enough to break the medium into smaller, more transportable sizes.”

“We can supply up to 1 000 of these hammers a month in three different variations between



Foundry Solutions is up to 25 tons per month



The company also offers a pre-machining service

1.4 and 6.3 kilograms in weights of the hammer. I don't know what happens to these hammers on the mines but it is a highly consumable component if you look at the numbers."

"We've got an upcoming order for 200 small ones."

Spin casting

"As you saw today four spin casting machines have been delivered to us. We have always done spin casting but on a small scale. Because of the void in this area of casting we have decided to up our game."

"Primarily used in the petrochemical industry, spun cast tubing is designed and manufactured to withstand the enormous pressure and exceedingly high temperatures that come with the chemical processes associated with this industry."

"The two major benefits of casting tubes this way is that they are virtually creep free because the centrifugal force literally 'squeezes' molten metal into shrinkage voids as they are formed, resulting in castings that are very dense, especially when compared to static castings."

"The second major benefit is that there is a secondary refining process. When the centrifugal force spins the more dense material – the metal – to the outside diameter of the molten casting, the less dense material – the non-metallics – spin preferentially to the centre of the tube. These non-metallics can then be easily removed in subsequent machining operations, leaving a very clean, very dense end product."

"We are able to offer from 100mm OD to 500mm OD x 600mm long with the four spin casters."

For further details Contact Paul Britz of Foundry Solutions on TEL: 084 724 3333 or visit <https://main.foundry-solutions.co.za> ■



Foundry Solutions' target market are the gold, platinum, and coal mining industries, as well as material suppliers and engineering companies but it is not limited to these



"We have been developing the Jack Hammer, as we call it, with a client that supplies the mining industry over the last eight years. We have now perfected the mechanism of where it is very improbable that the hammer shaft will disengage from the copper hammer head."

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SUPPLIES

UJ-MCTS release findings on recently completed survey of statistical analysis of ductile iron quality and consistency in South African foundries

The project also looked at potential applications of AI as an improvement tool.
Eight foundries participated.



Picture for illustration purposes courtesy Ductile Iron Organisation. Ductile iron castings represent approximately 12% of South Africa's total foundry output, corresponding to an estimated 47 000 tons annually across 170 foundries according to the Metal Casting Technology Station at the University of Johannesburg study

The Metal Casting Technology Station at the University of Johannesburg (UJ-MCTS) recently completed a statistical analysis of ductile iron quality and consistency in eight South African foundries. The project also looked at the potential applications of AI as an improvement tool.

“Downstream machine shops and original equipment manufacturers (OEMs) raised legitimate concerns regarding the consistency of locally produced ductile iron castings, particularly around machinability and mechanical properties. These inconsistencies have measurable business consequences, contributing to reduced productivity and, in some cases, a preference for imported castings over local alternatives, placing additional pressure on an already strained foundry sector and hastening foundry closures,” explained Daniel Sekotlong, A Technical Signatory at UJ-MCTS.

“Ductile iron castings represent approximately 12% of South Africa's total foundry output, corresponding to an estimated 47 000 tons annually across 170 foundries. This equates to an average production of just over 270 tons per foundry per year, with an estimated annual value exceeding R14 million per facility. These castings are primarily supplied to the mining, automotive, and agricultural sectors, where reliable and consistent mechanical performance is critical.”

“Given the strategic importance of ductile iron to the South African foundry industry, this study provides the sector's first comprehensive, multi-foundry, data-driven

assessment of production consistency.”

“The findings reveal a dual reality: quality and cost variability driven partly by process-related gaps at foundry level, and partly by structural, industry-wide challenges tied to South Africa's steel scrap feedstock and energy cost environment. Beyond the aggregated industry analysis presented in our findings, each participating foundry also received a tailored set of quality improvement recommendations based on its individual results, ensuring the study delivers practical value at both sector and facility level, in line with UJ-MCTS' mission of bridging academic research and industry application.”

“The UJ-MCTS aims to contribute to the competitiveness of the South African metal casting industry through the development and transfer of specialised knowledge and technology, fostering interaction and innovation between industry and academia. This study forms part of that broader mandate, applying rigorous, data-driven research to a pressing industry challenge.”

Eight South African foundries participated in the study, during which more than 290 ductile iron castings conforming to SABS 936 Grade (SG 42) were collected and tested.

Over 1 500 tests were conducted using a range of standardised methods, including tensile testing (ASTM E8/E8M), carbon and sulphur determination by combustion (ASTM E1019), Brinell hardness testing (ASTM E10), and

computer-aided microstructure analysis (ASTM A247 and ASTM E2567).

Chemical composition analysis was conducted using MCTS's recently acquired LECO GDS900 optical emission spectrometer, which enabled rapid and precise determination of elemental concentrations including manganese (Mn), copper (Cu), sulphur (S), and magnesium (Mg) across all collected samples, in line with ASTM E415. This investment in advanced analytical capability strengthened the accuracy of the chemistry-based findings underpinning the study's conclusions.

Computer-aided microstructure analysis enabled the conversion of subjective visual observations of microstructural features into objective, quantitative measurements. A cloud-based input/output data management system, termed the Cast-Iron Information System (CIFS), was established at each foundry to facilitate the collection and correlation of operational and laboratory data. Operational data and laboratory samples were collected during the manufacturing process at the foundries, while laboratory test data were subsequently generated from the collected samples at the MCTS testing facilities. In addition to the aggregated industry findings, individual results were compiled into foundry-specific reports, forming the basis of the tailored improvement recommendations issued to each participant.

Laboratory samples were collected on a per-batch basis using a stepped specimen geometry incorporating an ASTM E8/E8M tensile test specimen. The stepped design facilitated analysis across section thicknesses ranging from 3mm to 52mm. However, only the 25mm section, corresponding to the standard SABS 936 keel block, was considered in this study.

Findings

"South African foundries face a dual competitiveness challenge: elevated and volatile energy and input material costs at industry level, combined with process-related quality gaps at individual foundry level."

"Substantial quality variation was observed across participating foundries, with strength performance often achieved at the expense of elongation indicating opportunities for improved melt treatment and process control."

"Ferrite fraction levels were lower than the SG 42 target range, driven by a combination of South Africa's available steel scrap chemistry and insufficient process correction at foundry level."

"Manganese-related variability stems from both an industry-wide feedstock constraint and inconsistent charge calculation and scrap blending practices between and within foundries."

"Nodularity levels were below typical SG 42 expectations, likely reflecting a combination of process variables and feedstock-related trace elements that warrants further investigation."

Challenges and observations

"Six out of eight participating foundries rely solely on chemical analysis for material verification prior to casting, while two supplement this with metallographic evaluation limited to manual nodularity counting a process that is time-

consuming and susceptible to human error. Foundries conducting metallographic analysis often struggle to justify the associated costs, meaning such assessments are frequently performed only after production, typically in response to specific customer requirements."

"Additionally, the inherent delay between production and the availability of mechanical test results constrains manufacturers' ability to promptly identify non-conformances and implement corrective action. Together, these observations point to real, addressable process gaps in quality assurance infrastructure gaps that exist alongside, and are compounded by, the industry's broader steel scrap and energy cost pressures."

Individual foundry recommendations

"In addition to the aggregated, industry-level findings presented above, each of the eight participating foundries received a confidential, facility-specific report benchmarking its performance against the SABS 936 Grade SG 42 requirements and against the broader industry dataset. These reports included targeted recommendations addressing each foundry's specific quality gaps whether related to alloy addition and charge calculation practices, melt treatment

and modularisation technique, or metallurgical testing frequency and capability. This individualised feedback loop ensures that participating foundries can act on concrete, foundry-specific improvement steps, while the sector-wide findings in this article inform broader industry and policy-level engagement on shared challenges such as steel scrap supply and energy costs."

Proposed AI solution/s

"Given the extent of the work undertaken and the volume of data generated, UJ-MCTS further assessed the potential of available AI tools for application in foundries to support the prediction of mechanical properties using

microstructural and process data."

"Preliminary findings indicate that publicly available Large Language Models (LLMs) can utilise leading production and quality variables including casting geometry, alloy chemistry, pouring temperature, and microstructural data to predict mechanical performance with respectable accuracy and repeatability. Foundries can immediately leverage these tools to support prediction of yield strength, UTS, and elongation, with accuracy improving as more operational and metallurgical data is incorporated offering a practical, low-cost route to closing some of the process gaps identified above."

"Where data privacy and intellectual property protection are key considerations, foundries can instead deploy open-source AI models on local infrastructure, though these require model configuration, training, and validation before delivering reliable results."

"Each participating foundry received individualised, data-driven recommendations addressing its specific quality gaps, enabling targeted process improvements alongside the sector-wide findings presented."

A full version of the study is available from the Metal Casting Technology Station at the University of Johannesburg. For more information contact TEL 011 559 6952 or email mcts@uj.ac.za.

"The UJ-MCTS aims to contribute to the competitiveness of the South African metal casting industry through the development and transfer of specialised knowledge and technology, fostering interaction and innovation between industry and academia. This study forms part of that broader mandate, applying rigorous, data-driven research to a pressing industry challenge."

New NAACAM-ILO study calls for urgent action to secure jobs and competitiveness in South Africa's automotive transition

South Africa's transition to new energy vehicles (NEVs) presents one of the most significant industrial shifts facing the country's automotive sector in decades, the National Association of Automotive Component and Allied Manufacturers (NAACAM) has said in a media release. Whether that transition results in industrial growth or manufacturing decline will depend on the policy choices and investments made today.

To support informed decision-making, NAACAM, in partnership with the International Labour Organisation (ILO), has launched a new research study examining the employment impacts of South Africa's transition from internal combustion engine vehicles (ICEVs) to new energy vehicles (NEVs). The study provides a practical roadmap for industry, government and labour to manage the transition while strengthening the competitiveness of South Africa's automotive component manufacturing sector.

The research highlights both the risks and opportunities facing the industry. Under a severe transition scenario, South Africa's shift to NEVs could place an estimated 8 200 direct jobs at risk between 2025 and 2035. At the same time, the study finds that with the right industrial policies and investment incentives, South Africa has the potential to create approximately 3 370 direct jobs through the localisation of selected new energy vehicle components, including high voltage wire harnesses, thermal management systems and hydrogen fuel cells.

The study also highlights the importance of preparing the workforce for the technologies that will shape the next generation of vehicle manufacturing. While many skills currently used in ICEV component production remain relevant, they will increasingly need to be complemented by capabilities in robotics, artificial intelligence, advanced manufacturing, green production techniques and specialised NEV technologies. The research concludes that South Africa's skills development ecosystem remains at a basic level of readiness and requires significant investment to meet future industry demand.

Importantly, the report finds that South Africa already has production capability that could be adapted to manufacture several priority NEV components. Realising this opportunity, however, will require stronger demand and supply-side incentives and accelerated investment in skills development and production capability. Stakeholder consultations also revealed that many local component manufacturers are not yet planning to diversify into NEV component production, citing policy uncertainty, logistical challenges and limited investment incentives as key constraints.



What castings will be used in NEVs going forward. Picture from BYD for illustration purposes

The study recommends six priority actions to support a competitive and inclusive transition:

- Introduce demand-side incentives to accelerate local NEV adoption.
- Strengthen supply-side incentives to encourage investment in component manufacturing.
- Conduct workforce skills audits and establish structured training pathways.
- Expand accredited NEV curricula, training infrastructure and specialist teaching capacity.
- Strengthen the future talent pipeline through improved matric completion and technical education.
- Provide appropriate income support and reskilling opportunities for workers displaced during the transition.

The research was informed by extensive engagement with component manufacturers, vehicle manufacturers, organised labour, government, industry associations, training providers and community stakeholders. It combines employment impact modelling with future skills forecasting to provide practical recommendations for building a resilient, competitive and inclusive automotive industry.

As governments and manufacturers around the world accelerate the transition to cleaner mobility, NAACAM believes South Africa has an important role to play in, and a significant opportunity within, the NEV transition. However, becoming a competitive production location for NEV components will require a well-coordinated effort among all relevant stakeholders to ensure the country's skills base is prepared to support the transition.

Eds comment: On a recent business trip in the Gauteng area the hire car assigned to us was an imported crossover hybrid from the East. I was shocked to calculate that after only doing 424kms the consumption was close to 15 litres per 100kms. Not as economical as we thought it would be. ■

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Rewriting the rules of buying

— smarter local buying could reboot South Africa's manufacturing sector

South Africa's manufacturing sector has become largely stagnant, with years of factory closures, shrinking order books, rising input costs and erratic demand hollowing out industrial capacity that once anchored hundreds of thousands of jobs.

Yet this decline is not inevitable. With smarter localisation, clearer procurement rules and a more deliberate industrial strategy, public spending could again become a powerful engine for rebuilding factories, expanding supply chains and restoring confidence in South Africa as a place that makes things.

For Mervyn Naidoo, CEO of the ACTOM Group, the problem is not a lack of opportunity but a lack of coherence. "Public procurement is too often fragmented and inconsistent. Contracts are awarded for short periods, with no guarantee of continuity or commitment to local industry," he argues.

"Nobody is going to invest in long-term capacity, automation, or technology upgrades when demand is uncertain. The result is predictable, as imports fill the gap, local factories sit under-utilised, and the country loses skills, tax revenue, and jobs," he said.

A different approach is possible

Naidoo points to the Transmission Development Plan as an example of long-term visibility already in place.

"With a 15 to 20-year pipeline of grid infrastructure ahead, South Africa has a rare opportunity to use this demand to rebuild domestic manufacturing. If government paired this pipeline with firm local-content rules, long-horizon contracts, and sector designation, companies would have the confidence to invest in new plants, expand capacity and train workers."

"ACTOM's acquisition of SGB SMIT's Pretoria transformer factory illustrates the potential. The plant has four times the capacity of ACTOM's Wadeville facility, yet it is running at only a quarter of its potential while imported transformers continue to enter the market. Properly structured procurement could reverse this imbalance."

Policy to secure industrial capabilities

Dr Tebogo Makube, Acting Deputy Director General at the Department of Trade, Industry & Competition (the DTIC), emphasises that localisation is a policy tool used worldwide to secure industrial capabilities.

"South Africa's challenge is that the current procurement framework places overwhelming weight on price. Under the 80/20 and 90/10 systems, price accounts for up to 90% of the evaluation," he explained.

"This makes it extremely difficult for local manufacturers, who face higher electricity tariffs, unreliable municipal services and rising logistics costs, to compete against imports from countries with lower input costs or state-supported industries," he said.

"Localisation must apply across procurement methods. Whether a project is delivered through EPC contractors, public-private partnerships or direct departmental procurement, if public money is being spent, local content rules should apply. This clarity is essential to prevent loopholes that allow imported products to bypass designation," he added.

Makube stresses that the Preferential Procurement Act of 2024 intends to rebalance this equation. "Once regulations are finalised, designated products will again require minimum local-content thresholds as a first-stage evaluation criterion. Bids that do not meet these requirements will not proceed to price evaluation."

Heavy reliance on public procurement

For Tafadzwa "Taffie" Chibanguza, CEO of the Steel and Engineering Industries Federation of Southern Africa (SEIFSA), the stakes are even broader.

"The metals and engineering value chain relies heavily on public procurement. Across the sector, roughly a quarter of domestic sales come from the public sector, and in some subsectors the figure exceeds 60%. When procurement is inconsistent, the entire ecosystem suffers," he said.

"Localisation is not a barrier to global competitiveness but a prerequisite for it. Many manufacturers are operating at 50 to 70% capacity, with fixed costs spread across too few orders. When public procurement lifts utilisation, companies can reduce per-unit costs, improve efficiency and become more competitive internationally. Localisation, in this sense, is a platform for export readiness, not a retreat from global markets," said Chibanguza.

"The multiplier effects are often ignored in procurement decisions. A locally manufactured transformer supports upstream steel and copper producers, downstream fabricators, logistics providers, engineers and service centres. These economic linkages far exceed the value of the final product and are lost entirely when imports replace local production."

Procurement system should drive expansion

Localisation is not about closing the economy; it is about using the state's purchasing power to build a stronger, more competitive manufacturing base that can serve both domestic and export markets.

"Ultimately, South Africa does not lack industrial capability. It lacks a procurement system designed to nurture and expand it. With clear rules, long-term visibility and firm designation, public spending can again become a catalyst for investment, job creation and industrial renewal."

"Rewriting the rules of procurement is not a technical exercise. It is a strategic choice about the kind of economy South Africa wants to build. One where factories are busy, skills are deepened, and public money works harder for long-term growth." ■

"Rewriting the rules of procurement is not a technical exercise. It is a strategic choice about the kind of economy South Africa wants to build. One where factories are busy, skills are deepened, and public money works harder for long-term growth."

AMSA spins positive outlook in recent results announcement

Talks with IDC continue.

In its recent results released for the six months ended 30 June 2026, JSE-listed ArcelorMittal South Africa (AMSA) reported continued progress in repositioning the business despite exceptionally difficult market conditions characterised by weak domestic demand, elevated imports and global steel overcapacity.

The SENS announcement continued: “Over the past eighteen months, the Company has fundamentally reshaped its operating model through decisive actions aimed at improving sustainability and competitiveness. The placement of the long steel business into care and maintenance, together with procurement savings, reliability improvements, fixed-cost reductions and operational simplification, is beginning to deliver tangible results.”

“Crude steel production declined by 35% or 5% on a like-for-like basis (excluding the effect of the Newcastle closure), and revenue decreased by 30% or 1.4% on a like-for-like basis (excluding the effect of the Newcastle closure). The underlying performance of the business continued to improve. Quarterly EBITDA performance strengthened significantly from a loss of R1.1 billion in the third quarter of 2025 to near break-even levels in the second quarter of 2026, reflecting the benefits of the turnaround initiatives already implemented.”

“The South African steel market remained under pressure during the reporting period. Although apparent steel consumption increased by 2% to approximately 1.3 million tons, imports continued to account for 47% of domestic demand, constraining local industry growth and placing significant pressure on producers. Total steel sales volumes declined by 28% to 758 000 tons following the closure of Newcastle Works, while flat steel sales volumes increased by 3% to 684 000 tons, demonstrating resilience in core customer markets.”

“Government efforts to strengthen trade protection measures and support localisation gained momentum during the period. ArcelorMittal South Africa continues to engage actively with policymakers and industry stakeholders to improve the competitiveness and sustainability of the domestic steel industry.”

“The Company reported an EBITDA loss of R409 million, while headline loss increased to R1.49 billion. Free cash outflow for the period amounted to R1.2 billion, reflecting elevated inventory levels, the wind-down of the Longs operations and the close-out of a legacy supplier financing facility. Net borrowings increased to R7.9 billion.”



“Shareholders are referred to the various cautionary announcements released on the Stock Exchange News Service of the JSE Limited, the most recent being released on 16 July 2026, in which we advised that discussions between ArcelorMittal South Africa, ArcelorMittal Group, and the Industrial Development Corporation Limited (IDC) continue in respect of a potential transaction, and after some delay in the anticipated timelines, the parties are now at an advanced stage to finalise agreement regarding the potential transaction. The discussions remain subject to the conclusion of definitive agreements and receipt of various approvals. Further announcements will be made in relation to these matters as and when appropriate.”

“Looking ahead, market conditions are expected to remain challenging during the second half of 2026. However, increased infrastructure investment, anticipated policy support, fair-trade measures and continued operational improvements are expected to provide growing support to the steel value chain and improve industry prospects into 2027.”

“The Company will continue to focus on cost competitiveness, productivity improvements, energy and logistics optimisation, and unlocking value from non-core assets and operations currently under care and maintenance. Safety remains the Company's highest priority as it continues its journey towards Zero Harm.”

Commenting on the results, Chief Executive Officer, Kobus Verster, said: “Although market conditions remain exceptionally difficult, the business we have today is significantly stronger than it was eighteen months ago. The difficult decisions we have taken are beginning to deliver measurable improvements in our underlying performance. Our priority remains completing the turnaround, restoring sustainable profitability and positioning ArcelorMittal South Africa for long-term success.” ■

Toyota's R10.4 billion investment in its KwaZulu-Natal manufacturing plant is a confidence booster

A recent press release by Toyota South Africa Motors (TSAM) confirms the automaker's R10.4 billion investment at their Prospecton manufacturing plant outside Durban in KwaZulu-Natal. This investment follows the brand's launch of the 9th generation Toyota Hilux, which will be built at this plant.

This investment is crucial for Toyota. Not only does this mark Toyota's largest investment in the South African market by far but also highlights the brand's commitment to this market. For years, Toyota has been a national leader in automotive sales. The Toyota Hilux has recently been reported as the country's best-selling bakkie and also the best-selling car for June 2026. The South African built Hilux is exported to 74 different countries across Europe and Africa.

According to Toyota: "The investment reinforces Toyota's long-term commitment to South Africa as a globally competitive automotive manufacturing hub. Additionally, it bolsters the country's position within Toyota's international production network." Since the opening of the Prospecton Plant in Durban, the plant has manufactured over 2.9 million Hilux's alone. The Hilux has also shown to provide extensive job creation, with 4 300 direct Hilux employees at the Prospecton plant. Essentially, the Toyota Hilux does not just represent Toyota, it represents South Africa as a global automotive manufacturer.

"The ninth-generation Hilux is not simply the next Hilux. It is the next chapter in South African manufacturing. Every new generation presents an opportunity to elevate our technology, strengthen our supplier base, deepen localisation, develop our



people and improve the competitiveness of our operations. The R10.4 billion investment reflects Toyota's enduring confidence in South Africa, its people and its manufacturing future," said TSAM CEO Andrew Kirby.

Where is the R10.4 billion going to be spent

This R10.4 billion investment by TSAM is expected to be utilised in three areas of the Prospecton plant. These include a new 29 300m² Toyota logistics centre, a state-of-the-art chassis frame coating facility and a new chassis frame welding facility, scheduled for completion in June 2027.

R3.2 billion of the investment has been directed to the local supplier development, as well as supporting localisation objectives. Toyota will also invest a further R7.2 billion into the 9th generation Hilux alone, which will be utilised for manufacturing equipment and supplier tooling. Toyota's supplier partners have also invested an additional R2 billion in their own facilities, tooling and capability development. ■

South32 sells its main aluminium business to Alcoa

Ditching aluminium for base metals: Betting big on copper.

Alcoa will acquire South32's interests in Worsley Alumina, Hillside Aluminium, MRN bauxite mine (subject to exercise of pre-emptive rights held by MRN's partners), Brazil Alumina refinery and Brazil Aluminium smelter, under the Transaction.

South32 has signed a binding conditional agreement (Agreement) to sell its aluminium value chain assets to Alcoa Corporation (Alcoa) for an implied enterprise value of up to US\$5.6 billion (the Transaction). Alcoa will acquire South32's interests in Worsley Alumina (86%), Hillside Aluminium (100%), MRN bauxite mine (33%) (subject to exercise of pre-emptive rights held by MRN's partners), Brazil Alumina refinery (36%) and Brazil Aluminium smelter (40%), under the Transaction. Alcoa will also assume related rehabilitation provisions of approximately US\$1.2 billion.

Mozal Aluminium is excluded from the Transaction and remains on care and maintenance, with divestment under active consideration.

The Transaction's implied enterprise value of up to US\$5.6 billion comprises:

- US\$3.1 billion in upfront cash consideration;
- US\$1.0 billion in Alcoa shares, in the form of 17.0 million Alcoa shares at the 10-day volume weighted average price;
- US\$750 million in net debt and lease liabilities to be assumed by Alcoa; and
- up to US\$750 million in contingent cash consideration, linked to alumina and aluminium prices to 2030.

CEO transition

With this Transaction, Matt Daley has commenced as Chief Executive Officer and Managing Director of South32. This marks the completion of the company's previously announced CEO transition plan.

Graham Kerr, Inaugural South32 CEO said: "This Transaction will unlock significant value for shareholders and repositions South32 as a leading upstream base metals focused company with high-margin assets and transformational growth.

"The sale of our aluminium value chain assets to Alcoa for up to US\$5.6B will deliver significant upfront proceeds while ►

retaining upside to commodity price strength through price-linked consideration. This Transaction sees us unlock and capture our share of material synergies from combining our respective alumina businesses in Western Australia.”

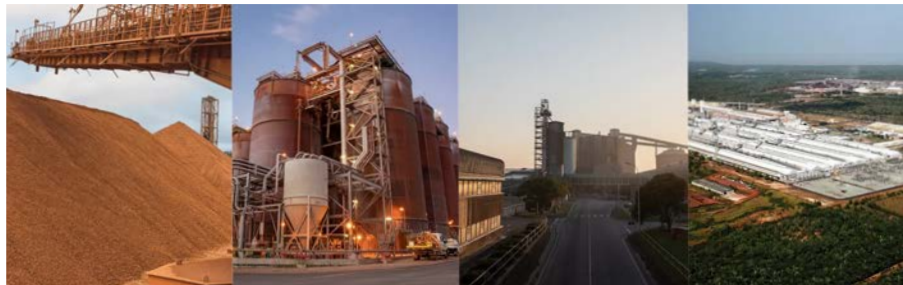
Graham Kerr will continue as a strategic advisor to support engagements related to the Transaction.

Matt Daley, South32 CEO, said: “Following completion, our portfolio will be focused on high-quality, long-life assets leveraged to attractive market fundamentals, with approximately 85% of pro-forma EBITDA from base and precious metals.

“From this strong platform, our peer leading, funded growth profile is expected to deliver approximately 55% production growth from our Taylor project and Sierra Gorda’s fourth grinding line expansion. Our deep pipeline of copper and zinc growth options in study and exploration phases provide additional upside.”

“Our business will be simpler with a portfolio of higher margin upstream operations, reduced complexity and greater resilience. This will enable a leaner, lower cost operating model that will deliver ongoing value through an anticipated US\$125 million per annum reduction in overhead costs as new support structures are implemented.”

“The Transaction further strengthens our balance sheet, enhancing our capacity to invest in high-returning growth projects and deliver shareholder returns. Following completion, an initial return of approximately US\$500 million will be delivered to South32 shareholders through an in-specie distribution of half the equity consideration received, as a fully-franked special dividend. Additional shareholder returns will be considered



following completion.”

“Under Alcoa’s ownership, the assets will be part of a global aluminium value chain business. Together with Alcoa, we are committed to working closely with our people, communities, government and other stakeholders to support a successful ownership transition.”

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RASA lodges further complaint with Competition Commission over alleged coordinated market manipulation in the scrap metal sector

The Recycling Association of South Africa (RASA) has submitted additional evidence to the Competition Commission regarding alleged coordinated and anti-competitive conduct in the ferrous scrap metal market.

In its media release RASA says: “The evidence relates to the extended blocking of export permit applications by dominant buyers, followed by the use of brokers to signal and coordinate significant price movements. This conduct appears to have been designed to suppress prices at the collection gate through the manipulation of market conditions.”

Details of the alleged conduct

“For a period exceeding two months, dominant buyers systematically blocked export permit applications, effectively denying sellers access to the export market. Although there was no physical shortage of scrap, the number of realistic buyers in the domestic market was dramatically reduced.”

“This created conditions of artificial monopsony, giving the dominant domestic purchasers significantly greater power to dictate prices and terms.”

“On 18 June 2026, a notice was issued through brokers announcing a substantial price reduction of R800 per ton across all grades, effective 1 July 2026. This would have amounted to a massive once-off 25% drop in domestic ferrous scrap prices and was not aligned with international market benchmarks.”

“At the end of June 2026, the actual price reduction implemented by the dominant buyers was only R250 per ton. Several other buyers did not follow the full extent of the announced reduction.”

“On 9 July 2026, the same dominant buyers increased their buying prices by exactly R200 per ton on the same day. This coordinated price increase was again communicated through brokers and occurred against international market movements, making the behaviour even more suspicious.”

Broader context and impact

“This latest conduct forms part of a longer pattern of alleged abuse of the Price Preference System (PPS). Government’s own socio-economic analysis found a R4.9 billion transfer of wealth in 2023 from formal metal recyclers and approximately 400 000 informal waste pickers to a small number of domestic mini-mills. The recycling sector has lost more formal jobs since 2010 than the mini-mills employ in total, with the policy producing a regressive outcome that harms the poorest participants in the value chain.”

“The combination of export permit blocking, interprovincial



The Recycling Association of South Africa (RASA) has lodged a further complaint with Competition Commission over alleged coordinated market manipulation in the scrap metal sector

transport burdens (where sellers must carry the full cost of delivery, often rendering transactions uneconomical), and coordinated price signalling has severely undermined competition and suppressed prices at the collection gate. Even some buyers have acknowledged that the current structure of the PPS makes many interprovincial transactions commercially unviable.”

“The metal recycling associations have called on the Competition Commission to urgently investigate these practices. They have also requested that the Department of Trade, Industry and Competition (DTIC) and the International Trade Administration Commission (ITAC) implement their own earlier recommendation to suspend the PPS pending an independent investigation into system manipulation.”

Geoff Borrajeiro, Chairperson of RASA

“Dominant buyers continue to use the regulatory framework of the PPS not for genuine local beneficiation, but to manipulate market conditions to the detriment of the upstream sector and hundreds of thousands of informal waste pickers,” said Geoff Borrajeiro, Chairperson of RASA.

“We have provided detailed evidence to the Competition Commission and call on the authorities to act decisively to restore fair competition and protect vulnerable participants in the value chain.”

The release ends with: “The associations remain committed to constructive engagement with government while continuing to advocate for a transparent, equitable and sustainable scrap metal policy environment.”

MRA says the future of metal recycling depends on inclusion

In a recent statement posted on the Metal Recyclers Association (MRA) website the association says South Africa's metal recycling industry has long relied on a diverse network of participants, from large recycling companies to small businesses and informal collectors. Together, they play an important role in recovering valuable materials, supporting local manufacturing and contributing to the country's circular economy.

As discussions continue around policies affecting the recycling sector, it is important that the long-term sustainability of the entire value chain remains a priority.

This includes recognising the contribution of informal collectors, who are often the first link in the recycling chain and play a vital role in diverting recyclable metals away from landfill. Equally important is creating a regulatory environment that enables businesses of all sizes to participate and invest with confidence.

Creating a more inclusive recycling industry benefits everyone. When all participants can operate in a sustainable

environment, the industry is better positioned to improve collection rates, increase recycling volumes and create economic opportunities across South Africa.

"The strength of South Africa's metal recycling industry lies in the people who make it work every day. From informal collectors to established recycling businesses, every participant plays an important role in keeping valuable materials in

circulation. As the industry continues to evolve, it is important that policy supports an inclusive, sustainable recycling ecosystem that creates opportunities across the entire value chain," says

Quintin Starkey, Committee Member of the Metal Recyclers' Association of South Africa (MRA).

For the MRA, building a resilient recycling industry means creating an environment where all participants can contribute to the circular economy. By supporting inclusion, collaboration and responsible recycling practices, South Africa can strengthen both the environmental and economic benefits of metal recycling for years to come.

"The strength of South Africa's metal recycling industry lies in the people who make it work every day."



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Regulation of the scrap metal industry in South Africa: Economic contributions and challenges

In The Chartered Institute for Business Accountants' (CIBA) Accounting Weekly, a digital publication for accountants and finance professionals across Africa, covering key developments in tax, accounting standards, business advisory, and regulatory compliance, said readers are reminded of the regulation of the scrap metal industry in South Africa.

"The scrap metal industry plays a crucial role in South Africa's economy, contributing significantly to the country's gross domestic product (GDP). However, this sector is fraught with challenges, particularly regarding theft of valuable metals like copper and steel. This article explores the economic contributions of the scrap metal industry, the extent of losses due to metal theft, and the impact of these activities on small and medium-sized enterprises (SMEs)."

Contribution to the economy

"The scrap metal industry in South Africa is a vital component of the manufacturing and industrial sectors, recycling materials that are essential for various manufacturing processes. According to industry estimates, the sector is said to contribute in excess of R15 billion per year to the country's GDP. It employs approximately 300 000 people which makes it a significant contributor to the national economy. By recycling metals, the industry helps conserve natural resources and reduce environmental impact, further supporting sustainable economic practices."

Losses due to metal theft

"Metal theft, particularly of copper and steel, poses a significant challenge to the industry. The South African Police Service and various industry reports indicate that the country loses an estimated R47 billion per year due to copper theft. The continuous stripping of copper cables causes not only economic loss but also severe disruptions to these critical services. This is especially problematic due to its high value and extensive use in electrical and telecommunication infrastructure."

Regulation and Government intervention

"To improve the scrap and waste metal trade's regulatory framework, the Minister of Police published draft regulations on 12 July 2024, amending the Regulations for Dealers and Recyclers under the Second-Hand Goods Act 6 of 2009 (www.gov.za)."

"This is to assist in the implementation strategy of the amendments gazetted by the Minister of Trade, Industry, and Competition."

"He has invited the public to share comments on the proposals. Currently, only buyers are required to register under the SHGA, but going forward, sellers must also comply. Waste pickers will likely be exempted, except for copper scrap and waste metal."



Enhanced registration requirements

"Registration as scrap and waste metal buyers and sellers will only be granted to businesses that have a satisfactory tax compliance status."

Enhanced reporting requirements

"An input-output reporting system via the Metal Trading System was implemented for purposes of compliance monitoring and for monitoring exports of scrap and waste metal and semi-finished products."

"This system will require monthly electronic reports from scrap and waste metal dealers, detailing purchases and sales by volume and value to International Trade Administration Commission. Reports will include specific details like purchase date, metal type and grade, tonnage, total cost, and seller's business registration or individual identity number."

Impact on SMEs

"The proper regulation of this industry is welcomed as small and medium-sized enterprises, particularly those in sectors reliant on telecommunications and power, suffer considerably from copper theft. The disruption of services due to cable theft leads to significant financial losses, operational inefficiencies, and lost productivity. For instance, when telecommunication lines are cut, businesses experience communication breakdowns that affect customer service and transaction processes. Similarly, power outages caused by stolen copper cables can halt production lines and impact business operations severely."

Conclusion

"While the scrap metal industry is a valuable contributor to South Africa's GDP, it faces significant challenges that hinder its potential. Metal theft, particularly of copper and steel, not only leads to economic losses but also severely impacts SMEs and critical infrastructure. The South African government's regulatory measures are steps in the right direction to mitigate these issues. However, continued efforts are necessary to strengthen these measures and protect the industry from exploitation. Effective regulation, combined with industry compliance, can enhance the sustainability and profitability of the scrap metal sector, contributing more significantly to the national economy."

Scrap metal compliance remains critical to South Africa's circular economy

Meanwhile Alfred Julius Ueckermann, general manager at Circular Energy said in an Infrastructure News article: "South Africa's scrap metal sector already delivers one of the country's most effective circular economy systems, but aligning compliance requirements with the operational realities of the industry remains a major challenge."

Ueckermann explains that: "The scrap metal industry is a key contributor to South Africa's circular economy because of its high recycling and recovery rates, established collection systems, and the inherent value retained in ferrous and non-ferrous metals. The scrap industry works, but compliance must align." ■



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Electra Mining Africa showcases the technologies shaping tomorrow's industry

As industrial technologies continue to evolve at pace, mining, manufacturing and industrial businesses are under increasing pressure to improve productivity, strengthen safety, reduce operating costs and meet growing sustainability expectations. At the same time, advances in digital technologies are transforming how organisations design, manage and optimise their operations. The focus has shifted from exploring technological possibilities to implementing practical solutions that deliver measurable business value.

As these technologies continue to mature, organisations are moving beyond stand-alone digital solutions towards connected, intelligent operations. Industrial automation, artificial intelligence (AI), robotics, predictive maintenance, digital manufacturing and smart operational systems are increasingly being integrated to improve decision-making, optimise asset performance, reduce downtime and improve safety in the workplace.

For industry professionals looking to explore the latest industrial technologies and solutions, Electra Mining Africa will once again bring together technology solution providers, equipment manufacturers, engineering specialists and industry experts under one roof.

Reflecting continued confidence expressed by industry, Electra Mining Africa has expanded its footprint for the 2026 edition. The exhibition has grown by 4 000m² compared with the previous event to a record 44 000m² of net exhibition space. Exhibitors will occupy six indoor exhibition halls together with expanded outdoor display areas.

Taking place from 7 to 11 September at the Johannesburg Expo Centre in Nasrec, Electra Mining Africa will showcase thousands of products, technologies and services from more than 1 000 local and international exhibitors. From large-scale mining equipment and industrial machinery to automation systems, digital technologies, power solutions and manufacturing innovations, the exhibition brings together a broad range of technologies, equipment and services for the mining, manufacturing and industrial sectors.



Attendees will also discover pumps and valves, welding and fabrication equipment, safety solutions, personal protective equipment (PPE), tools, components and

engineering services. They will be able to compare solutions, engage directly with technical specialists and company representatives, and evaluate products designed to address real operational challenges.

While the mining, automation, electrical, power, manufacturing and transport sectors each have their own specialised technologies and expertise, today's industrial

operations increasingly rely on integrated solutions to improve productivity, efficiency and safety. Bringing these sectors together under one roof enables industry professionals to better appreciate how these complementary capabilities support smarter industrial operations.

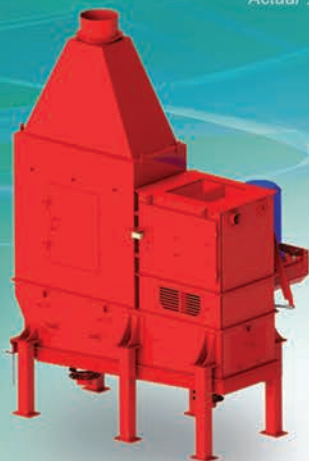
Beyond the exhibition floor, Electra Mining Africa offers opportunities for professional development, networking and knowledge sharing through a programme of seminars and workshops. New for 2026, the SAIMechE Skills and Career Hub will encourage collaboration between industry and the education and training sector, while a range of co-located events will further reinforce the exhibition's focus on technical excellence, innovation and industry advancement.

For more information and visitor registration, visit www.electramining.co.za

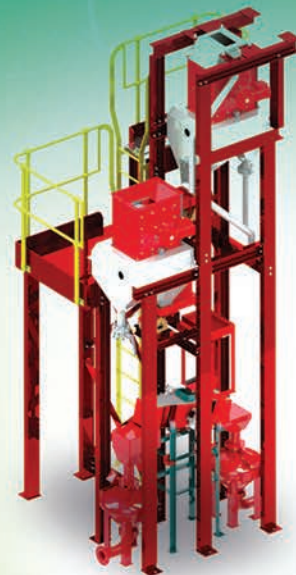
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Nyanza Light Metals complex in Richards Bay begins construction

Construction of the Nyanza Light Metals complex in the Richards Bay Industrial Development Zone (RBIDZ) in KwaZulu-Natal has begun. Over the next 12 months, contractors will install more than 6 000 deep-foundation concrete piles across the 70-hectare site, driving them up to 45 metres into the ground to anchor the infrastructure ahead of final commissioning by the end of 2029.

The plant will also utilise process by-products to manufacture critical materials for the energy transition and technology sectors, including Lithium Iron Phosphate (LFP) and fumed silica (SiO₂).

"Instead of exporting raw minerals, this facility will process local resources into high-value titanium dioxide (TiO₂) pigment, reversing South Africa's current 100% reliance on importing this essential chemical commodity and offsetting the national trade deficit," said Trade, Industry and Competition Minister Parks Tau in a press release.

"Crucially, the complex targets long-term industrial self-reliance through advanced manufacturing and complete import substitution."

"By shifting up the value chain to advanced chemical manufacturing, this project anchors South Africa's manufacturing self-reliance and secures our position in global green energy, electric vehicle, and Artificial Intelligence (AI) computer infrastructure supply chains," said Tau.

After 15 years of planning, the project has transitioned from blueprint to active execution. The milestone advances South Africa's national strategy to accelerate local mineral beneficiation, reduce import dependence and build advanced manufacturing capacity through the Special Economic Zone (SEZ) framework.

The Minister said the development demonstrates South Africa's ability to attract high-value Foreign Direct Investment (FDI) into mega-industrial projects.

"By leveraging the institutional credibility of the Industrial Development Corporation (IDC) as a foundational co-developer alongside the regulatory ecosystem of the RBIDZ, the project is mobilising a syndicate of premier pan-African development finance institutions (DFIs)."

"This coalition – including the African Development Bank (AfDB), and co-led by Afreximbank and the Africa Finance Corporation (AFC) acting as Co-Mandated Lead Arrangers and project developers, demonstrates international investor confidence in South Africa's industrial viability and regulatory stability," said Tau.

"The project aligns directly with government's economic objectives by generating measurable economic activity in the local economy."

At its peak, the construction phase will create more than 3 000 jobs, providing industrial employment opportunities and specialised civil engineering skills in the region.

In line with national localisation targets, the project is also onboarding a network of local small and medium enterprises (SMEs) to support its operational, civil engineering and logistical requirements, contributing to community-level economic growth.

Nyanza Light Metals is a South African company developing mineral processing and battery materials manufacturing capacity in the Richards Bay Industrial Development Zone, KwaZulu-Natal. The company focuses on the production of titanium dioxide and lithium iron phosphate, targeting both traditional pigment markets and the growing electric vehicle battery sector. Nyanza Light Metals is positioning itself within the energy transition value chain, leveraging South Africa's heavy mineral sands resources, particularly ilmenite, as feedstock for its operations. The project has attracted backing from development finance institutions including Afreximbank, the African Finance Corporation and the Industrial Development Corporation. ■

South Africa notifies WTO of launch of safeguard investigation on certain cold-rolled products of iron and steel



South Africa has initiated and notified the World Trade Organisation (WTO) of a safeguard investigation on certain cold-rolled iron and steel products imported into the Southern African Customs Union (SACU), following an application by ArcelorMittal South Africa (AMSA), citing serious injury from rising import volumes.

In this notification South Africa indicated that interested parties must make themselves known and provide comments within a period of 20 days after the initiation of the investigation. In this notification the investigation focusses on flat-rolled products of iron, non-alloy steel or other alloy steel (not including stainless steel), whether in coils or not in coils, (including products ►

cut-to-length and narrow strip), not further worked than cold-rolled (cold-reduced), not clad, plated or coated.

According to the filing, the company presented preliminary evidence that rising imports have contributed to falling sales volumes, shrinking market share and sustained losses, it has been reported in Business Day. ITAC said the domestic industry also cited persistent global steel overcapacity and weakening demand, which have redirected exports towards relatively open markets such as SACU as major economies tighten trade barriers. The investigation comes as South Africa expands the use of trade remedies to protect its steel industry while facing growing scrutiny of its own import restrictions.

The injury analysis relates to the information submitted by AMSA, which represents 100% of the SACU production of the like or directly competitive products and therefore constitutes a major proportion of the total domestic production. The applicant submitted prima facie evidence indicating that it is experiencing serious injury during the period of investigation (relative to domestic production in the 2024 (01 January 2024 to 31 December 2024) period), primarily in the form of a decline in sales volumes, decline in market share and decline in profitability, which further shifted to sustained losses, the notice reads.

“There is a persistent global oversupply and weak demand in cold-rolled steel. The persistent global oversupply of cold-rolled steel, exacerbated by continuing investments in cold-rolling capacity and weakening demand in major world markets, has resulted in significant excess production and export capacity that is being diverted to more open markets,

such as SACU.”

“Major global economies are imposing trade remedies and tariff barriers, restricting traditional cold-rolled steel exports. As a direct consequence, trade flows are being diverted towards more open markets with lower tariff protection, including SACU.”

A safeguard investigation is intended to determine whether increased imports of a product are causing, or threatening to cause, serious injury to a domestic industry, unlike anti-dumping duties, which target imports from a specific country, safeguard duties apply to imports from almost all countries, subject to limited exceptions. ■



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The South African government plans to more than double its electricity generation

Intends to build about 14 500km of new transmission lines over the next decade.

The South African government plans to more than double the country's energy generation capacity as part of efforts to reindustrialise the local economy, while also expanding transmission infrastructure through R430 billion in expenditure.

Electricity and Energy Minister Kgosientsho Ramokgopa outlined the plans in a speech at the 13th Manufacturing Indaba held recently in Johannesburg.

To support growth, he said the government planned to more than double South Africa's electricity generation capacity, adding 105GW over time, of which 67GW is planned to be renewable energy. This is in line with the Integrated Resource Plan (IRP) 2025, which plans to add 105GW of new generation capacity by 2039.

Wind, solar and nuclear

Most of the new capacity will come from wind and solar renewable energy with additional contributions from other energy sources such as nuclear. The expansion will require a major upgrade of the electricity grid.

The minister highlighted the Transmission Development Plan, under which South Africa intends to build about 14 500km of new transmission lines over the next decade. The cost of the new transmission lines is estimated at R430 billion over 10 years, according to Ramokgopa's presentation.

"The estimated figure includes transformers, pylons and anything in the value chain," Ramokgopa told Daily Maverick after his speech.

The expansion plans come after the manufacturing sector's contribution to GDP fell from around 22% in 1994 to about 12% today. Load shedding and logistics bottlenecks have been major obstacles to growth.

Ramokgopa said the infrastructure programme represented a significant opportunity for South African manufacturers. It would require large quantities of transmission towers, transformers, cable products and batteries, creating demand for the domestic industry.

He said the expansion programme needed about 520 000 tons of steel and fabricated steel. However, he warned that the success of the expansion depended on ensuring manufacturers had sufficient production capacity and that South Africa developed the engineering and technical skills needed to deliver the programme.

"At the peak of this build programme, we need a significant number of technical people to support the build programme."

Manufacturing

Highlighting the importance of the manufacturing sector to the national economy, Deputy President Paul Mashatile and Deputy Minister of Trade, Industry and Competition John Steenhuisen also addressed the indaba.

"Africa possesses the talent, natural resources and

entrepreneurial energy required to become a global manufacturing force."

Mashatile said what had been missing in the manufacturing sector was sufficient investment in value addition, technology, infrastructure and deeper African regional integration.

"For too long, our continent has exported raw materials while importing finished products at a premium," said Mashatile.

Mashatile highlighted the need for modern infrastructure for industrial growth, including efficient transport corridors, reliable logistics systems, railway networks and well-functioning ports. He also emphasised the need for industrialisation to be supported by capital, confidence and collaboration.

"We must continue to mobilise private sector investment, improve access to industrial finance and deepen partnerships between governments, developmental finance institutions and investors," adding that "public-private partnerships remained fundamental to sustainable industrial development."

He stressed that finance alone was insufficient, arguing that Africa had to embrace new technologies, including artificial intelligence, automation and advanced manufacturing.

Long-term prosperity

In his first address as Deputy Minister of Trade, Industry and Competition, John Steenhuisen argued that manufacturing was central to South Africa's economic recovery and long-term prosperity. He said growing the manufacturing sector was essential for creating jobs, raising productivity, increasing exports and driving innovation. He noted that manufacturing directly employed more than 1.6 million people and supported many more through supply chain linkages.

"Every single manufacturing job has a multiplier [effect], creating additional opportunities in local supply industries."

Steenhuisen said manufacturing was the engine room that transformed raw materials into higher-value products, strengthened South Africa's domestic capabilities and built economic resilience.

He argued that government support for manufacturing should be viewed as an investment rather than a cost, as no successful industrial economy had developed without deliberate industrial policy.

Steenhuisen said South Africa faced significant challenges, including slow economic growth, declining industrial capacity, infrastructure backlogs, geopolitical uncertainty and the rise of artificial intelligence. Rather than intervening directly in industry, he said the government's role was to create an enabling environment that allowed businesses to invest, innovate and compete. ■

MacKay says steel probes deepen protectionism

In his blog on his XA Global Trade Advisors website Donald MacKay has written: "On July 10, ITAC initiated both anti-dumping and safeguard investigations into cold-rolled steel, with the anti-dumping investigation focusing on China."

"Primary steel is now the most protected sector in SACU, with these two cases adding to an already significant duty burden. The result is an arbitrage that makes it more attractive to import products manufactured from steel rather than the steel itself, eroding the entire value chain. When downstream products are imported, we not only lose local manufacturing but also the demand those manufacturers create for locally produced steel, creating a death spiral for the entire industry. The world is awash with steel, yet South Africa continues to support the creation of additional steel production through subsidies and concessional finance for steel mini-mills. This places even greater pressure on local steel prices, which cannot simply be offset by continuously increasing duties."

"Between subsidies, tariffs, permits, temporary rebates, anti-dumping duties and safeguard measures, the steel sector has become extraordinarily complex. In such an environment, circumvention of duties is almost inevitable. As the system becomes more complicated, detecting that circumvention also becomes increasingly difficult, creating additional risks for both local producers and legitimate importers. Both investigations were brought by ArcelorMittal South Africa (AMSA) and together cover approximately R3.05 billion worth of imports."

Requested duties

"At present there is a 10% duty on cold-rolled steel, unless

you import from a trade agreement region like the EU. In addition to this, AMSA requested anti-dumping duties of 119% against cold-rolled steel from China."

"AMSA have requested safeguard duties of 40%, which we can all agree is a lot, especially given they will cover pretty much the whole world, including regions like the EU, which we have trade agreements with. If both matters succeed, these duties will accumulate. In other words, if you import from China you will pay 169% import duty (10% + 119% + 40%) on the overlapping tariff codes."

The anti-dumping case on cold rolled steel from China

"The investigation covers cold-rolled (cold-reduced) flat-rolled products, whether in coils or cut-to-length. The subject products are classifiable under tariff subheadings 7209.16, 7209.17, 7209.18 and 7225.50."

"According to ITAC, there is prima facie evidence that the products are being dumped into the SACU market, causing material injury to the domestic industry. If no one opposes the application, the 119% anti-dumping duties will be imposed."

"What matters most in such matters is that the Chinese producers respond. Yes, it is essential that the importers and even more importantly, the users of the product locally respond, but if no Chinese producers respond, it will be difficult to get a lower duty than that requested."

Interested parties have until 9 August 2026 to file their responses.

Metal Casting Technology Station

The Metal Casting Technology Station (MCTS) is an initiative of the Department of Science and Innovation (DSI) managed by the Technology Innovation Agency (TIA) and hosted by the University of Johannesburg, at the Faculty of Engineering and the built environment.

The MCTS' primary function is to act as a partner for metal casting industry in South Africa to provide technical support to improve the competitiveness of industry through:

- Applied research and development activities
- Technology demonstration and transfer
- Human Capital development
- Process and product development
- Material characterisation facilities using high level techniques such as Scanning Electron Microscope (SEM), X-Ray Diffraction (XRD), X-ray fluorescence (XRF)
- Small scale casting with 5kg and 50 kg melting furnace

The MCTS is ISO 9001:2015 certified with the following capabilities:

- Full green sand and chemical bonded sand testing facilities
- Mechanical and Metallurgical Testing (such as hardness, tensile and impact test) which is 17025 SANAS accredited

The MCTS has a close working relationship with local partners such as the SAIF, NFTN, TLIU, Recapitilise Cluster Programme and international partnerships with IK4 Azterlan (Spain), Central Metallurgical Research and Development Institute (Egypt), Freiberg University (Germany), MPM Infosoft (India) and the University Of Wisconsin Platteville (USA).

Contact us for more information:

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Chery to begin local production at Rosslyn plant



Nissan has sold its Rosslyn, Gauteng plant to Chery. Chery South Africa has confirmed that the Tiggo 4 range will be the first model produced at the plant

Chery South Africa has confirmed that the Tiggo 4 range will be the first model produced at its newly opened Rosslyn manufacturing plant, with local production scheduled to begin in the second half of 2027. Both internal-combustion-engine (ICE) and hybrid-electric vehicle (HEV) derivatives are planned for production at the facility, placing Chery's highest-volume model line at the centre of its transition from vehicle importer to local manufacturer.

The decision follows a strong first half of 2026 for the Tiggo 4 range, which comprises the Tiggo 4 Pro and Tiggo Cross. A total of 11 322 units were sold between January and June, making it the country's second-best-selling passenger vehicle overall during the period. The range recorded 1 625 sales in January, 1 809 in February, 1 888 in March, 1 871 in April, 2 059 in May and 2 070 in June. This represents year-on-year growth of 39% over the first six months of the year.

Its local production will allow Chery to build on this demand while developing a manufacturing programme around a model already well established among South African motorists. The Tiggo 4 Cross will be the first vehicle to roll off the Chery Rosslyn production line during the plant's initial ramp-up phase

in the third and fourth quarters of 2027. A planned production total of 15 000 units has been set for this period, with further growth expected as operations mature.

Producing both ICE and HEV derivatives will allow Chery to serve the continued demand for conventional petrol vehicles while supporting the growing number of South African buyers

considering more fuel-efficient, electrified alternatives. Final derivative specifications, production volumes and market-introduction details will be announced closer to the start of local manufacturing.

The Rosslyn plant, which has been operating as an automotive manufacturing facility since 1963, will undergo upgrades to its facilities, equipment and utilities in preparation for Chery production.

The Rosslyn plant, which has been operating as an automotive manufacturing facility since 1963, will undergo upgrades to its facilities, equipment and utilities in preparation for Chery production

"At Chery, we live by one philosophy: 'In Somewhere, For Somewhere, Be Somewhere.' It means wherever we invest, we commit. We become part of the local economy, part of the community and part of the country's future," said Yin Tongyue, Chairman, President and founder of Chery Automobile Co., at the plant's opening. "Today proves that commitment. We have moved from being an importer to a manufacturer – and from a market participant to a long-term partner in South Africa's industrial story."

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Minerals Council South Africa in talks with the government about beneficiation strategy and the proposed chrome ore export tax

The South African mining sector has reacted with alarm to government proposals to impose an export tax and quotas for the chrome industry and to attach beneficiation measures to the issuance of mining rights.

The reaction comes in the wake of the Department of Trade, Industry and Competition's (DTIC) newly published industrial development strategy (IDS), approved by cabinet last week, which proposes a review of mining legislation so that the state can attach beneficiation conditions to the allocation of mineral rights.

The document says this shift would allow beneficiation objectives to be "embedded in mining licensing decisions". It also places a chrome export tax and quota squarely back on the government's industrial-policy agenda, despite previous indications from the mining department that such a tax, on its own, would be a "blunt instrument".

The Minerals Council South Africa said it will review the government's Industrial Development Strategy 2026 announced on 8 June 2026 by the DTIC before meeting with officials, while they reiterate that mining and beneficiation are separate and distinct economic sectors, and that beneficiation cannot and must not be imposed on mining. Specific measures must be introduced to incentivise and attract investments to stimulate industrialisation and the diversification of the economy.

The Strategy includes proposals on a tax and quotas on chrome ore exports as well as linking conditions regarding beneficiation to the issuance of mining rights.

The Minerals Council, whose members represent 90% of South Africa's annual mineral production by value, said it will study the Strategy before engaging government on its contents.

In an article published in November 2025 Mzila Mthenjane, CEO of the Minerals Council said: "It is an unfortunate policy intention from the Department of Trade, Industry and Competition, which, while not yet a law, adds to the incessant policy uncertainty that is constraining investment and growth of the mining industry and the economy."

"The proposal regarding the issuance of mining rights with 'conditions that must facilitate beneficiation' could potentially damage future investments in exploration and mining. The Minerals Council is engaged in talks with the Department of Mineral and Petroleum Resources about the contents of the Mineral Resources Development Bill to ensure mining laws make South Africa a globally competitive exploration and mining jurisdiction, attracting investment, growth and creating job opportunities."

"Mining and beneficiation are separate and distinct economic sectors in the mineral value chain. Beneficiation cannot, and must not, be imposed on mining because beneficiation forms part of manufacturing and overall industrialisation. As such, specific measures must be introduced to incentivise and attract investments to stimulate industrialisation and the diversification of our economy," says Mthenjane.

"The Minerals Council reiterates that the supply of chrome ore for South Africa's ferrochrome industry is not the reason for the reduced level of smelting of the key ingredient for stainless

steel production. Electricity tariff increases of more than 900% since 2008 have made South Africa's ferroalloys industry globally uncompetitive and shut unprofitable smelters. The deindustrialisation trajectory is also attributable in part to unaffordable electricity."

"A well-considered economic plan, not mineral export taxes or quotas, will drive industrialised growth," said Mthenjane.

"The absence of a co-ordinated and coherent economic development plan that harnesses South Africa's mineral endowment, capability of its people and world class capital markets continues to sow confusion in policy ►



Minerals Council South Africa is in talks with the government about beneficiation strategy and the proposed chrome ore export tax

making within government.”

“In mid-October 2025, Fastmarkets senior analyst Robert Cartman estimated that South African ferrochrome production would fall “towards 2 million tons” from between 3 million and 3.3 million tons in 2024. If the environment for smelters remains unchanged, “then another pullback in South African output for 2026 as a whole is reasonable and output could conceivably come in at 1 million to 1.5 million tons,” he said.

“China has installed ferrochrome capacity of some 14 million tons, with rapid expansion since 2000 to meet domestic demand for stainless steel, overtaking South Africa as the leading source of ferrochrome which it forfeited during the past 17 years when it endured constrained electricity generation and soaring tariff increases.”

“A decade ago, South Africa had seven major ferrochrome producers, with installed capacity of 5 million tons, and the country accounted for a third of global ferrochrome production. China was slightly higher at 37%.”

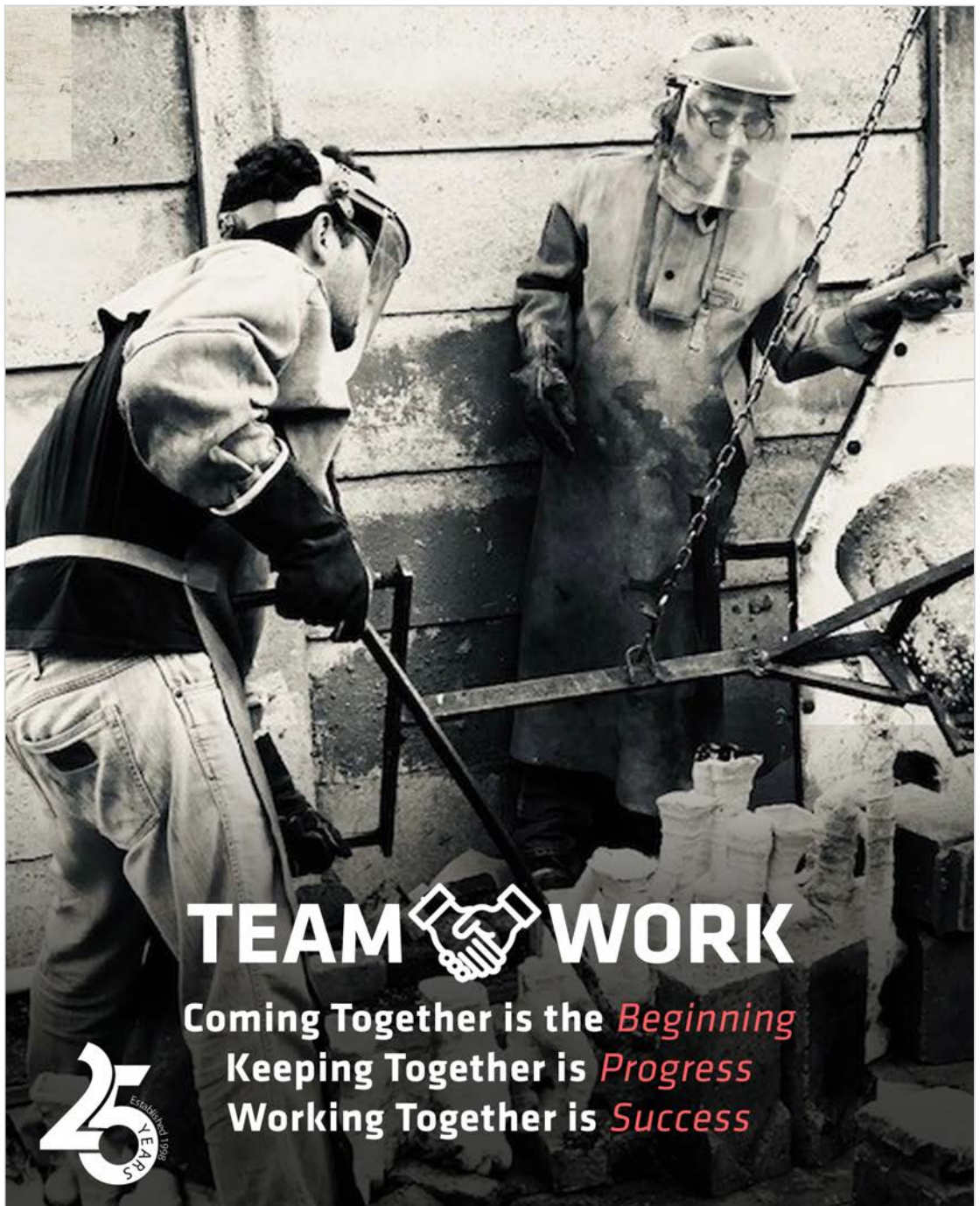
“Talk of imposing a chrome export tax on this second fastest growing sector (after manganese) in the mining industry without full and open consultations with all stakeholders stands in stark contrast to the efforts of the Minerals Council and the Department of Mineral and Petroleum Resources to change minerals policy for the better.”

“It does not bode well for a clear economic strategy that will resonate with both domestic and international investors in an uncertain world riven by political and economic turmoil.

Considering the partnerships, the government has with business to urgently and sustainably address the crises in electricity, logistics and crime and corruption, this proposed imposition of a chrome export tax and possible export quotas is remarkable for its deviation from the partnership approach to resolve economic problems.”

To read the full article published by The Minerals Council South Africa’s Mthenjane go to

<https://www.mineralscouncil.org.za/component/jdownloads/?task=download.send&id=2570&catid=25>



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Why the foundry industry must actively shape its future

According to Dr Sharon Grossman, psychologist and executive coach.

The foundry industry plays a central role in modern technology. However, its future depends not only on machinery, materials, and market dynamics, but also on people, their knowledge, skills, and the surrounding corporate culture.

At present, the industry is at a pivotal moment. It provides essential components for sectors such as aerospace, medical technology, defence, mobility, mechanical engineering, and energy. Without precision cast parts, many advanced applications, from turbine systems and medical implants to safety-critical technologies, would not be feasible. Despite this importance, the industry remains largely unknown to the general public, and this lack of visibility is becoming an issue.

During the 34th European Investment Casters Federation EICF Conference held in Seville, Spain in May 2026 psychologist and executive coach Dr Sharon Grossman from Florida delivered a keynote speech to international representatives of the investment casting industry, offering a direct and engaging perspective on these challenges.

Future challenges in the foundry industry: Talent, visibility and skills development

The foundry industry is facing a decisive transformation phase. Its long-term success will depend less on technology alone and more on people, specifically talent attraction, skills development, and knowledge preservation.

A central topic of Dr Sharon Grossman's presentation was the growing challenge of attracting new talent into the foundry industry. "As experienced professionals retire, younger generations are increasingly drawn to more visible sectors such as IT, consulting, or modern skilled trades."

"The core issue is not relevance, but perception. The foundry industry plays a critical role in aerospace, medical technology, energy systems, mobility, and defence. However, this contribution is often not visible to potential entrants."



"To address this, companies must strengthen their presence early in the education journey, through schools, universities, vocational training programmes, digital platforms, and structured career guidance initiatives. Greater visibility is essential to ensure long-term workforce sustainability."

Another key message was the need for stronger communication about the industry's real-world impact.

"Young professionals are increasingly motivated by purpose and meaning in their work. Rather than focusing only on production processes and materials, the industry must highlight its role in enabling technologies such as robotics, sustainable mobility, aerospace innovation, medical implants, and energy transition systems."

"By reframing casting as a high-tech enabler rather than a traditional manufacturing field, the sector can significantly improve its attractiveness as an employer."

"The widening skills gap remains a major structural challenge. Many specialized foundry competencies are not fully covered in standard engineering or technical education programs. As a result, even highly qualified graduates often require extensive onboarding to understand industry-specific requirements."

"To close this gap, structured training systems are becoming increasingly important. These include internal

academies, mentoring programs, partnerships with educational institutions, hands-on learning opportunities, cross-training initiatives, and continuous professional development. Such approaches are essential not only for skills transfer but also for preserving decades of accumulated industry expertise."

Building culture to secure the future of the foundry industry

"Leadership emerged as a key success factor. Highly skilled technical specialists are frequently promoted into management positions without sufficient preparation. However, leadership in today's foundry environment can no longer depend primarily on instruction and control; it increasingly requires clear communication, constructive feedback, employee development, trust, and the active involvement of teams."

"Equally important is the transfer of knowledge. In many organisations, critical process expertise remains largely with experienced employees. Without systematic documentation and sharing, this knowledge is lost when staff retire. To prevent this, companies need structured methods for preserving expertise, such as video documentation, process manuals, mentoring programmes, job shadowing, digital knowledge systems, and

the targeted use of AI-supported tools."

A central message of the keynote was that securing the future is also a cultural task. "Organisations must foster working environments in which people want to stay, develop, and take responsibility."

As a practical example, Dr Grossman presented the use of short daily team meetings, often referred to as "huddles." These brief sessions support recognition of employees, help gauge team morale, encourage continuous improvement, address operational challenges early, and increase transparency around performance.

The recommendation for the industry was deliberately pragmatic: avoid attempting large-scale change all at once. Instead, start with one team, test new approaches over a 90-day period, evaluate the outcomes, and scale what proves effective.

Overall, the message was clear: the foundry industry must communicate its value more effectively both externally to attract talent and customers, and internally to strengthen engagement among employees and leadership alike. Companies that succeed in attracting people, preserving knowledge, and deliberately shaping their culture will not only secure their own future, but also enhance the long-term resilience of the industry as a whole.

To read the full presentation visit: <https://bit.ly/4pSA0ae> ■

"By reframing casting as a high-tech enabler rather than a traditional manufacturing field, the sector can significantly improve its attractiveness as an employer."

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UK consortium unveils cast aluminium subframes up to 35% lighter

Developed for a demonstrator vehicle for a British OEM and revealed at 'Casting the Future of Aluminium', hosted at the University of Sheffield's Advanced Manufacturing Research Centre (AMRC), the cast aluminium subframes are 17% lighter at the front and 35% lighter at the rear than the components they would replace.

The subframes were created using a combination of casting design techniques developed by Pivot's lead partner, Coventry-based foundry Sarginsons Industries and Siemens' topology optimisation technology, including Simcentre Optistruct and Simcentre Inspire software.

Leveraging a proprietary database of mechanical property data compiled over 20 years of physical testing and microstructural analysis, the technology enables Sarginsons to predict how aluminium will behave throughout a casting. This capability enables structural components to be validated in virtual crash-simulation environments before any metal is poured.

Replacing conservative assumptions with material-specific performance data helps the process reduce the need for over-engineering, unlocking lighter, more cost-effective, and higher-performing structural castings.

The reveal was made by Pivot at 'Casting the Future of Aluminium', a closed cross-sector event convening senior figures from the automotive, aerospace, and defence

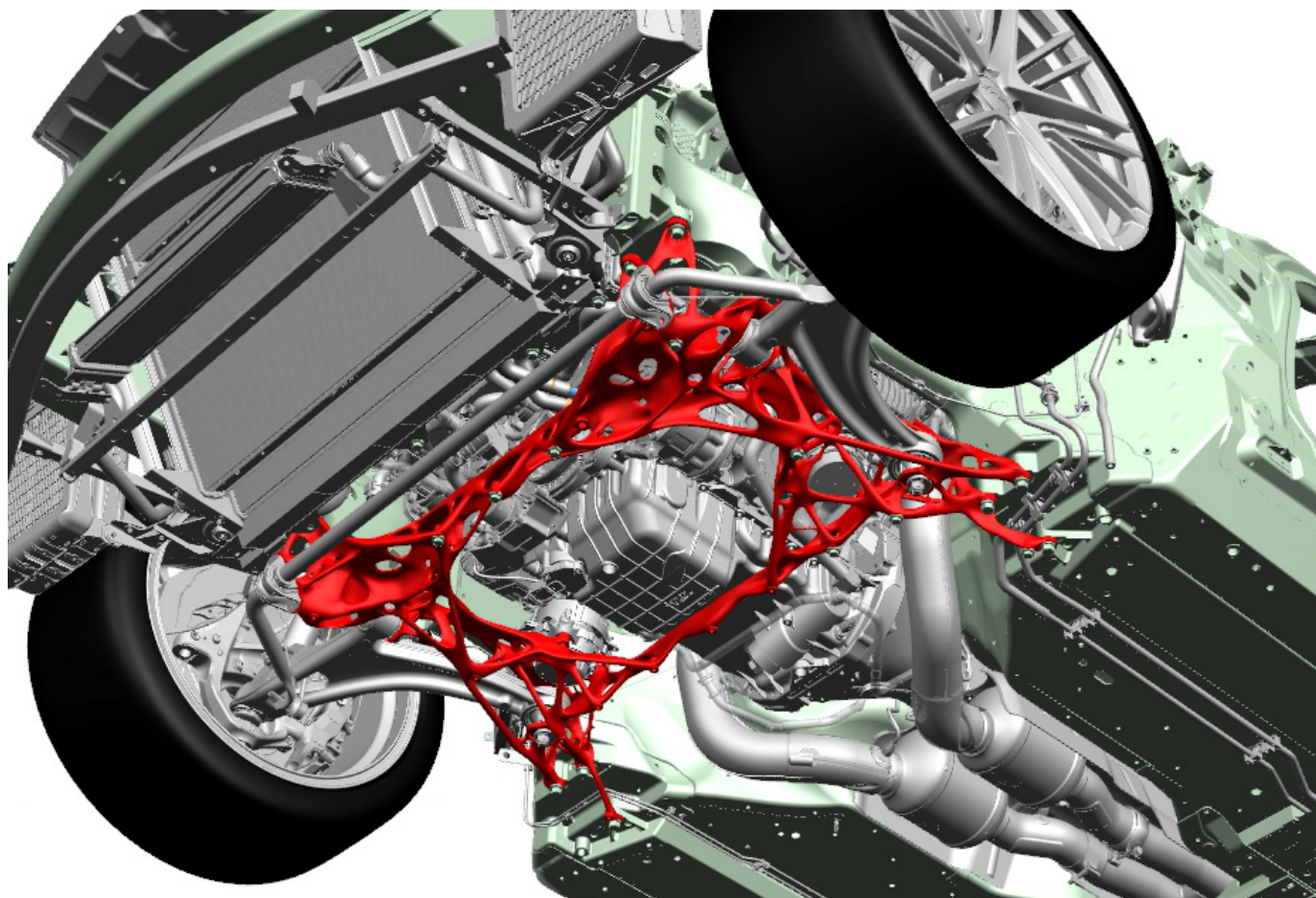
industries, funding bodies and the metals sector to explore collaborative opportunities in advanced aluminium manufacturing.

Sarginsons' technical director, Gavin Shipley, said, "A physical crash test can cost up to £1 million every time you run one. For decades, the only way to be safe was to over-engineer, adding mass and material to compensate for uncertainty."

"What we've demonstrated today is an alternative. By combining virtual engineering, AI and advanced casting expertise, we're able to understand precisely how a component will behave before any metal is poured, giving manufacturers the confidence to design for real performance rather than worst-case assumptions."

"For decades, engineers have been forced to design around the limitations of casting. We're now turning that thinking on its head, unlocking entirely new possibilities for lighter, stronger and more efficient vehicle structures."

Following completion of the virtual development programme, the front subframe will enter the next phase of development, with tooling scheduled to begin soon. The components will also undergo physical durability testing and be fitted to demonstrator vehicles for track evaluation, providing real-world validation of the virtual engineering approach used throughout the programme. ■



Pivot consortium is showcasing the transformative potential of advanced casting technologies for the next generation of vehicles

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BIR Gothenburg 2026

– Non-Ferrous Metals Division: Warnings over scrap export controls

At the Bureau of International Recycling (BIR) Non-Ferrous Metals Division meeting in Gothenburg, Sweden in June 2026, one of the constant messages delivered by the global recycling industry over its long history has been the need for free and fair trade. And against a backdrop of increased protectionist activity, this same sentiment was hammered home once again by industry experts addressing the latest meeting of BIR's International Trade Council (ITC).

The USA produces a surplus of recycled materials across all the commodities and so having global market access is "critical", insisted Robin Wiener, President of the Recycled Materials Association (ReMA) in the USA. ITC Chairman Emmanuel Katrakis, Director of Public and Regulatory Affairs at Galloo in France/Belgium, reinforced the same point: "There will always be – or very often be – a mismatch between what we are going to recycle and what our neighbour needs, and thus, to bridge that gap, we need to have access to local and global markets."

Director General of European Aluminium Paul Voss kicked off a trio of guest presentations by pointing to data suggesting exports of aluminium scrap out of Europe have "doubled since 2015 and grown about 50% since 2020". He told delegates: "It's a really, really big deal."

While other jurisdictions around the world are restricting exports of their own scrap, there is a feeling and a frustration within the European aluminium industry that the EU "takes a laissez-faire approach", he said.

In November 2025, the European Commission finally confirmed that the EU would act on this in a way that reflects the interests of the entire value chain – an approach for which Mr Voss expressed unequivocal support. "It needs to be proportionate, needs to make sense," he insisted. "I've read many times in the press that we were asking for a ban on the export of aluminium scrap from Europe. It's fundamentally untrue. I think it would be excessive and heavy-handed and unhelpful. What we're asking for is a targeted measure."

He underlined his insistence on the need for a review clause "so that we can see how the mechanism functions in practice, what its impacts are". And Aluminium Europe will remain open to dialogue, he added, "in the hope that we can come up with a model that works well for everybody".

Jessica Fung, Head of Consulting at Project Blue in the UK, provided a market intelligence perspective on aluminium flows. Her contention was that "the products that are being



exported by the EU are products that the EU doesn't seem to have enough capacity to process". From the automotive sector in particular, aluminium alloys are coming back that were used 15 or 20 years ago but are no longer being used in the automotive industry in Europe. "And so those are the products that are getting exported because they are being used by industry in other countries that can use those alloys and that metal," she said.

According to Ms Fung, restricting exports of secondary materials would be detrimental to the recycling industry because holding costs for yards would increase and domestic scrap prices would fall. Also, more material would potentially end up in landfill.

Thierry Cochet, President of FEDEREC's Non-Ferrous Metals Division and Commercial Director at Derichebourg Environnement in France, insisted that "introducing restrictions on exports will be based on a false analysis and will seriously damage the European recycling sector". In 2025, he pointed out, Europe recycled 6 to 6.2 million tonnes but only around 20% was exported, mainly mixed aluminium from car shredding. It is easier for Europe's recyclers to sell locally for a range of reasons but the market reality, he said, is that European demand is not large enough to absorb all the end-of-life product generated in the EU.

In addition to creating storage issues for recyclers, export restrictions or a ban could lead to the postponement or cancellation of investments and a significant volume of recycled material remaining uncollected or unprocessed, he argued. As an alternative, Mr Cochet urged the European Commission to work with the recycling sector to identify solutions to strengthen Europe's industrial base.

Mr Bayram insisted that any ban or trade interference would "take money out of the pocket of recyclers". And

Alejandro Jaramillo, Founding Partner of Glorem in Mexico, underlined the investment risk in recycling any commodity before adding: “It’s very relevant that that we’re part of the discussion and that our industry is protected as well.”

Recycling Europe’s President Olivier François ventured to suggest that the latest review of the EU’s Emissions Trading System could provide an opportunity for recyclers and consumers to work together to ensure it compensates “for any loss in the price or the value of what we prepare” so as to ensure continued investment in recycling and increased

use of recycled aluminium within Europe. “Maybe this is a win-win way to do something together,” he suggested. Mr Voss replied: “Of course, we can talk about this.”

Mr Katrakis summarised the meeting by saying that many recyclers believe a ban or restrictions on aluminium scrap exports “will be a medicine that won’t cure the disease”. However, he agreed with the general view expressed in Gothenburg that lines of communication must be kept open. “We appreciate the debate,” he said, “and that’s absolutely essential because, as we keep saying, if we fail, you fail.” ■

Volkswagen Group orders 16 of 9 000-ton gigacasting machines from Bühler

In his latest newsletter Luca Greco, who runs The Gigacasting Newsletter, reports that Volkswagen Group has placed an order for 16 new 9 000-ton die-casting machines to Bühler for their dedicated to front and rear underbody castings on its next-generation EV platform.

“According to public reports on LinkedIn (<https://bit.ly/4wNc9LK>) the allocation could look something like this; 8 machines for Volkswagen, 4 machines for Audi and 4 machines for Škoda.”

“This is a decisive step beyond the battery-frame strategy first shown at IAA Mobility 2025. At that time Volkswagen confirmed large aluminium battery frames for the Electric Urban Car Family – ID. Polo, Cupra Raval, Škoda Epiq and the production version of the ID. Cross.”

“Those frames already replace 123 parts, cut weight by roughly 10% and deliver a reported 15% cost reduction, all while using a three-plate die process. Front and rear underbody Gigacastings, however, remained undecided.”

“The new 9 000-ton order signals that the group has now committed to the larger structural castings for the subsequent high-volume platform.”

“Machine orders are only the first step. Installation, commissioning, tooling development and process stabilisation routinely takes months or years, and schedules do slip. China has already demonstrated how large the gap between announcements and reality can become: suppliers have ordered multi-machine packages only to see a fraction actually installed and running, while overall utilisation of the installed Gigacasting fleet remains low.”

“The same caution applies in Europe. Plans can be delayed, phased or even resized once the first pilot castings reveal true cycle times, scrap rates and integration costs with the rest of the body shop. Volkswagen’s move is therefore best read as a firm strategic signal that demonstrates their commitment to the technology but it’s important to not place too much attention on the numbers. The installation of every single Bühler Carat machine could be delayed by several years depending on the competitiveness of their BEVs.”

“The Megacasting machines will ultimately support front and rear castings that eliminate dozens of stamped and welded parts, but the timeline from order to series production remains subject to the usual industrial realities.” ■



Volkswagen Group goes gigacasting! The Group has reportedly just ordered 16 of the 9 000-ton gigacasting machines from Bühler, likely to be divided among the VW, Audi and Skoda brands. Picture: The Gigacasting Newsletter

US Navy deploys ADDiTEC HYBRiD-X aboard USS Theodore Roosevelt



The addition of the HYBRiD-X aboard the USS Theodore Roosevelt will allow sailors to repair and manufacture components as needed (Courtesy US Navy/Tyler Harstad)

The US Navy has deployed a HYBRiD-X containerised hybrid metal Additive Manufacturing (AM) machine from ADDiTEC, headquartered in Palm City, Florida, USA, aboard the Nimitz-class aircraft carrier USS Theodore Roosevelt (CVN 71) during Exercise Rim of the Pacific (RIMPAC) 2026. This is reported to mark the first operational use of the expeditionary manufacturing machine on a US Navy aircraft carrier.

The HYBRiD-X integrates Laser Directed Energy Deposition (DED), Liquid Metal Jetting (LMJ) and CNC machining within a single containerised machine. Using metal wire feedstock for both Additive Manufacturing processes, the machine is intended to manufacture new metal components, repair existing parts and finish components by machining without transferring workpieces between separate machines. The platform also supports multi-material processing through dual deposition heads and has been developed for deployment in expeditionary and remote operating environments.

The machine was deployed through the Naval Postgraduate School's Consortium for Advanced Manufacturing Research and Education (CAMRE), with support from FLEETWERX. According to the US Navy, the capability enabled by the HYBRiD-X will allow sailors to manufacture and repair critical metal components aboard ship, reducing lead times for replacement parts and increasing operational flexibility during extended deployments.

"We have been successful integrating because of Sailors

and Marines' willingness to learn and work together," stated US Marine Corps Sgt Ronald Bair of the Marine Innovation Unit (MIU), serving as a subject matter expert aboard Theodore Roosevelt. "Getting exposure to different parts and machines has helped me learn and improve while also training Sailors how to use the new equipment."

US Navy Aviation Structural Mechanic 1st Class Scott Barber said the capability enables maintenance teams to respond more quickly to equipment failures.

"We now have the ability to diagnose the problem and come up with a solution," Barber stated. "The entire idea is to be able to cut down lead time by a significant amount. This allows us to maintain capabilities and operational readiness."

The deployment builds on several years of CAMRE- and FLEETWERX-led research into expeditionary Additive Manufacturing. Initial evaluations were undertaken ashore before progressing to shipboard and expeditionary trials, leading to the current deployment aboard Theodore Roosevelt.

The deployment aboard Theodore Roosevelt represents a further step in the US Navy's evaluation of expeditionary Additive Manufacturing, assessing its ability to manufacture and repair metal components at sea while reducing dependence on conventional supply chains. It follows an earlier announcement by Phillips Corporation covering the planned use of containerised hybrid AM machines during RIMPAC 2026. ■

Mercedes-Benz and Hydro deepen partnership for low-carbon aluminium

Becomes the first automobile manufacturer in Europe to use Hydro CIRCAL recycled aluminium with 75% post-consumer scrap.

Mercedes-Benz and Hydro are expanding their partnership to decarbonise aluminium across Europe, supporting efforts to cut emissions while supporting resilient value chains. As a first step, Mercedes-Benz will become the first automotive company in Europe to integrate Hydro CIRCAL into series production for the next generation of large electric vehicles. This recycled aluminium is made with at least 75 per cent post-consumer scrap, which represents a significant increase from around 25 per cent in the material currently supplied. The material is produced through advanced recycling processes that recover aluminium from end-of-life vehicles, buildings, and infrastructure and return it to new automotive applications.

Higher levels of circularity

Automakers have embraced aluminium for decades because of its lightweight properties, but electrification has introduced a new challenge. Electric vehicles need lightweight materials to maximise driving range, yet manufacturers are also under growing pressure to reduce emissions embedded within the materials themselves. Producing cleaner vehicles now means rethinking not only the powertrain but also every kilogram of metal that goes into it. This is where recycled aluminium changes the equation.

Unlike many structural materials, aluminium can be recycled repeatedly without losing its performance characteristics. The challenge has never been recyclability – it has been producing high-quality recycled aluminium in sufficient volumes for demanding automotive applications.

“The next generation of automotive supply chains will be defined by higher levels of circularity, a lower carbon footprint, and a deeper level of localisation to enhance resilience and quality. Together with Hydro, we are helping to shape that future,” said Yanni von Roy-Jiang, Head of Procurement and Supplier Management at Mercedes-Benz AG.

Decarbonising the primary route

Mercedes-Benz and Hydro continue to explore additional opportunities to reduce the carbon footprint of aluminium at industrial scale. At the core of the partnership is their collaboration on low-carbon primary aluminium. This includes sourcing additional volumes of Hydro REDUXA for Mercedes-Benz as well as a joint commitment to reducing the carbon footprint of this material over time.

As a complementary solution, with Hydro CIRCAL, the companies keep aluminium in circulation, helping meet growing demand, reducing the need for new raw materials and lowering the overall carbon footprint. This also demonstrates that high levels of post-consumer recycled content can be achieved without compromising stringent requirements for performance, quality and safety. At the same time, collecting, remaking and reusing aluminium close to production creates shorter, more



efficient and more resilient regional supply chains.

“The automotive industry needs materials that can cut emissions without compromising quality, safety or performance. By combining Hydro CIRCAL recycled aluminium with Hydro REDUXA low-carbon primary aluminium, we can accelerate the transition to lower-carbon vehicles while building more resilient value chains. This

partnership shows how Hydro, as a leading supplier of recycled and low-carbon aluminium, can deliver industrial-scale solutions that support both decarbonisation and competitiveness,” said Eivind Kallevik, President and CEO of Hydro.

Responsible sourcing across the value chain

Aluminium plays a central role in Mercedes-Benz’ materials strategy and Mercedes-Benz is working with its partners on the goal to decarbonise the aluminium supply chain. Hydro’s recycled and low-carbon products are produced using renewable energy and a high share of end-of-life scrap and backed by full supply chain transparency on a batch-by-batch basis. ■

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laser is on or an optional display shows the grade and results. The probe is connected to the main unit with a 1.5m hose. The weight of the probe is approximately 840 grams.

The opening is just 3mm and, thus, also suitable for smaller samples, like weld seams, for example. Light paths are protected by sapphire windows.

Due to the open laser beam, the instrument is classified as 3B. For certain applications the use of safety goggles is recommended.

Built for both on-site and laboratory use, the Q LX1 combines modern laser technology with easy-to-use software, delivering precise, real-time results that help you make critical decisions in industries like oil and gas,

petrochemicals, power generation, metals and manufacturing.

Some of the key benefits fast and accurate analysis of metals and alloys, real-time results with minimal sample preparation, it is portable and durable – perfect for field inspections, it identifies a wide range of materials and alloys and it supports compliance and quality control.

The Q LX1 has a flexible configuration that allows for easy upgrades in the future. The optical systems cover the UV & VIS range and make the instrument suitable for ferrous and non-ferrous apps. Every unit can be equipped or upgraded to other published Q LX1 apps. Special services make updates available online.

The Quantolux Q LX1 is a portable optical emission spectrometer with laser excitation. It allows the user to perform positive material identification (PMI) and at the same time rapidly analyse the material to quantitatively determine its elemental composition in weight per cent per element.

Due to its innovative design, the Q LX1 is capable to perform a full analysis for a wide range of metals.

Multiple metal apps can be combined in one instrument – even added later.

The analytical performance of this instrument is comparable to mobile spark spectrometers, while the Q LX1 also extends this to smaller samples, wires, etcetera without the need of adapters – and at much reduced operational expenses and with more benefits on time-savings and maintenance. It is superior to handheld devices due to spectral range and resolution, bigger battery and larger argon reservoir.

Typically, the instrument is used for metal sorting, positive material identification (PMI) and analysis. Due to its superior analytical performance, Q LX1 even covers demanding applications like carbon in low alloy steels to separate L-grades, nitrogen in duplex steels, or the detection of phosphorus and sulphur.

The probe of the Q LX1 is super light and very handy. It contains a hi-res UV optic with CMOS detector and the laser head. The LED on top indicates when



Steels

The analytical app for steels is divided into five different sub-methods: Fe – orientation, low alloy steel, stainless steel, tool steel and manganese steel.

Measurement parameters

A typical measurement takes 3 seconds. This includes a pre-spark and several channel-specific integration windows. The analysis is an average of 2 or 3 subsequent readings on different spots on the sample. For PMI applications, however, most users just perform a single shot. If in doubt, a second reading is done.

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Foseco's HARDCOTE SF800:

An innovative coating for green sand moulds



In response to increasing demands for superior surface smoothness and precise detail, Foseco addresses the evolving needs of the industry, by the launch of HARDCOTE SF800, a new coating designed to improve the surface finish of castings produced using green sand moulds. The challenge of producing flawless castings without post-production rework is driving the need for new technological solutions that are cost effective, improve productivity, and increase customer satisfaction.

Traditionally, green sand moulds have not generally been coated. However, the growing need for an effective coating solution to improve cast surface quality has led to the development of HARDCOTE SF800. Specifically designed for high-speed production lines commonly used in the manufacture of grey and ductile iron castings, this innovative product integrates seamlessly into the production environment, enabling the surface coating of moulds without compromising productivity.

HARDCOTE SF800 green sand coatings provides an efficient, cost effective and environmentally responsible solution for improving the surface finish of green sand moulds. Unlike traditional refractory coatings which require drying after application or use solvents that evolve VOC's, HARDCOTE SF800 is a newly developed water-based product.

It is applied as a fine spray to the green sand mould surface and rapidly forms a protective layer that does not require drying and therefore does not disrupt the production process.

HARDCOTE SF800 is a water-based coating especially designed for green sand mould application. It helps to minimise mould erosions and improves the metal flow through thin castings. Typical defects such as metal penetration are suppressed, resulting in a smooth and burn-on free casting

surface. The product does not require drying prior to casting.

In comparison, traditional systems based on phenolic resin dissolved in solvents present environmental concerns and hazardous working conditions. These systems typically require post-application drying, which can lead to scabbing and loss of productivity.

Foseco's HARDCOTE SF800 provides an efficient, cost effective and environmentally responsible solution for

improving the surface finish of green sand moulds.

HARDCOTE SF800 is a surface hardener and protective coating that protects against erosion, burn-on and metal penetration defects while forming a carbon-based film to prevent sand adhesion to the casting surface and improving mould strip. It therefore reduces cleaning, rework, blasting and improves the overall quality of castings.

With effortless application HARDCOTE SF800 is applied by spray gun, ideally by an automatic/robotic system, to ensure consistency, but manual application is also possible. No costly equipment investment or drying ovens is needed.

Rapid absorption takes place because a thin layer (50 to 250 microns) is applied and it is quickly absorbed into the green sand surface, ensuring no disruption to the casting process or reduction of productivity.

The versatility of application is highlighted because HARDCOTE SF800 can be used for in various green sand applications, including all types of iron, aluminium, and bronze castings, improving surface finish on components such as transmission housings, brake drums, valve bodies, differential housings, flywheels, and engine blocks.

Contact Foseco on TEL: 011 903 9500 or visit www.foseco.com for more information.

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Mitutoyo's SurfaceMeasure non-contact laser measuring probe

Laser sensors are non-contact sensors that can collect tens of thousands of points per second with automatically adjusted laser and camera intensity for reverse engineering or part verification.

The Mitutoyo SurfaceMeasure non-contact laser measuring probe captures stable shape data on workpieces without being affected by their reflectance for highly accurate, fast and efficient measurements. The SurfaceMeasure laser measure probe automatically adjusts laser intensity and camera sensitivity to the environment and workpiece material, unlike conventional laser measure probes, for more reliable and hassle-free scanning results.

The SurfaceMeasure also makes it possible to use coordinate measuring machines, traditionally used as inspection systems, as production systems that can be used throughout the entire process, from development and prototyping to production. There are four SurfaceMeasure laser measurement probes available, and they are compatible with any Mitutoyo CNC CMM such as the CRYSTA and STRATO series Coordinate Measuring Machines.

- **Model 1110:** The Mitutoyo SurfaceMeasure 1110 line laser probe, compatible with Mitutoyo CMMs, provides fast, high-precision, non-contact surface measurements. Ideal for automotive, aerospace, and medical applications, it efficiently measures complex geometries and freeform surfaces. In automotive, it inspects body panels and



components; in aerospace, it measures turbine blades and airframe parts; and in medical, it ensures precision for implants and surgical tools. The probe enhances productivity while delivering reliable, accurate measurement data.

- **Model 201FS:** The Mitutoyo SurfaceMeasure 201FS is a laser probe designed for high-accuracy, non-contact form measurement using a point scanning method. The laser beam is focused on a single measurement point along the scan line, minimising the impact of multiple reflections and ensuring precise results. This system is ideal for applications such as inspection, reverse engineering, and 3D data acquisition across a range of industries, including auto-motive, aerospace, and medical sectors. Its versatility and precision make it especially suited for capturing detailed surface profiles in complex geometries, offering reliable performance for quality control and advanced design processes.

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

The Mitutoyo SurfaceMeasure non-contact laser measuring probe captures stable shape data on workpieces without being affected by their reflectance for highly accurate, fast and efficient measurements.



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