

METALWORKING NEWS

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November 2025

LEADING SUPPLIER

TO THE METALWORKING INDUSTRY
IN SOUTHERN AFRICA



RETECON GROUP

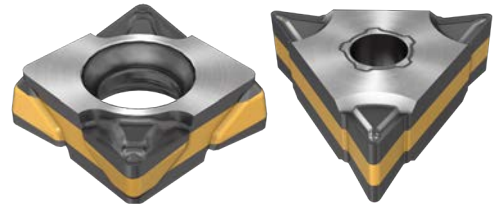
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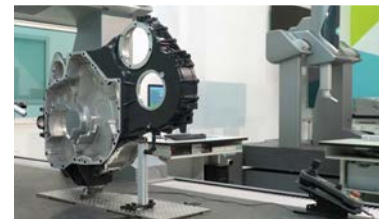
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Soon AI and robots will take care of the mundane tasks freeing us humans up to be more social



Whether you think this is a good or a bad thing is, dare I say it, irrelevant, because it is going to happen – in fact it is happening – and there isn't much any of us are going to be able to do about it. It's going to forever change our industry.

The evolution of automation is maturing and innovation is becoming ever-more modular.

Manufacturing is doing its best to embrace the principle of the circular economy. And while it is clear that automation, digitalisation, modularisation and artificial intelligence (AI) are the future of manufacturing, one thing remains even more certain and that is that in-person networking will remain a critical feature of our industry.

I have recently returned from the 50th anniversary edition of EMO Hannover that took place in Germany. You can read my full report on page 66. Our industry is advancing at a rapid rate.

Automation is not a new concept, but it has matured to a point whereby many manufacturers are now offering base machine tools with ever-increasing modular add-ons and accessories. According to the EMO organisers – the VDW (Verein Deutscher Werkzeugmaschinenfabrikern – German Machine Tool Builders' Association) – 50 per cent of the visitors surveyed that attended the show this year were interested in how they can use automation to boost their productivity.

Just a few short years ago you may have needed three machine tools to perform operations to arrive at your finished or nearly-finished component, now you may only need one machine tool to fulfil that. And that machine tool's footprint on your shop floor has equally decreased in size.

Likewise with cutting tools and cutting fluids – smart sensors and AI-enabled production flow management and ERP systems are optimising your supply chain like never before without impacting the quality of the components you are manufacturing, in fact, efficiencies are demonstratively improving across the shop floor.

"The top theme at EMO 2025 was automation. Many impressive solutions were presented. They show the high pressure for greater efficiency and higher quality worldwide. The introduction of automated systems is happening much faster than many expected. This is being further fuelled by digitalisation and artificial intelligence (AI). We are only at the beginning of using AI in production. It will become a game changer in the coming years and will force companies to focus intensively on integration if they want to remain competitive," said Dr. Markus Heering, Executive Director of VDW.

ERP systems are nothing new – they're just smarter now.

While South Africa may be a small player in terms of the greater industry – I can tell you without a doubt that what we manufacture in this country is right up there with the best in the world. In fact, some of what we manufacture is the best in the world and our skills are very much sought after.

Tariffs have indeed had an impact – their long-term impact is probably yet to be properly felt and understood – but I can tell you anecdotally that companies on all sides of the pond are taking 'haircuts' and making a plan. That's probably one of the best parts about my job as a journalist in this industry – I get to visit many machine shops and see many shop floors and speak to many different people involved in all aspects of our industry.

You don't just setup a complex machining operation and supply chain with the necessary skills transfer overnight. And you don't just reverse globalisation as if it never existed. We have a very proud manufacturing legacy in South Africa and long may it continue, whatever that evolution looks like.

METALWORKING NEWS

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Why on-site training and upskilling are crucial to building trust and capability

Today's relentless pace of innovation and technological change means that businesses face the stark reality of either adapting or falling behind. For Field Services teams, this is not just a technical challenge, but also a strategic opportunity – by equipping customers with hands-on experience using their own systems, we move beyond passive support and into active empowerment.

Training is essential, as the first line of support for any install base is the on-site personnel tasked with maintaining it.

While classroom and online training are valuable, some scenarios demand site-specific, system-level instruction. Our customised training combines practical on-site sessions with digital reinforcement, ensuring teams gain confidence and competence in real-world conditions.

Investment in this kind of training can be resource-intensive, but the return, reliable operations, reduced risk and long-term asset protection, is clear. We help customers assess technical proficiency, from entry-level to expert, and map training needs accordingly.

Safety and equipment longevity

Ultimately, upskilling is not just about capability but also about safety, trust and protecting the integrity of the install base. Unqualified personnel working on complex systems pose serious risks. That is why we offer not just training, but strategic support to build resilient, future-ready teams.

Effective training begins with understanding the skills portfolio of your team. A theoretical baseline is useful, but real impact comes from aligning training to each individual's experience, education and proficiency level. For example, in a team of five, two with five years' experience, three with fifteen, the training needs will differ significantly. A one-size-fits-all approach risks under-serving some and overwhelming others.

That is why initial assessments are critical. Clients must be advised on which personnel should attend which courses, ensuring training is targeted and relevant. Classroom and online modules are a strong foundation, but hands-on, site-specific skills transfer is where real capability is built.



Learning in real time

Our asset management and service level agreements (SLAs) support this by embedding Schneider Electric personnel on-site, allowing customer teams to shadow and learn in real time. Once foundational training is complete, we move into practical, equipment-specific instruction, customised to the site and the systems in use.

The more skilled the on-site team, the safer and more efficient the operations. Technicians and engineers who understand the implications of procedures, the scope of work and equipment objectives are far better equipped to prevent anomalies, reduce risk and maintain uptime.

Regular training ensures personnel stay aligned with the latest requirements, boosting not only safety and operational continuity but also individual confidence and job satisfaction. Upskilling builds trust between Original Equipment Manufacturers (OEMs) and the end user, putting a face to the name and enabling smoother support, whether through telephonic assistance or direct engagement.

The first line of defence in any operation is the people on site. The more skilled they are, the more proactive they can be in maintaining equipment, solving issues and optimising system performance. Regular training ensures personnel not only understand the latest market developments but also unlock the full functionality of the equipment they work with. ►

Shaping strategies through visibility

Training also enhances visibility across the install base, which is critical for shaping short- and long-term strategies. It

informs decisions around spares, lifecycle planning, migration projects and team development. When training is embedded into operational systems, it strengthens relationships between

OEMs and end users, creating open lines of communication not just for emergencies, but for planning, technical queries and continuous improvement.

Ultimately, in-person training offers mutual value. Customers gain confidence and capability, while Schneider Electric gains insight. These sessions often reveal specialised knowledge from end users who have worked on specific systems for years, knowledge that complements our broader system expertise. Every site visit is a learning opportunity, and customer feedback is essential to refining our support and solutions.

At Schneider Electric, we prioritise equipping these individuals with the right skills through regular, hands-on training tailored to the systems they manage. ■



This is the viewpoint of Paul Steyn, Project Manager for Field Services, Anglophone Africa, Schneider Electric

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cover story

The Retecon Group of Companies marks 55 years in the South African machine tool industry

This year the Retecon Group of Companies, which began with the establishment of Retecon Machine Tools in 1970, celebrates 55 years in business. During this period the Group has built up a number of long-standing relationships with international machine, tooling and precision measuring equipment manufacturers from all over the world. The Group has evolved into one of the country's most trusted and comprehensive providers of advanced manufacturing solutions – offering everything from state-of-the-art machinery and tooling to installations, training, servicing, calibrations, to after-sales support.

“All of us – current and past employees – have worked hard over the years to build the company to what it is today and maintain it as being one of the most respected in our industry. You’ve heard businesses declare that people are our greatest asset. Well, I certainly agree with that phrase and we cannot thank them enough,” said Chris Kroeger Managing Director and Executive Chairman of the Retecon Group.



Recently retired Hans-Peter Neth and current MD and Executive Chairman Chris Kroeger



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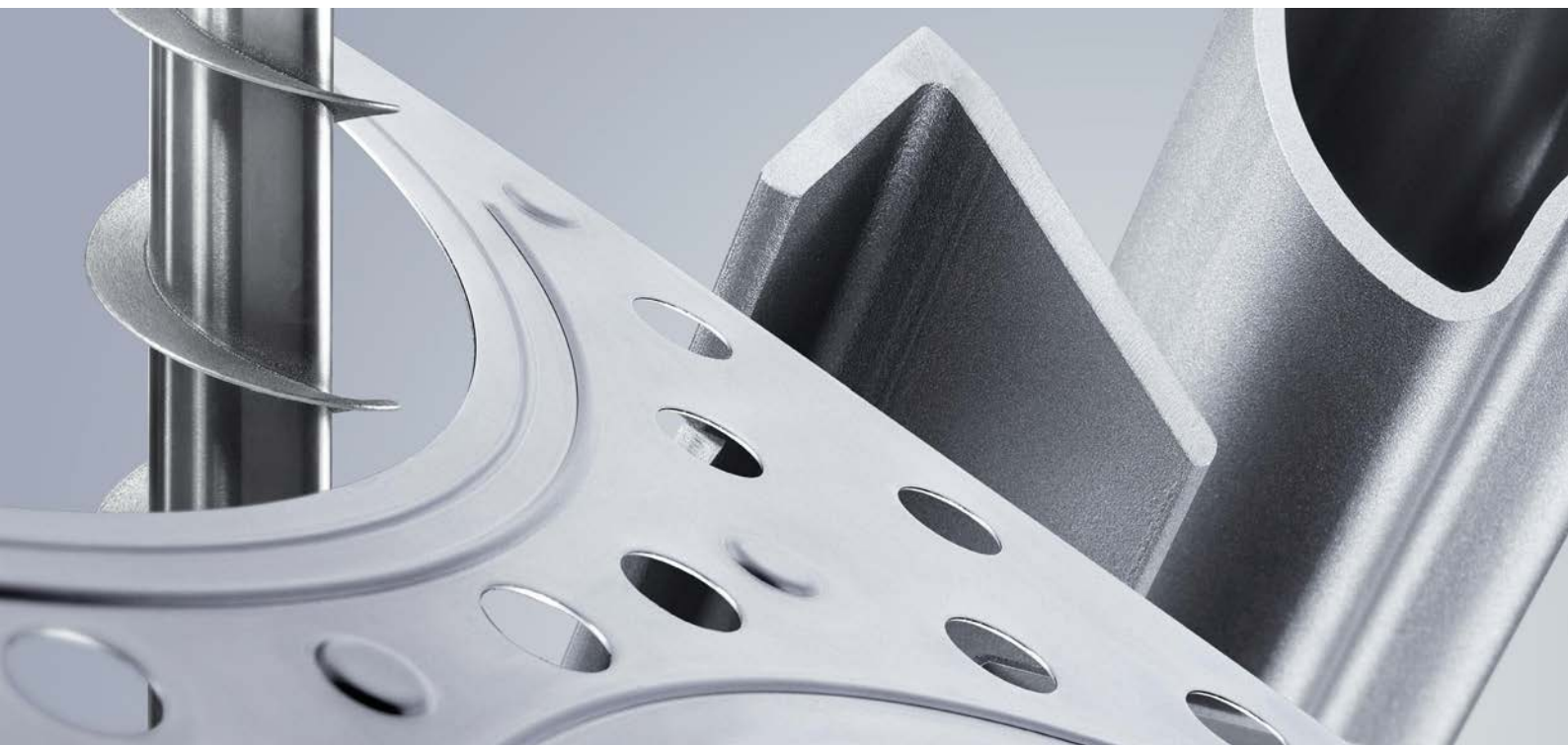
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The Retecon Group has evolved into one of the country's most trusted and comprehensive providers of advanced manufacturing solutions – offering everything from state-of-the-art machinery and tooling to installations, training, servicing, calibrations, to after-sales support

“But like a modern five-axis machine that has been built to hold tolerances accurately and consistently we all have to be driven and want to succeed and reach the same heights for our customers. This positive attitude and vision is synonymous with what the Retecon Group of companies associates itself with.”

“The Retecon Group is a major player in the South African machine tool industry. From the beginning, our founder the late Burkard Herrmann, installed a sense of pride in all of us with a constant reminder of the word's precision, innovation and service. These words translate into the major brands and

companies that are our partners, some for over 40 years, and the outlook of the three companies within the Group: Retecon (Pty) Ltd, Puma Machine Tools (Pty) Ltd and Retecon Service (Pty) Ltd.”

“Together, these divisions form a complete one-stop solution for the South African metalworking manufacturing and engineering sector – delivering world-class products backed by unrivalled technical expertise and customer care.”

“The variety of products marketed and serviced by the Group cover all the disciplines in metalworking: Cutting, forming, shaping and removal. These include vertical and



Complementing Retecon's European partnerships, Puma Machine Tools brings world-class technology from leading South East Asian manufacturers

horizontal machining centers, turning centers, large boring mills, profile cutting and drilling lines, grinding machines, laser cutting systems, bending machines, punching and forming machinery, automatic sawing equipment, roll forming and tube bending machinery, manufacturing lines for tubes, presses, measuring equipment and much more."

"Measuring and inspection equipment includes portable measuring arms, turned parts measuring, probing systems, laser measuring equipment, surface and form measuring, contact systems, fixturing, software, reverse engineering software, photogrammetry and white light scanner systems."

"The Retecon Group can supply complete machining facilities, manage and supply equipment for turnkey projects for machining of all types of complex automotive components such as inlet/outlet manifolds, crank shafts, cam shafts, conrods, cylinder block machining, complete forging lines, gear and gearbox manufacturing cells, hardening plants, to name a few but not limited to these areas."

"The core of the Group's client portfolio is made up of companies, large and small, in the aerospace, automotive, tool and die, transport, mining, power generation, structural steel and service centre, defence, construction and general engineering industries."

Management

"Core to the success of any company is its staff and management. A number of well-known personalities in the South African machine tool, tooling and metalworking industries have worked at the Retecon Group. But what is very noticeable amongst most of the staff is the longevity in the years that they have been employed," said Kroeger proudly.

"It is even more noticeable amongst the management of the company. I have been with the Group since 2007 and was appointed Managing Director in 2016, having succeeded Hans-Peter Neth who was appointed CEO and Executive Chairman. Hans-Peter retired in July 2025 and I have now succeeded him as the Managing Director and Executive Chairman."

"Sales Director Mike Lee has been with the company over 25 years and Financial Director Wynand Wium joined in 2015."

Retirement

"A notable event in the Group this year has seen the retirement of Hans-Peter Neth, who joined the company in 1979 in the service department, having qualified in Switzerland. Hans-Peter reluctantly retired after over 46 years of service and had risen to the position of Executive Chairman."

"During his time with the Group there were many notable achievements with Hans-Peter overseeing a number of important turnkey projects in the South African engineering industry. Hans-Peter moved to Cape Town in 1981 to oversee the implementation of equipment at Atlantis Diesel Engines (ADE), an engine machining and assembly plant that was built in the early 1980s, to manufacture Mercedes-Benz and Perkins diesel engines for the South African commercial and agricultural markets."

"He would subsequently become the company's Technical Manager before moving into sales and also becoming a shareholder. He was appointed Managing Director in 2000 and subsequently the CEO and Executive Chairman."

Retecon (Pty) Ltd

Since 1970, Retecon (Pty) Ltd has represented some of the world's most respected manufacturing brands, including ►



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Retecon supplies a diverse range of machinery covering laser cutting, punching, bending, welding, marking, additive manufacturing, CNC machining, sawing, grinding, and measuring technologies

TRUMPF, Ficep, Heller, Kasto, Studer, Alpha Laser, and Hexagon Metrology, to name a few.

Retecon supplies a diverse range of machinery covering laser cutting, punching, bending, welding, marking, additive manufacturing, CNC machining, sawing, grinding, and measuring technologies. These systems empower South African



The Retecon Group provides an even broader range of CNC and metalworking machinery to meet the diverse needs of local industries

manufacturers to achieve international standards of precision, productivity, and efficiency – driving competitiveness across industries such as automotive, aerospace, energy, mining, engineering, medical, and steel fabrication.

Puma Machine Tools (Pty) Ltd

Complementing Retecon's European partnerships, Puma Machine Tools (Pty) Ltd brings world-class technology from leading South East Asian manufacturers, offering performance and affordability without compromise.

Brands such as DN Solutions, JFY, Cosen Saws, and VisionWide are among Puma's key suppliers, ensuring that customers receive cutting-edge solutions tailored to their production and budgetary requirements. With this strategic addition, the Retecon Group provides an even broader range of CNC and metalworking machinery to meet the diverse needs of local industries.

Retecon Service (Pty) Ltd

Founded in 1978, Retecon Service (Pty) Ltd has been the backbone of the Group's after-sales support and technical excellence. Its team of skilled and motivated technicians provides a full spectrum of machine tool services, including:



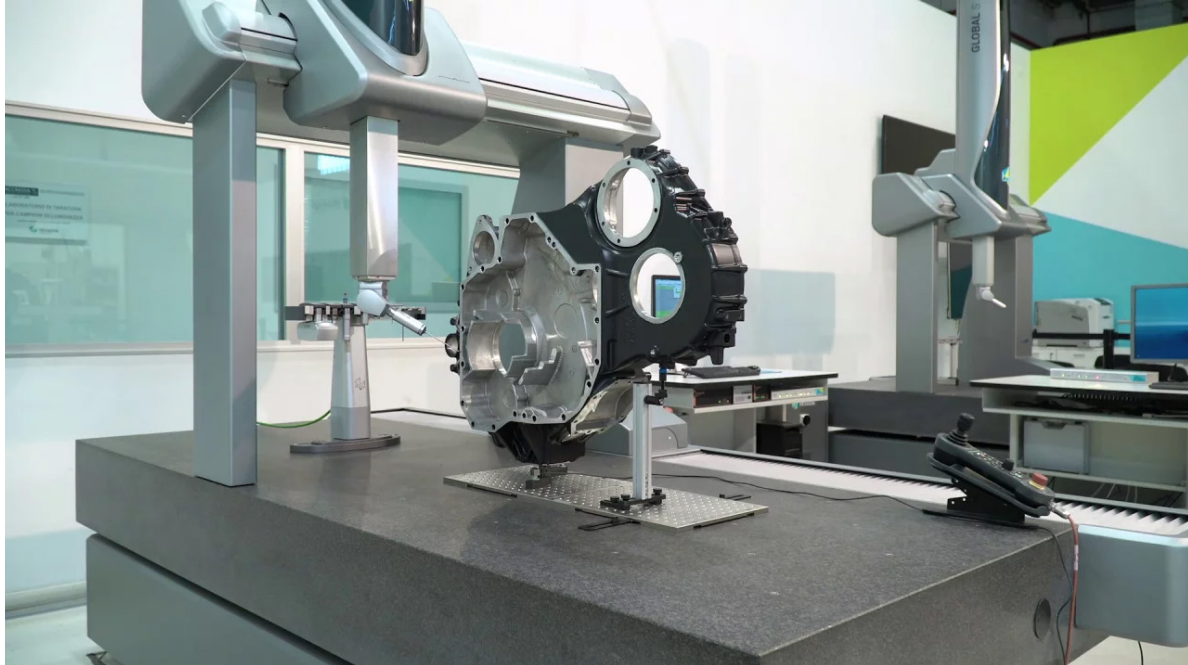
The Retecon Group brands that they represent include TRUMPF, Ficep, Heller, Kasto, Studer, Alpha Laser, Hexagon Metrology, DN Solutions, JFY, Cosen Saws and VisionWide

- Installations and commissioning
- Maintenance and repairs
- Supply and fitting of spare parts and consumables
- Calibration of measuring equipment
- Geometry and kinematic checks on CNC machines
- Spindle refurbishments and project implementations

Retecon Service also provides applications training, software support, and operator and programmer instruction, ensuring that customers extract maximum value from their investments. With after-hours technical assistance and customised service agreements, the company guarantees operational continuity and peace of mind.

A one-stop partner for industrial success

“What really sets the Retecon Group apart is its complete, end-to-end offering. From supplying premium machinery and tooling to installation, training, maintenance,



From supplying premium machinery and tooling to installation, training, maintenance, calibration, and after-sales support the Retecon Group offers a one-stop solution for the South African metalworking, manufacturing and engineering sector

calibration, and after-sales support, the Group provides customers with a seamless experience built on reliability, expertise, and trust.”

“With over five decades of service excellence, the Retecon Group remains at the forefront of innovation – continuing to power South Africa’s manufacturing future with precision, performance, and partnership,” concluded Kroeger.

For more information contact Retecon Machine Tools on TEL: 011 976 8600 or visit www.retecon.co.za

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Lucchini SA commissions advanced Honor Seki vertical turning center to boost local railway wheel production



Lucchini SA have recently installed a Honor Seki VL 160CM-2R, a large, high precision, heavy duty vertical turning center with an extra wide dual vertical column that comes with live tooling. The machine has been supplied by PBS Machine Tools

In 2017 Lucchini RS, the Italian manufacturer of high-end railway components, invested R200 million in a new production facility in Germiston in Ekurhuleni to machine railway wheels. It was the first international forged wheel manufacturer to make some investment in manufacturing facilities in South Africa. The group partnered with black South African investors Kusini Investments who currently hold a substantial number of shares in the local company. Previously Lucchini had actively traded forged railway wheels and axles in South Africa for over 13 years. The company was subsequently awarded long-term contracts by strategic customers to supply locomotives, freight wagons and passenger coach wheels.

The group committed to localise wheel machining in the country and to subsequently create jobs locally. Lucchini SA was created to complete the manufacturing process of blank wheels imported from Italy. This included machining, inspection and delivery to the end customer such as Transnet and Bombardier.

Since its inception in South Africa the company has continued to invest in its production facilities and can now produce up to 30 000 wheels annually. Projects include the

production and supply of 34" and 36" wagon wheels and locomotive wheels.

Honor Seki VL 160CM-2R – a large, high precision, heavy duty vertical turning center

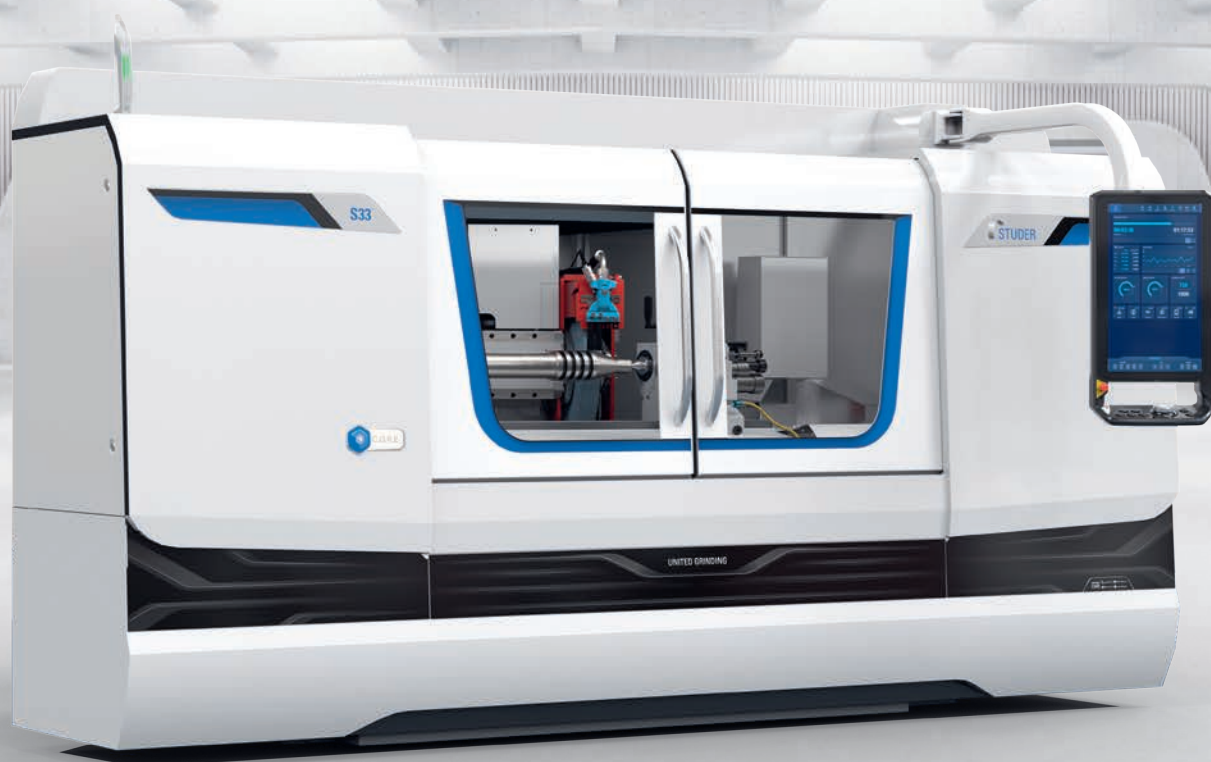
Now Lucchini SA has commissioned an advanced Honor Seki vertical turning center, imported from Taiwan, that has a 1.6m diameter table. The VL 160CM-2R double ram machine comes equipped with Capto C10 for turning operations and a fully programmable angle drilling head with HSK100 tooling, enabling final turning, drilling and milling in a single setup.

"This machine allows us to streamline operations significantly. With its C-axis interpolation and live tooling we can perform complex milling tasks with greater efficiency and precision. We can now do turning, drilling and milling processing on one machine and in one setup," explained Nico Myburgh, Operations Manager at Lucchini SA.

"The Honor Seki VL 160CM-2R is a large, high precision, heavy duty vertical turning center with an extra wide dual vertical column and comes with live tooling. The VL-160 series is built for heavy duty turning of medium size work pieces ▶

S33

UNIVERSAL CYLINDRICAL GRINDING MACHINE



Universal and flexible. These are the features of the new S33, the CNC universal cylindrical grinding machine from STUDER. It can grind small to large workpieces in single batch, small or large series and is available with centre distances of 400 mm / 650 mm / 1000 mm / 1600 mm and a centre height of 175 mm. The changeover from grinding between centers to live spindle grinding takes place in record time. Complex workpieces are easily ground in just one clamping.

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weighing up to 10 200kgs.”

“In our case our machine has two rams that move up and down, but we’ve also got a programmable drilling head that can drill at any angle. If you count up all the extra axis, essentially you can call it a 7-axis machine. The machine is very technologically advanced, especially after all the extra specifications that we have added.”

“Upgrades include a 300rpm spindle, 70-bar hydraulic clamping pressure, and high-pressure coolant through the spindle for efficient chip removal during deep-hole drilling. The machine also features automatic tool changers on both sides, each with 20 tools, and an extended chuck stroke of 140mm to 75mm programmable and 65mm manually adjustable, allowing for both internal and external clamping without jaw changes.”

“It’s been a long project that started in 2019 and has come to fruition in September 2025 after the machine landed in South Africa in June 2025. A lot of thought went into the planning and the whole project is a fairly sizeable expense. Special foundations had to be built as the machine weighs 53 tons. The weight of the machine is high because of the solid meehanite casting base. This heavily ribbed structure reduces thermal distortion and vibrations during heavy cutting. To accommodate the machine, we went to a depth of 1.5m of solid concrete for the foundation.”

“On the CNC control side, we specified Siemens, which has the sister tooling that operates on the retract programme. This is because if you have a power outage unexpectedly, you can retract to where it last was. What happens is the ram will go 5mm away and it gradually starts ramping in so you don’t have to re-machine the whole wheel from the start. This saves us a huge amount in machining time.”

“We specified the upgrade of many of the functions on the machine, which in the end turned out to be quite a few, compared to what you get on a standard machine, so as to meet our machining requirements.”

“We have purchased the Honor Seiki machine from PBS Machine tools, who have been very involved with the project from the beginning. Honor Seiki is a company within the Tongtai Group, which is represented by PBS Machine Tools in South Africa. We have an agreement with them, as we do with Siemens, that they will keep all the critical spares in stock on consignment so that we do not have any lengthy shutdowns having to wait for spares to be imported or fitting into a schedule of a service technician.”

“On the infrastructure side we extended our gantry by 63m to assist in the loading and unloading of the wheels. Like our other machines we have also added a tilting machine that was manufactured locally. Essentially the wheel is moved automatically by conveyor and once loaded the tilting machine rotates the wheel or turns the wheel 180 degrees. This allows us to machine the wheel on both sides without any human intervention. We can also stop the turning process at 90 degrees if we need to.”

“The tilting machine works with rollers and sensors so the wheel cannot fall out and machining will only take place according to the programme with the sensors controlling the operation.”



The Honor Seiki VL-160 series is built for heavy duty turning of medium size work pieces weighing up to 10 200kgs

“The chuck is also not a standard chuck. We have imported a chuck from Spain that has been manufactured by TDG. It is an internationally recognised brand that is right up there with the best.”

Local installation

“Before the machine was exported to South Africa from Taiwan we sent 20 wheel sets for proof machining. Additionally, we sent our foreman and maintenance manager, along with service and installation personnel from PBS Machine Tools for two weeks of training at the factory in Taiwan.”

“Our South African team oversaw the approval process and received comprehensive training in operation, programming, maintenance, and disassembly, ensuring full local capability for installation and ongoing support.”

“This resulted in a first for us. The installation of the machine was done by South Africans and we did not have to rely on an engineer from Taiwan. They were always ready and willing to help us via the electronic means that we have at our disposal and we did have many conversations. But still it was a very big achievement by my guys.”

Funding

To fund the import of the Honor Seiki a strategic partnership agreement was signed with the Department of Trade, Industry and Competition (dtic) as part of the National Industrial Participation programme (NIPP) and Wabtec, a leading supplier of value-added, technology-based products and services for freight rail, passenger transit and select industrial markets worldwide. Through its subsidiaries, the company manufactures a broad range of products for end markets such as locomotives, freight cars, passenger transit vehicles and power generation equipment, for both original equipment and aftermarket applications. Some of their products include brake systems, wagon bogie equipment and door systems for transit vehicles. Wabtec also builds locomotives.

Under the agreement, Wabtec Corporation, a US company and South Africa subsidiary Wabtec South Africa will continue its localisation work and industrial participation to the benefit of the South African rail transport industry and the economy.

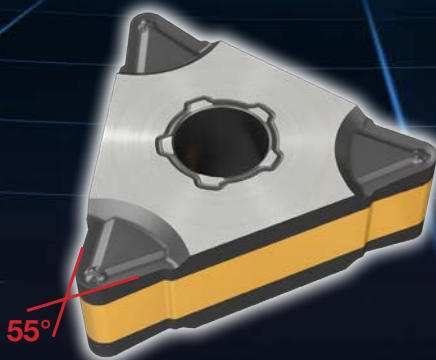
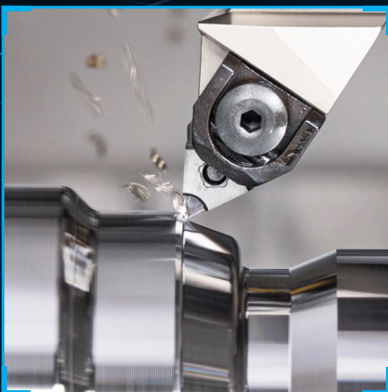
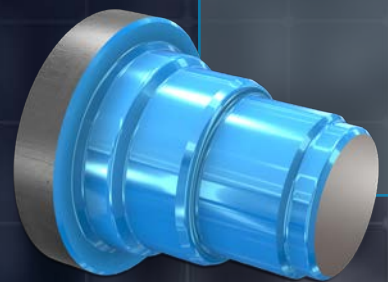
The project is an upgrade of existing machining capabilities as well as an expansion of capacity. A number of the drilling operations previously had to be outsourced, which are now done in-house. This leads to cost savings and more quality ►



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6 Cutting Edges that Provide
Excellent Surface Finish



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and Titanium Parts.





The project started in 2019 and has come to fruition in September 2025. Since its inception in South Africa Lucchini SA has continued to invest in its production facilities and can now produce up to 30 000 wheels annually

control, which is a high priority for Lucchini SA. The company operates in an area of industry supplying product to OEMs that require safety and reliability. The initiative is expected to deliver cost savings, improved quality control, and reduced lead times for customers.

As a subsidiary of the renowned Lucchini RS Group S.p.A, Lucchini SA is a leading manufacturer of high-quality forged railway wheels, axles, and wheelsets for locomotives, freight wagons, and passenger coaches. Lucchini RS cater to all types of rolling stock, from high-speed trains through heavy haul to light rail such as mass transit systems.

Railway wheels are made of prime quality steel heat-treated for an optimised service performance, designed for all applications with a diameter range from 300mm up to 1 500mm and an axle load up to 45 ton.

Besides the manufacturing of high-end railway components Lucchini RS also has its own forging and casting divisions. All wheel blanks are supplied from its own mill in Italy. Lucchini RS also manufactures raw materials for various applications such as power generation, oil and gas, offshore platforms, cement works, industrial plants, iron and steel production plants and shipbuilding, as well as producing a large variety of tool steel grades for plastic moulding, pressure die-casting and extrusion.

“As part of the Lucchini RS Group, we are proud to contribute to the reliability and safety of rolling stock across South Africa. Our products support everything from high-speed trains to heavy haul and mass transit systems, keeping cities and industries moving,” concluded Myburgh.

For further details contact Lucchini SA on TEL +27 (0) 10 109 7080 or visit www.lucchinisa.co.za ■

The convoluted entanglement of our steel industry

In a recent communication to members and industry Gerhard Papenfus, Chief Executive of NEASA (The National Employers Association of South Africa) gave his opinion on the steel industry in South Africa.

There is only one thing certain about the steel industry: It is a complicated economic environment to understand and ultimately, rescue.

Although every industry in an economy encompasses various role players, each with their own legitimate interests to pursue, the South African steel industry's survival depends on finding the balance between the stark contrasting interests of stakeholders including a primary producer, importers, exporters, merchants, manufacturers, rerollers, scrap dealers, mini-mills, Government, steel- and trade authorities, trade- and labour associations and end-users.

At the heart of nearly all of the challenges experienced in the steel industry, lies Government's actions. Whether it

be the overregulation of the industry, the 'personal stake' in the primary producer, the inefficient enforcement of anti-corruption measures at ports and borders, the collection of revenue through excessive duties, not placing duties upon the importation of finished goods, the failure to support the industry with proper infrastructure at ports and via railways, or the unaffordable electricity tariffs.

The 'balance' to be achieved among the clashing interests of the various parties in this industry is an elusive goal when taking into consideration the following:

AMSA/Primary steel producer

South Africa's primary steel producer finds itself in a ►

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precarious position. It has been on the verge of shutting down its long steel plants for a number of years and, barring a last-minute intervention, will now close permanently, causing thousands of job losses. Its troubles have maimed it to such an extent that it required massive financial Government bailouts, through the IDC's investments and capital, as well as other forms of support such as UIF TERS funds to pay wages and subsidies for transport and electricity costs.

The danger of Government bailouts is a serious matter. Due to the degree of indebtedness of AMSA towards Government, there seems to be no other outcome than the 'nationalisation' of the giant, by the sale of its shares to Government in order to repay the loans. Every steel industry stakeholder knows what this spells – a state-owned primary steel producer, which will be another disaster. SOEs in South Africa have all failed dismally – and a nationalised AMSA will be no exception.

This begs the question – was this Government's plan all along? To ensure the fall of AMSA, knowing (after meetings behind closed doors between ANC cadres and AMSA directors) that only Government could "bail" it out, playing the long con of an equity/loan swap?

AMSA's troubles do not end here

Due to constantly increased competition from affordable imports of raw material around the globe, AMSA also persisted with safeguard and anti-dumping duty applications on a wide array of tariff codes and products, in order to protect itself. These duties, once granted, started bleeding the downstream dry.

In addition, due to Government's business-hostile economic policies and transformation-entrenched red-tape, AMSA's international mother-company never saw it fit, beneficial, profitable or sustainable to invest in the upgrading, expansion or modernisation of AMSA.

The closure of this crippled entity would undeniably be a blow to the primary manufacturing capacity and capability of the South African steel industry.

However, the alternative of dragging it along into an uncertain and loss-making future while being unable to provide the steel sector and preventing the import of material by virtue of duties, may well not prove to be the long-term answer to the quandary of retaining our steel industry.

Some role players have asked if it would not be better to get a foreign investor/owner to take over AMSA. Although possibly the lesser evil to 'nationalisation', this 'solution' does not come without risks.

Any foreign investor would insist on continued protection from imports in the form of tariffs and duties, and most probably ensure that its negotiations with Government for the 'purchase' of AMSA includes provisions regarding special rail- and electricity rates.

Around the world, steel giants have done these types of takeovers of primary steel producers, with the promises of bringing in new technology and new foreign markets, but then "inadvertently" killing all other exports to countries in which that giant already has a mill.

Mini-mills

Another group of stakeholders who are at loggerheads with the primary steel producer and other stakeholders, with a lot of Government aid, are the mini-mills.

These producers have received billions in Government investments. In addition, the Price Preferential System (PPS), which is hurting every other role player in the industry, benefits the mini-mills greatly, as they can obtain their input material at prices that are bleeding dry the scrap dealers and the export revenue streams of other steel companies in the industry.

Thriving mini-mills, viewed in isolation, are not necessarily detrimental to the industry; however, taking into consideration that they cannot produce all the quality long- and structural steel required by industry, at least not yet, they cannot be looked to as an instant solution for the industry's overall declining manufacturing capabilities.

The creation of mini-mills is not a natural phenomenon driven by market needs, but the result of massive Government investment as part of the Black Industrialists Programme. Any organisation created as a result of market demand would naturally fill a gap and strengthen the particular sector sustainably. However, where production capacity is artificially created, where no need exists, it exacerbates the oversupply in the market, leading to a distortion of the entire sector.

And, naturally, the mini-mills' biggest policy benefit, PPS, is to the direct detriment of other role players. Considering what happened to the primary producer after extensive Government involvement, the stake Government has in the mini-mills should also be viewed with trepidation.

Steel downstream

The steel downstream is often coupled together as a singular group, however, in reality, it is an extremely fragmented group of interests, depending on the nature of the company, their range of services and/or products, and whether they import and/or export.

The steel downstream has suffered under the same unfavourable economic circumstances created by Government, as the primary steel producer – high electricity costs, lack of efficient rail infrastructure, unaffordable wage rates and mounds of red tape.

However, Government's incessant meddling and attempts at controlling or regulating the industry led to further lopsided beneficiation and damage to the different stakeholders in the downstream.

Buyers and manufacturers of primary steel are suffering the brunt of the import duties imposed by ITAC, in its granting of protection to AMSA, whilst other product manufacturers down the value chain cannot compete with duty-free imports of finished goods from Asia.

This is the crux: the moment Government started meddling in the steel industry, the natural order of the free market and its principles were distorted. And now, as a result, every policy amendment, every imposition of a 'protection' measure to benefit one group of stakeholders, will negatively impact another, furthering the imbalance experienced by an already dwindling industry.

Now what?

Globally, there is an oversupply of steel, which generally contributes to the current lower prices. However, this is nothing unusual or excessive; steel, as a commodity, has always experienced this typical cycle of ups and downs in both pricing and supply. The greatest factor that contributes to the lower price, as well as the oversupply of steel, is the advancement in technology which led to the production of steel being faster, more efficient and therefore more affordable. In addition, the South African steel demand and consumption are a quarter less than what it used to be a decade ago. This exacerbates every ache and pain experienced by steel stakeholders across the industry.

Why is the demand for steel so poor? This can, once again, be attributed to the business- and economically hostile policies of the South African government. Investors are hesitant to start projects in a country where there are restrictive and risky transformation requirements attached to every business step. B-BBEE, Employment Equity, the threat of expropriation, extremely high taxes, unfavourable import and export legislation, ►

and an array of other corruption-flavoured obstacles have scared away even the bravest of investors.

There are not enough construction, infrastructure, and engineering projects to drive the demand for steel to the extent that would ensure the sustaining of our steel industry.

So where do we go from here? That is the multi-billion-dollar question.

Stakeholders in the steel industry are all in agreement that the lack of economic growth is the root cause of all that ails it and for that, Government has to take the blame.

Unfortunately, that is where the agreement among stakeholders ends. How to deal with the declining steel industry, how to divide the dwindling spoils, remain huge points of contention.

Will industry, despite their different interests, band together in an attempt to save the bulk of the sector, by pressuring Government to remove its claws from this industry?

What would this 'release' look like? Government will not easily relinquish financial stake held in manufacturers, such as the primary producer and the mini-mills, nor wave goodbye to the revenue streams created by import duties. Our government, due to its vested interests, acts as a stakeholder in this industry instead of the 'honest broker' the industry needs.

Does Government have the business sense to act in favour of the greater good of the private sector and scrap all of the unnecessary and stifling red tape and transformation requirements? Does Government have the political will to fix the underlying infrastructure issues experienced by the ports and railways?

Or will Government have to be forced? If so – who would force them, and how?

Gerhard Papenfus is the Chief Executive of the National Employers' Association of South Africa (NEASA). ■

Flexilube celebrates 40th anniversary: A proud three-generational family legacy

Company takes the opportunity to launch new metalworking coolant with a promise of more new products in 2026.

Flexilube, a leading South African manufacturer of metalworking fluids, celebrated the company's key milestones and innovations over the last 40 years on 15 October 2025 with over 200 clients, suppliers, friends and staff. The celebration, which was themed around the famous Oktoberfest, took place at the company's Meyerton, Gauteng factory. Among the guests were machine tool users and suppliers, as well as those from the cutting tool supply industry.

Irene von Knoblauch-Dreyer, Managing Director of Flexilube and the daughter of founders Ralph and Ingeborg von Knoblauch, welcomed everybody to the special occasion. "Today, we gather not just to mark a significant milestone, but to reflect on the journey that has brought us here – a journey

shaped by our proud family heritage, remarkable achievements, and, most importantly, the enduring relationships with customers, partners, suppliers, and friends like you."

A three-generation legacy

The Flexilube story began in 1951, when Percy and Roswitha von Knoblauch immigrated to South Africa with their young son, Ralph. Percy brought his expertise in lubricants, gained from working for Vacuum Oil Co in Germany, to Johannesburg.

Upon arriving, they established Cera Oil in Denver, Johannesburg. The company quickly outgrew the original premises, leading to the establishment of a new refinery and blending plant in Boksburg. Percy's son, Ralph, joined in 1962 ▶



Paul Linaker, Ingeborg von Knoblauch, Irene von Knoblauch-Dreyer and Anton von Knoblauch all of Flexilube with Bernard Herbert of Axiom Hydraulics in the middle



John van der Merwe of Simmer Engineering, Donovan Traub and Tristan Renaud, both of Frankwen Forge



Peet and Amelia Buitendag, Athol Murray and Math Robson all of WD Hearn Machine Tools



Phumzile Maphathe and Hein Nel, both of Sandvik Coromant with Marius Conradie of WD Hearn Machine Tools in the middle



Alex West, Francois Jacobs and Michael Barnard, all of ISCAR South Africa



Jan Labuschagne of Meyerton Engineering, Trudie Joffe of Flexilube and Hector Cameron of Meyerton Engineering

and, together with his wife Ingeborg, transformed Cera Oil into South Africa's largest independent lubricants manufacturer. The 1980 launch of Cerafilm STL marked a significant leap in metalworking fluid technology, setting new standards for superior tool life and performance.

The industry landscape shifted in 1981 when Shell acquired a majority stake in Cera Oil, but the von Knoblauch family's entrepreneurial spirit was undiminished. By 1985 Ralph and Ingeborg had established Flexilube in Meyerton, laying the groundwork for a business that would become synonymous with innovation and quality in metalworking fluids, industrial and automotive lubricants.

Key milestones followed in rapid succession. Flexilube's RoadRunner automotive oils captured market attention with its catchy slogan, "The oil that outruns them all!". The company's foray into retail with OHIO Motor Oils expanded their footprint into motor spares shops nationwide. Notably, Flexilube became the first independent lubricants manufacturer in South Africa to achieve ISO accreditation, a very proud moment for the technical team.

The turn of the millennium saw Flexilube collaborating with leading European additive specialists to develop BioKool, a bacteriostatic soluble metalworking fluid that cemented the company's reputation for technical leadership. Family involvement remained strong, with successive generations contributing to the company's evolution, including the establishment of a state-of-the-art QC and R&D laboratory and the founding of EWOR (Environmental Waste Oil Recycling) to focus on sustainable waste oil management.

"In 2012, we pulled off the ultimate surprise" remarked von Knoblauch-Dreyer, "celebrating Ralph's 50 years in the lubricants industry. It was a gathering of legends, and the perfect occasion to launch NanoKool RvK, a coolant that set new standards in the metalworking industry, powered by years of research, passion, and a little family magic. The celebration was made even more special by the presence of colleagues and friends who had not seen one another since the Cera days, many of whom travelled from across the globe to be part of this milestone. Old friendships were rekindled as stories were shared and memories relived, reminding everyone of the rich history and enduring bonds within our Flexilube family."

"At our heart has always been a deep commitment to sustainability," said von Knoblauch-Dreyer at the anniversary celebration, highlighting Flexilube's partnership with The ROSE Foundation and the recognition received as Processor of the Year in 2024.

Celebrating our journey together

Sales Director Paul Linaker took a moment to reflect on the people who have shaped the company's journey and contributed to its success. Addressing the guests, Linaker expressed heartfelt gratitude for the relationships that have been built over the decades.

"Throughout this journey, we've been blessed with incredible individuals who have had a significant positive impact on our business and contributed to making these



Lee, Brandon and Jason Morris, all of PTF Manufacturing with Mark Whittington of Flexilube

milestones possible,” Linaker told attendees. “If only you all knew how proud I feel today, because none of these achievements would have been possible without the enduring support of you, our loyal customers, some of whom have been with us for generations.”

“The company’s growth has been fuelled in large part by word-of-mouth referrals—a testament to the trust and satisfaction of its customer base.”

Linaker emphasised the importance of these relationships, saying: “We sincerely appreciate the continued support of our customers, suppliers, employees, and partners, from those who have recommended our products to their customers, to those who have facilitated our expansion into new markets. Many of these professional relationships have developed into long-lasting friendships.”

Flexilube’s story, Linaker noted, is as much about people as it is about products and innovation. “Each new idea, achievement, and success we mark today reflects your loyalty, commitment, and trust in our company, its products, and services. Our story has always been about more than just what we offer. It’s centred on building lasting relationships, forming partnerships, and evolving alongside incredible people like you.”

NanoKool Azurite launch: The “multitasking” metalworking fluid

Technical Director, Anton von Knoblauch, introduced NanoKool Azurite, the latest innovation in the NanoKool Metalworking Fluid family.

Presented as a fully synthetic, oil-free coolant, Azurite is engineered for high-performance industrial applications, promising versatility across a variety of metals and machining operations. Anton von Knoblauch highlighted that Azurite is specifically designed to enhance productivity and reduce maintenance costs, meeting the needs of modern manufacturing environments. The product’s no-foam formulation and high lubricity make it particularly effective for tough alloys and high-pressure spindle systems, reducing the need for multiple products in the workshop and simplifying operational complexity.

A focus on operator safety and environmental impact is central to Azurite’s development. The formula ensures a cleaner workshop environment, free from unpleasant odours, thanks to its eco-friendly composition. Its stable pH and robust bio-resistance protect both equipment and components, helping to prevent corrosion and reduce machine downtime. The coolant’s crystal-clear appearance and compatibility with both hard and soft water are additional user-friendly features that streamline day-to-day operations.

Field trials reported significant improvements, with notable increases in tool life and reductions in consumption rates. “NanoKool Azurite isn’t just a coolant – it’s a partner in your pursuit of productivity, safety, and sustainability. It’s these features, woven together, that allow you to focus on what really matters: achieving peak components output whilst minimising costs and complexity,” affirmed von Knoblauch.

Flexilube’s journey is one of resilience, adaptability, and



Andries Britz of Anbri with Johan Neveling of WD Hearn Machine Tools

family pride. As the company looks ahead to future innovations, its legacy – built on three generations of expertise and enduring relationships – continues to shape the South African metalworking landscape.

For further details contact Flexilube on TEL: 016 362 0343 or 082 655 9999 or mail your enquiry to paul@flexilube.com or visit www.flexilube.com



Caid Anderson and Darren Hunter, both of Flexilube with Jaco Swart and Deacon Schwartz, both of Ewor



Herbert Herbst, Fredrik Grobler, Aj Burger, all of Secant Engineering



Deo Nyembwe, Zulfikar Mirza, Lerato Seabi, Shaun Green and Matimba Maluleke, all of Insimbi Alloy Supplies

Cutronic is the new name for Bystronic South Africa AG

A new story begins – with deep roots in service.



Bystronic South Africa AG has restructured from a subsidiary to a Dealer Agency and will now proudly continue under new South African ownership as Cutronic (Pty) Ltd. The effective date of the new company name is 1 October 2025 and it will be the dealer agent for Bystronic Laser AG and DNE Laser products

In the September 2025 issue of Metalworking News, we announced the restructure of Bystronic South Africa AG, whereby the previous Managing Director of Bystronic's distributor in South Africa Andrew Poole had teamed up with former Bystronic South Africa Sales Director Gareth Jackson to take the brand forward in South Africa.

To complete the formalities, it has been announced that Bystronic South Africa AG has restructured from a subsidiary to a Dealer Agency and will now proudly continue under new South African ownership as Cutronic (Pty) Ltd. The effective date of the new company name is 1 October 2025 and it will be the dealer agent for Bystronic Laser AG and DNE Laser products.

Both Gareth and Andrew have maintained strong ties with Bystronic after the 2020 acquisition. Today, together with Richard Davidson, they proudly lead Cutronic as the exclusive Dealer for Bystronic and DNE in Southern Africa, united by a shared commitment to service excellence, innovation, and advancing the Bystronic and DNE brands in South Africa.

"While this is a brand-new venture, the relationship behind it is well established. We have been involved with the Bystronic Group since 2011 when we first represented the company and its products in South Africa. The Group has been fully supportive of us and our customers in South Africa, as they do so worldwide. They do not treat us just as dealers but as friends and we respect this relationship," commented Andrew Poole, Director of Cutronic.

"In today's manufacturing world, service isn't just about support – it's about having a deep passion for the brand and an unwavering dedication to ensuring customer satisfaction and long-term success. And of course, delivering."

"We are now fully responsible for sales, service and support and backed as always by the strength of the global Bystronic team and the quality products that they manufacture and market."

"Customers will continue to be serviced by the dedicated team of individuals who have all transferred from Bystronic South Africa AG to Cutronic, thereby ensuring a seamless business transition. Chris Burnett, as the global head of the dealer network, will continue to provide dealership oversight."

"Chris brings a passion for customers, responsiveness, and long-term thinking that aligns perfectly with what we stand for. This partnership is about building something meaningful for the long term. It is a fitting symbol of ambition, progress, and new perspectives. We are looking forward to what we create and deliver together."

Contact Cutronic on Tel: +27 (10) 410 0200 or visit www.bystronic.com or www.dne.global for further details. ■



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PTF Manufacturing ramps up capacity and capabilities

Invests in 18 new CNC machines in three years.

PTF Manufacturing has been ready for growth for some time but did not expect the growth in demand for precision machined components that the company is experiencing currently. Two years ago, the company installed its first 5-axis machine – a Mytrunnon 4G from Kitamura. This was the seventh machine that the company had installed over the previous 18 months, such was the need for capacity and to a lesser degree their capabilities although the 5-axis Kitamura opened up the possibility of a whole new area of clients.

However, one of the reasons that the company purchased the Kitamura was because what the owners understood about one of the repercussions of Covid – reshoring. “It has never been a fashionable word in South Africa because many work on price alone, even if it is only 5% cheaper when getting components or product from China. Well, Covid spoke out in more ways than one. Suddenly availability and costs were important factors in getting components into the country. The decline in the rand did not help as well,” said joint owner Brandon Morris.



PTF have acquired their first Wire Electric Discharge Machine (EDM) – a Fanuc Robocut C400iC Wire EDM machine. It sits alongside another recent acquisition – a DN Solutions DVF 5000 5-axis mill



The DN Solutions DVF 5000 5-axis mill is fitted with Lang Technik fixturing



PTF have also taken their Fanuc α-DI4LiB5 Robodrill tally up to three



PTF have invested in a number of new DN Solutions Puma 4100 series turning centers, which is primarily aimed at precision component manufacturers machining large to medium parts for many different industrial sectors

our services has continued to grow and of course we have had to invest in equipment to match the demand. Amongst them have been a number of new DN Solutions Puma 4100 series turning centers, which is primarily aimed at precision component manufacturers machining large to medium parts for many different industrial sectors.”

“The new Pumas have maximum travels/turning lengths of up to 990mm and a maximum turning diameter of 550mm and are equipped with powerful, high-torque 2-speed gear-box driven main spindles up to 45kW and up to 3 000rpm depending on the model.”

“In fact, a new DN Solutions Puma 4100 big bore turning center is being installed today and we still have a few more on order, which are due to arrive in the next few months.”

DN Solutions DVF 5000 5-axis

We have also invested in our second 5-axis machine – a DN Solutions DVF 5000, which is a second-generation series machine. The machine comes with X, Y and X-axis rapids of 42m/min, acceleration/deceleration rates of 0.4g, ▶

B and C-axis rotation speeds of 25rpm, impressive tool-to-tool changeover times of 1.3 seconds and a directly-coupled 18.5kW/15 000rpm spindle.”

“The DVF 5000 can handle larger workpieces than their predecessors, and feature 630mm diameter rotary-tilting tables that can accommodate workpieces up to 600mm in diameter and 500mm in height.”

Victor P76 VMC

“We have also seen the arrival of a new P76 vertical machining center from Victor CNC. The Victor CNC 3-axis VMC incorporates a 30 tool ATC that can change tools in a blistering 1.6 seconds with a chip-to-chip time of 4 seconds, has rapid feed rates of 48m/min in the X and Y-axes with 32m/min possible in the Z plane, its XYZ work envelope is 760mm by 500mm by 510mm and the machine also demonstrates rigidity and stability through its BBT-40 face and taper contact spindle configuration.”

“To increase material removal rates, the P76 has an 18.5kW spindle motor that delivers high torque levels throughout the speed range that reaches a top spindle speed of 12 000rpm. The maximum component weight of 500kg on its 840mm by 500mm table.”

First Wire EDM machine: Fanuc α-C400iC Robocut

“We have also acquired our first Wire Electric Discharge Machine (EDM). The Fanuc Robocut C400iC Wire EDM machine features the Fanuc 31i-WB control with the new iHMI User Interface, enhanced Automatic Wire Feed System and an advanced all digital power supply. The AWF3 system has been engineered to thread workpieces of up to 250mm thick. The EDM is able to process workpieces of up to 500kg with an XYZ-axis capacity of up to 730mm by 630mm by 250mm, offering significant versatility for a number of applications.”

“All Robocut machines feature the patented twin servo automatic wire tension control ensuring accurate, straight parts. Above all, the Robocut CiC-Series EDMs are built 100% in Japan and offer exceptional reliability that Fanuc is known for worldwide.”

Forging press

“This is another process that we have recently added. Basically, material is rough machined by us then we coat the material with graphite grease before it is heated up in the induction furnace that we purchased at the same time. It is then transferred to a jig on the press that holds the die before a component is pressed. The component then comes back to the machine shop for finishing.”

“To eliminate human error and fatigue we have added a Fanuc robot for the machine tending and material handling aspects.”

“We have also taken our Fanuc α-D14LiB5 Robodrill tally up to three.”

“Although PTF Manufacturing had zeroed in on machining components for the pump and valve industry as its primary business strategy, this has changed in recent years.”

“Machining of components for the pump and valve industry is still very much part of the mix and accounts for most of our machining output. We have been operating in a niche area of the industry whereby we are known for machining the more complex components and not the ‘dog eat dog’ side of the business. These parts consist largely of axisymmetric shapes, so lathe work is the main part of the production, but as we have grown and added more equipment to the shop floor, we have increased the variety of operations and components that we are able to machine,” explained Morris.

Contact PTF Manufacturers on TEL: 011 825 3590 for further details. ■



The new P76 vertical machining center from Victor CNC



A DN Solutions Puma 4100 series big bore turning center arrived to be installed on the day of the interview



PTF have also purchased a number of DN Solutions Lynx 2100LSY turning centers

Harchris Heat Treatment under new ownership

With the imminent retirement of Managing Director Errol Preston, Harchris Heat Treatment has been acquired by Erindale Holdings (Pty) Ltd, new owners that have a background in the agriculture and mining sectors. As part of the agreement, which was signed just over a year ago, Errol Preston has remained on in a consulting capacity to oversee the handover and mentor the new owners.

"The acquisition of Harchris Heat Treatment is an important milestone for us as the new owners and provides significant end market diversification and additional reach, both of which are key strategic drivers for our business. We are pleased with this recent development and look forward to furthering our core values of customer service, quality, technical expertise, and providing solutions to our customers," said Shane Potgieter, who is the new Managing Director.

"It was decided to purchase Harchris as a going concern, and therefore, the majority of the original staff have stayed on. Additionally, we have appointed a Business Development Manager, a Junior Production Manager and a Processing Plant Engineer."

"The services that Harchris Heat Treatment, one of South Africa's oldest heat treatment companies, offer includes stress relieving, annealing, spheroidising, sub-critical annealing, solution heat treatment, normalising, water and oil quenching and we also specialise in annealing and hardening of chrome iron. The services include both the non-ferrous and ferrous sectors."

"As part of constantly improving our customer service, we have endeavoured to turn Harchris into a one-stop manufacturing shop. Therefore, we have partnered with a local shot blasting company and can now offer shot blasting, corrosion protection, and painting services. In addition to this, we have a 500-ton press on the premises and a 30-ton, 14-ton and 7-ton truck for any transport requirements."

"Future expansion plans include the commissioning of a brand-new pit furnace with recuperative burners by the end of 2025, as well as the commissioning of a muffle furnace in the second quarter of 2026."

"The company now has 25 furnaces of various sizes, shapes and methods of heat treatment. The majority of furnaces are gas-

fired, and the balance electrical heating. At Harchris, we can accommodate jobs up to 18 metres in length, five metres in width and 50 tons in lifting capacity. The majority of work currently heat treated include high pressure vessels, fabrications, castings, bars, billets, plates, pipes and wire rod."

Harchris was established by Harry Preston, father of the previous MD Errol Preston, in 1950 as Central Welding Works – a general engineering company. In 1951 the company moved to New Era, Springs, Gauteng and still occupy the original premises.

For further details contact Harchris Heat Treatment on TEL: 011 813 2050 or visit www.harchris.co.za



The services that Harchris Heat Treatment, one of South Africa's oldest heat treatment companies, offer includes stress relieving, annealing, spheroidising, sub-critical annealing, solution heat treatment, normalising, water and oil quenching and they specialise in annealing and hardening of chrome iron. The services include both the non-ferrous and ferrous sectors

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South African steel imports surge in August 2025 – a signal of rising import reliance

South Africa's primary steel import (carbon, alloy and stainless steel) data for August 2025 points to a sharp increase in inbound steel volumes, raising important questions about domestic capacity and competitiveness, according to a release by the South African Iron & Steel Institute (SAISI).

The release says total imports of primary steel products rose by 53.76% compared to August 2024, reaching 130 385 tons. In total 84 800 tons were imported in 2024. This growth reflects the country's growing reliance on imported steel to meet local requirements.

Key developments contributing to the increase are that carbon steel imports increased by 46.63%, maintaining the largest share of total imports, alloy steel rose by 69.23%, indicating ongoing substitution in specialised applications and stainless steel imports surged by 113.58%, pointing to rising dependence on foreign supply in this critical segment.

Product trends

Significant jumps were recorded in billets, blooms and slabs which rose by +1 259.61% and forged bars by +1 101.67%, suggesting more semi-finished steel entering the market – possibly displacing local production. Similarly, strong gains in painted and plastic-coated sheet (+208.99%) reflect steady demand in downstream industries increasingly served by imports rather than domestic mills.

Conversely, imports of wire rod (-86.33%) and electro-galvanised sheet (-49.72%) declined, showing uneven dynamics across product categories.

For South Africa's steel sector, these figures underscore



a critical challenge: Ensuring that import growth does not come at the expense of local manufacturing and industrial resilience. SAIISI says it continues to monitor these developments and advocate for a balanced trade environment that supports sustainable domestic production.

Other figures

Imports of intermediate products in alloy steel declined fractionally from 430 tons in 2024 to 427 tons in 2025, carbon steel increased from 250 tons in 2024 to 6 771 tons and stainless steel dropped from 27 tons in 2024 to 1 ton.

Sections and bars in alloy steel rose to 3 541 tons in 2025 from 2 495 in 2024, in carbon steel they declined slightly to 6 209 tons from 6 406 tons in 2024.

Flat products in alloy steel climbed to 26 191 tons in 2025 from 145 896 tons in 2024, in carbon steel they went from 57 304 tons to 80 799 tons and in stainless steel from 2 109 tons in 2024 to 5 201 tons in 2025.

Donkey Long Tong brings fire tool manufacturing in-house with JFY CNC bending brake and other CNC machine tools

Four years ago, Donkey Long Tong's three founders, Marcel, Simoné, and Nic, couldn't have imagined operating a fire tool manufacturing business from a 3 000m² factory and employing 28 people.

Such is the popularity of the fire tools that they manufacture and sell that the founders have had to make strategic decisions regarding their manufacturing processes to keep up with domestic and international demand and plan for future growth.

Luke Dyson, Donkey Long Tong's Head of Engineering and a mechanical engineer by trade, says: "I'm here to maximise production and increase workflows wherever possible and

set up and custom-build any machinery we might need to streamline production."

"The idea behind bringing some of the manufacturing processes in-house was not just about bringing down manufacturing costs, but also that it would give us a lot more control over our production goals. It's nice to have the ability to back ourselves to guarantee the product and guarantee the quality of our fire tools."

"Another goal of ours is to build our stock levels and pre-empt demand. We have only had the JFY TPE8 050 bending brake for about four months, and we are still aligning our



Four years ago, Donkey Long Tong's three founders, Marcel, Simoné, and Nic, couldn't have imagined operating a fire tool manufacturing business from a 3 000m² factory and employing 28 people

production schedules as we get used to the processes."

The JFY TPE8 press brake is an all-electric machine designed for efficient bending of small parts, featuring a direct-drive servo motor that enhances processing efficiency by over 1.5 times compared to traditional hydraulic models. It has a 500 ton bending force and a bending length of 1 500mm.

It offers adjustable bending speeds for precision and energy savings of more than 70%, contributing to environmental protection. Its compact design allows for flexible installation and cost-effective maintenance.

"I use Fusion 360 for my CAD work, not just for new product design and design improvements, but also specifically to ▶

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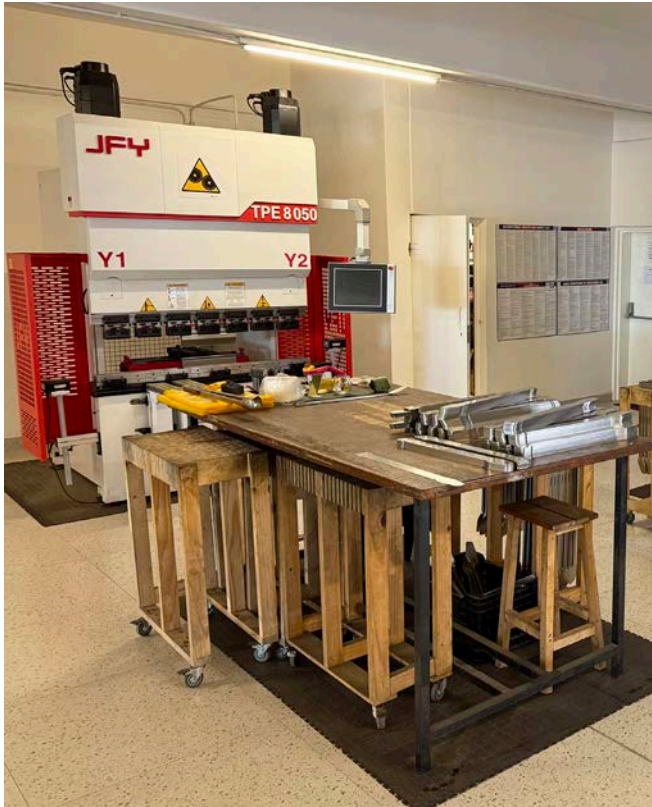
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build some of our machinery to improve our processes. For example, we needed a drill press that could drill three little holes instead of a single drill press drilling out the holes individually to speed up the production of our fire tool handles, so I designed a CNC drill press that would be able to do this for us really accurately, and then built that from scratch. It's about chasing really tight tolerances across all of our fire tools," continued Dyson.

"Another project that I have worked on since I joined the business was to redesign the moulds that press the heads for the tong heads. Essentially, this made the compression



Supplied by Puma Machine Tools, Donkey Long Tong recently purchased a JFY TPE8 050 press brake. It's an all-electric machine designed for efficient bending of small parts, featuring a direct-drive servo motor that enhances processing efficiency by over 1.5 times compared to traditional hydraulic models. It has a 500 ton bending force and a bending length of 1 500mm

when pressing the tong heads significantly smoother and cleaner, resulting in a better finish for the tong heads. Before we decided on the final mould design that would be machined and hardened, I experimented with various designs using our Prusa i3 MK3 3D printer. I'm also currently designing a new press for us and will also build that for us."

"What I can't manufacture and build in-house, I will source from suppliers like SPP Profiling. They still manufacture all of our tong blanks for us, and we still have a very good relationship with SPP. Another supplier that we work closely with is Gullwing Engineering – they've been with us since day one. Puma Machine Tools is the supplier of the JFY press brake."

"We have also decided to simplify our tong pre-cleaning phase of production, and Luke and Marcel were instrumental in designing and building our 'tong gobbler' machine," explains Nic Eve, one of Donkey Long Tong's co-founders.

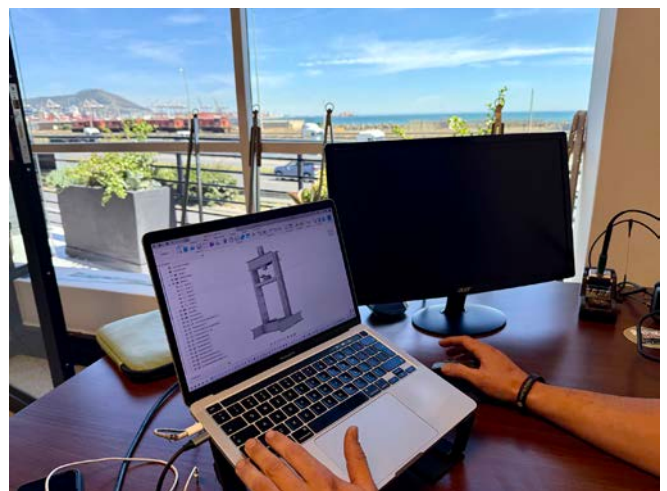
"The tong gobbler is our name for a polishing wheel, and it gives us a certain surface finish that we are after. We can just change up the abrasive material as needed to achieve different finishes. Our philosophy has always been to create the perfect product and then create the tools to create that perfect product. If you've got a need, rather create a tool that hyperfocuses on that need."



The 'tong gobbler' is a polishing wheel, and it gives Donkey Long Tong a certain surface finish that they are after when pre-cleaning their tong blanks. Luke Dyson, Donkey Long Tong's Head of Engineering and a mechanical engineer by trade, designed and built the machine along with one of Donkey Long Tong's cofounder's, Marcel



Donkey Long Tong's Head of Engineering, Luke Dyson, designed and built a drill press that could drill three little holes instead of a single drill press drilling out holes individually to speed up the production of their fire tool handles



Donkey Long Tong make use of Fusion 360 for CAD work, not just for new product design and design improvements, but also specifically to build some of their own machinery to improve their in-house processes



Donkey Long Tong have purchased two CNC routers to aid their woodwork department – one is for rapid prototyping and the other for full-scale production

“We were finding that in their organic shape, once cut and bent up and delivered that the tongs were harder to clean before assembly, so we decided to have the tong blanks delivered flat – an added reason for using the press brake, as we would then be able to bend the tong blanks ourselves. The blanks also travelled better flat and made storage for us better, too,” continued Eve.

Additional CNC machinery and in-house processes

“Apart from the JFY press brake, we have purchased two CNC routers to aid our woodwork department – one is for rapid prototyping and the other for full-scale production.”

“We need to look at machinery and processes that allow us to fast-track prototyping of new products, but not just new products – tooling too. We have such unique problems to solve here that a lot of the time, we just have to figure it out, and it comes down to a mentality of having a can-do attitude. Sometimes it helps not being classically trained in a certain discipline, as that allows you to think outside of the box. We also have to be mindful of not focusing entirely on being a manufacturing business.”

“Having said that though, with the new factory and all the space that we have at our disposal, each section of manufacturing now has its own dedicated space – so you’ve got the woodworking department, a full assembly line as well as the CNC bending department and the leather cutting and sewing department – where we have added a multifunctional hot stamping machine for providing finishes to the leather as well as a skiving machine.”

“Now that we have these machines, we can start improving on the processes of our current production models.”

“We have the philosophy that we are all sitting around a fire, and where collaboration makes sense, then we will embrace that. It’s important for us to stimulate the South African economy and create a South African story and make that go global – we have the capacity, the potential, and the skills to do this. To give you an idea, we are now able to manufacture between 300 and 400 tongs a day.”

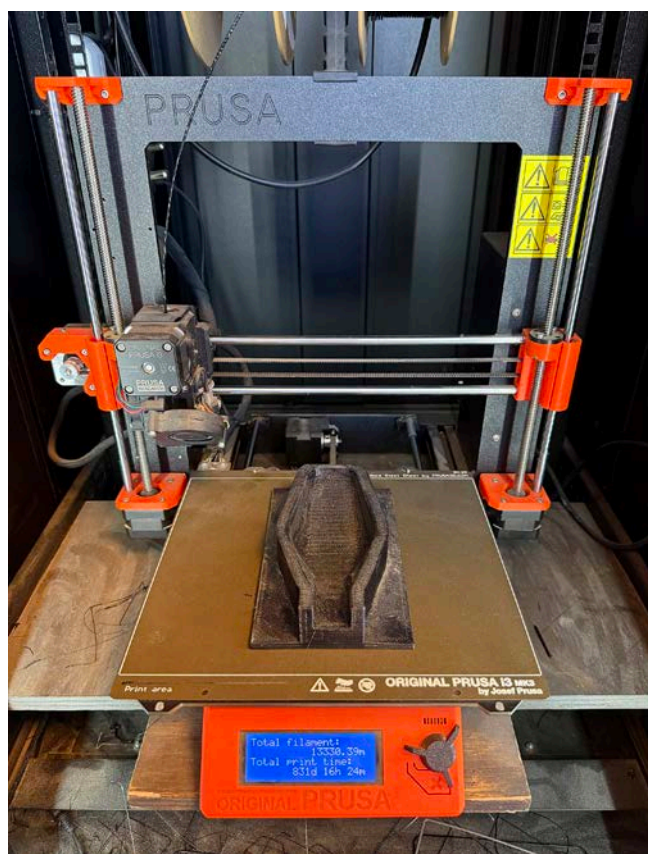
“With our new showroom here at the factory, we wanted to keep it authentic to the brand, so we’ve set up a little camping scene – we’ll even have meetings in our camping chairs sometimes – and we are going to have a little coffee shop and also have a museum area.”

Donkey Long Tong has now introduced laser engraving with their ComMarker fiber laser engraver and customers can order their tongs with personalised engravings. The engravings are etched in and not just done at a surface level, ensuring that they’ll last as long as your tongs and other Donkey Long Tong fire tools do.

“We are very excited about the future. We have some cool products that are at their final stages of prototyping now before we begin full production with them. We like to blend a bit of old school with new school here,” explains Marcel Hattingh, another of Donkey Long Tong’s co-founders. ▶



The leather cutting and sewing department has seen the addition of a multifunctional hot stamping machine for providing finishes to their leather products



Donkey Long Tong use a Prusa i3 MK3 3D printer for prototyping



Donkey Long Tong used their Prusa i3 MK3 3D printer to prototype moulds when they redesigned the moulds that press the heads for their tong heads

“People like to say that things aren’t made like they used to be, but that’s just not true. It’s the way that you make it – your genuine desire for quality. Are you interested in what you are doing – do you really care? Are you just pushing out numbers, or are you making a product that you love? Two things we are never going to budge on with our tongs are our quality and our length. By using state-of-the-art machinery and processes, and where there are easier alternatives



Donkey Long Tong’s range of fire tools include a handmade genuine leather bag, a Donkey Long Tong 80cm, a Donkey Tong 69cm, a Donkey Blower and a Donkey Paddle

to manufacturing what we manufacture, we want to take responsibility for what we do. You can’t do any of this in isolation, though, and you need great partners and you need passion,” concluded Hattingh.

Donkey Long Tong’s fire tools are now available not just in South Africa, but in the US, Canada, Australia, and the UK.

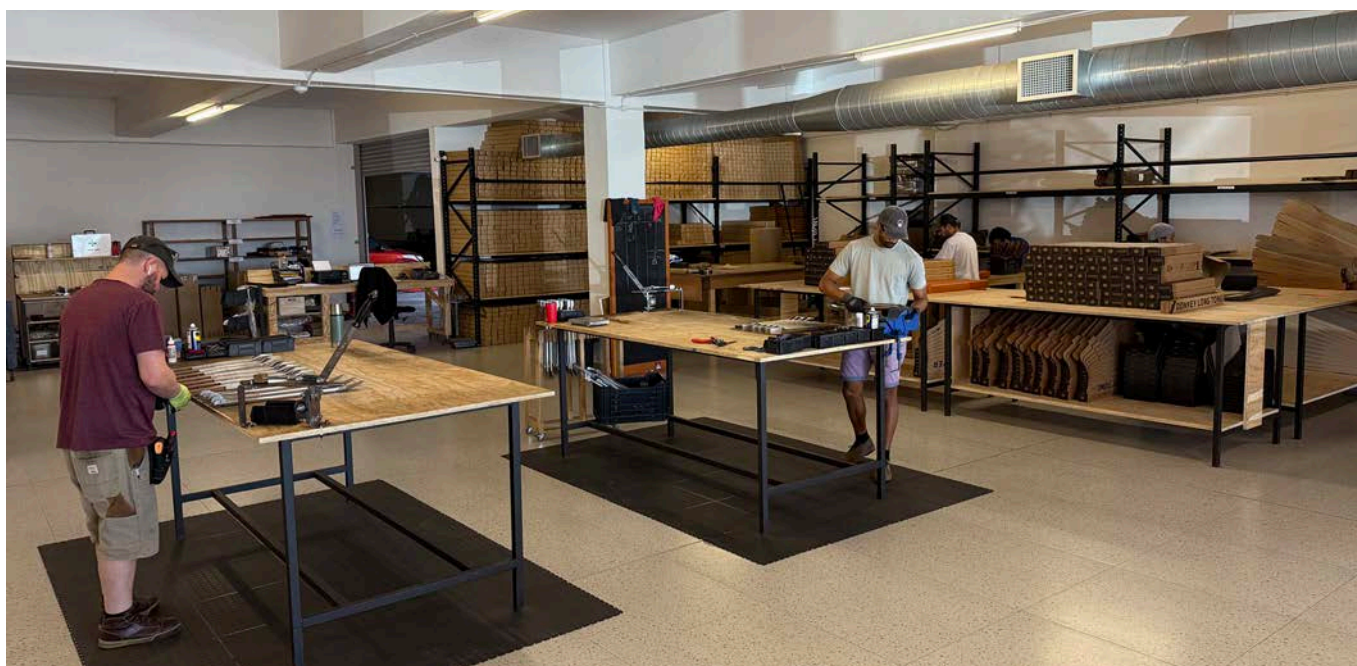
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Donkey Long Tong has now introduced laser engraving with their ComMarker fiber laser engraver and customers can order their tongs with personalised engravings



Fire tool combos include the Donkey Long Tong Jack Sack – a leather bag designed to store all of your Donkey fire tools in style



Donkey Long Tong are now able to manufacture between 300 and 400 tongs a day

Steel importers warn of 'national security' clause misuse in ITAC review



The International Trade Administration Commission of South Africa (ITAC) has come under fire from the steel import industry after proposing the use of national security provisions to tighten controls on steel imports, according to a report in Business Report.

Industry players fear that ITAC's move to invoke Article 21 of the General Agreement on Tariffs and Trade (GATT) – traditionally reserved for situations of war or terrorism – could be used as a blanket restriction on imports, even where no genuine security concerns exist.

Presenting XA International Trade Advisors' seventh Import Duty Investigation Report recently, CEO Donald Mackay warned that "import control is creeping in under the guise of national security," raising suspicions that government may be attempting to bypass its GATT obligations.

"By invoking the national security concern, government is hoping to bypass the obligations under GATT, which say you can't impose import control unless it is to safeguard human, animal, and plant health," said Mackay.

"What is being proposed here is a general purpose import control, which would mean if I want to import a particular piece of steel unrelated to whether there is safety concern on that type, I will put import control. If ITAC does not issue a permit, you will not be allowed to import it. It's been proposed for the first time in the large steel review."

Mackay cautioned that if implemented in the steel sector, such controls could easily be expanded to other industries, such as poultry, effectively creating a new trade protection tool.

"It's a good example of a very convenient tool to use to protect domestic producers," Mackay said.

The XA report also revealed that 93.5% of all tariff codes have not been reviewed in more than 20 years. Many of these duties, Mackay noted, are "legacy tariffs" inherited when ITAC was established and have not been reassessed since.

Rebates, rather than outright tariff removals, have increasingly become the default mechanism when there is no

domestic production. This system forces importers to regularly apply for permits, often leading to costly delays.

"This has important implications for the future. When materials you buy locally are now duty-free, you have to go to ITAC periodically, like every six or three months, depending on what the product is and you need a permit," said Mackay.

"It takes time for permits to be issued. So without permits, you are not guaranteed duty reduction. ITAC could backdate the duty but they are not obliged to do that, and so that could turn into quite a lot of money."

Many of the tariffs under review affect intermediate products like steel, which are critical inputs for downstream industries. Higher costs on raw materials, Mackay argued, ripple through the manufacturing value chain, undermining competitiveness.

He cited the recent expiry of a rebate on titanium dioxide – a chemical with no current local production – as an example of policy misalignment.

"The permit cannot be issued. We have just seen that on a chemical titanium dioxide rebate that has now ended. We still don't have domestic production of the product," said Mackay.

"There is a factory that is being set up but you cannot get a rebate duty on that raw material, and so this is in the nub of what we have a concern about relating to replacing duty reduction."

The investigation also highlighted the ballooning number of rebates, with more than 80 temporary steel rebates currently in place. Mackay said the growing complexity of the system creates opportunities for abuse.

"When you replace the duty removal with the rebate, you add complete complexity. Steel for example, we now have incredibly complicated rebates," he said.

"Complexity opens the door for circumvention. In steel, we have seen interesting things as you increase the complexity you increase the probability that some will take a chance and not pay the correct duty."

SASSDA spearheads stainless steel master plan as sector roadmap to 2030



Different profiles of stainless steel

labour representatives to align industrial growth with sustainability and social development objectives. “This is not a SASSDA management exercise,” Basson emphasises. “It is a plan by industry for industry. SASSDA’s role is to coordinate, facilitate and ensure that every voice in the value chain is represented.”

From national framework to focused action

The Steel Master Plan, which first identified the need for a stainless steel-specific framework, noted that the industry holds “immense value-added potential and good international demand”. Building on that, the SSMP will focus on stimulating both local consumption and exports of stainless steel products. Unlike the broader steel plan, the SSMP will address stainless steel’s unique challenges, such as import competition, fragmented regional markets, and the need to boost downstream manufacturing capacity. It will also highlight the industry’s contribution to high-growth areas such as food processing, water

infrastructure, and clean technology.

“Through our work on the Steel Master Plan we built strong partnerships between the public and private sectors. That experience has positioned us to lead a process that focuses specifically on stainless steel and the actions needed to secure its long-term growth,” says Basson.

Implementation timeline and goals

The SSMP will be developed through five phases. The first will involve stakeholder mapping, engagement and sector analysis, including a full SWOT and PEST assessment and a baseline audit of local capacity and capability. By May 2026, SASSDA aims to complete the first three phases, including defining a shared vision, mission and set of strategic goals for the stainless steel sector. These goals are expected to focus on areas such as localisation, skills development, sustainability, circular economy practices and export expansion.

The fourth phase will establish an implementation framework and monitoring structure by October 2026. Annual progress reviews will begin in 2027, with a mid-term evaluation in 2028 and a final assessment in 2029, setting the stage for the next planning cycle to 2030. All targets will be developed using the SMART principle, ensuring they are specific, measurable, attainable, realistic and tangible.

How this aligns with SASSDA’s Vision 2030

While the SSMP is an industry-wide initiative, its collaborative nature supports SASSDA’s own Vision 2030, which seeks to reposition the 61-year-old association for long-term relevance and sustainability. SASSDA’s internal Vision 2030 aims to transform the organisation into a financially sustainable, ►

The Southern Africa Stainless Steel Development Association (SASSDA) has announced the launch of a new Stainless Steel Master Plan (SSMP), a national collaborative initiative that will chart the course for the local stainless steel sector’s growth, competitiveness, and sustainability to 2030. The SSMP is being developed as a dedicated framework for the stainless steel value chain, following the Department of Trade, Industry and Competition’s (the dtic) 2020 Steel Master Plan, which formed part of South Africa’s Reconstruction and Recovery Plan. While that plan covered the entire steel industry, stainless steel was a relatively small focus area.

SASSDA Executive Director Michel Basson says the new sector-specific plan will give stainless steel the strategic attention it needs to realise its potential as a high-value contributor to South Africa’s industrial economy. “The stainless steel industry is small in volume but significant in value. The Steel Master Plan recognised this and called for a separate sub-sector plan. We are now taking that recommendation forward by developing a plan focused entirely on stainless steel’s strengths, opportunities and future priorities,” says Basson.

A distinct sector initiative

The Stainless Steel Master Plan is not SASSDA’s internal roadmap but a sector-wide effort that includes a wide range of stakeholders. These include stainless steel producers, fabricators, suppliers, retailers, government departments, regulators, labour, and tertiary institutions. Key partners include the dtic, SABS, CSIR, SAIW, SAISI, SAPOA, the Manufacturing Circle and universities offering engineering and metallurgy programmes. The initiative will also involve environmental and

technically capable and industry-representative body that delivers value across the stainless steel value chain. It focuses on strengthening membership, improving service delivery, growing exports of South African-made products and enhancing the association's influence in industry and policy circles.

"The Master Plan gives practical expression to parts of our Vision 2030," Basson explains. "Our vision defines who we are and how we operate as an association. The Master Plan defines how the wider stainless steel sector will grow. The two work together but they are not the same." He adds that Vision 2030 positions SASSDA as an independent, credible source of market intelligence and technical expertise, while the Master Plan provides a coordinated roadmap for the entire stainless steel ecosystem to achieve growth.

A unified approach to sustainability and growth

The SSMP also reinforces SASSDA's belief that sustainable industry development requires alignment between business, government and labour. By focusing on practical, achievable actions rather than policy statements, the plan aims to translate collaboration into measurable outcomes such as job creation, local manufacturing growth and increased exports.

Basson says that while many challenges lie ahead, the sector has shown resilience and a strong commitment to collective action. "We have reached a crossroads where change is essential for survival. This Master Plan is the mechanism through which the stainless steel industry can chart its own future. It brings structure, focus and accountability to how we build competitiveness and sustainability."

Looking forward

As SASSDA leads the coordination of the Stainless Steel Master Plan,

it continues to refine its own internal strategy under Vision 2030 to ensure that it remains a relevant and effective industry voice. Together, the two frameworks are expected to strengthen South Africa's position as a producer of high-quality stainless steel products for both domestic and international markets.

"Our goal is to ensure that stainless steel remains the material of choice for modern, sustainable development," Basson concludes. "Through collaboration, data-driven planning and clear direction, both SASSDA and the industry can build a stronger, more competitive future."

For further details visit www.sassda.co.za



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South African refractory specialist Refraline has broadened its manufacturing capabilities with the launch of a new stainless steel anchor production facility

Refraline expands local capability with new anchor manufacturing facility

South African refractory specialist Refraline has broadened its manufacturing capabilities with the launch of a new stainless steel anchor production facility, a move the company says will enhance quality control, reduce lead times, and provide customers with a more comprehensive service offering.

Refraline, which has operated in the refractory sector for 45 years, has steadily grown its portfolio across material

supply, manufacturing and installation. Refraline divisional manager for material trading, precast and stainless steel anchors Gareth Newall says that the addition of anchor manufacturing represents a natural extension of the company's existing expertise.

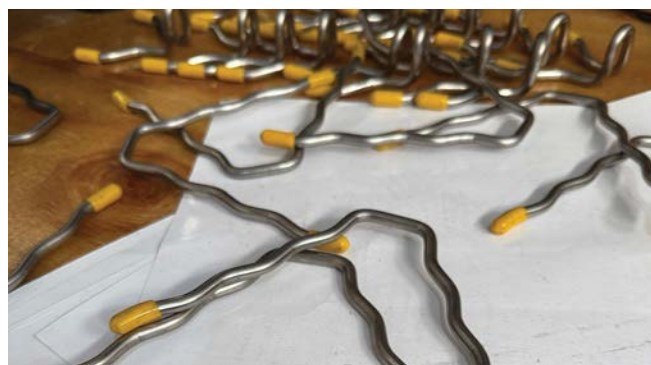
"Refractory anchors tie hand-in-hand with the monolithic products we already produce. Bringing this process in-house strengthens our competitive advantage and allows us to serve customers faster and more effectively," he noted.

Anchors play a critical role in stabilising refractory linings within industrial furnaces and other high-temperature process equipment. They must be carefully selected and designed based on operating conditions such as heat, vibration and chemical exposure.

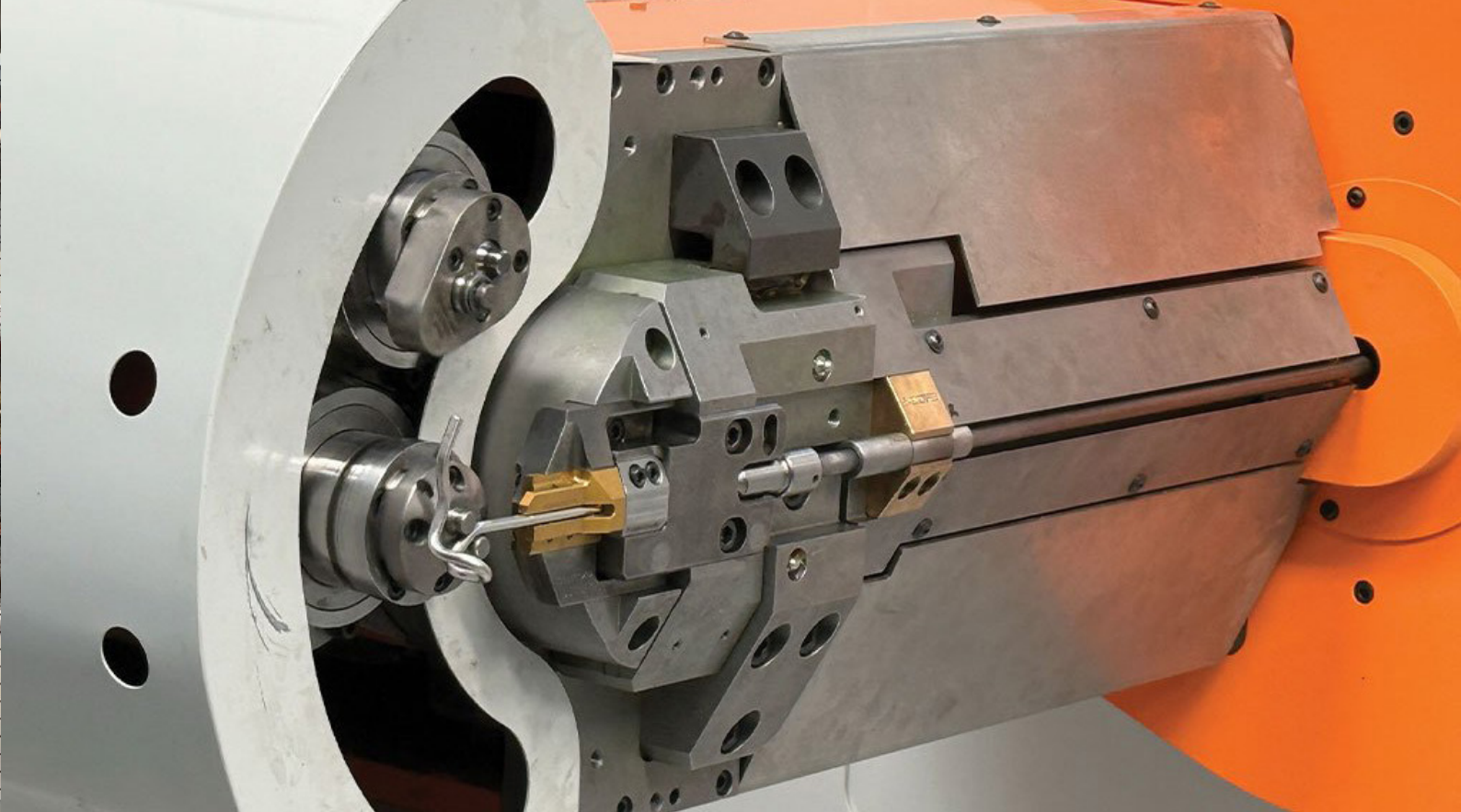
"Anchors need to be welded or bolted into place and



Depending on the size, anchors can be produced in seconds. Shorter designs take as little as two seconds, while longer models may require around 12 seconds



"Pressed anchors often show press marks that may compromise the lining material. With our method, we avoid that risk, ensuring a cleaner, higher-quality product."



By manufacturing anchors locally, Refraline can significantly shorten turnaround times compared with imports

designed according to the thickness of the lining, the operational environment, and the grade of stainless steel required,” Newall explains. “These factors determine not just the anchor’s dimensions, but also whether materials such as Inconel or higher-grade steels are necessary for extreme conditions.”

Quality assurance

Quality has been a central focus in establishing the new facility. Refraline sources stainless steel coils from certified suppliers, accompanied by test certificates. These are further verified through in-house and, when required, independent laboratory testing.

“Once we receive the coils, we test them to ensure they meet client requirements. We then label and allocate them by grade, ensuring complete traceability from procurement through to final installation,” explained Newall.

During production, each anchor is checked against design specifications. “We monitor angle, height and diameter closely, ensuring the finished product matches the approved client drawing. That attention to detail underpins the reliability of our anchors in service,” he added.

By manufacturing anchors locally, Refraline can significantly shorten turnaround times compared with imports. The company also maintains minimum stock levels of commonly used grades to meet urgent requirements.

“The immediate benefit is lead time. Overseas procurement introduces delays, but by producing locally, we can deliver quickly – even on unplanned orders. This strengthens client confidence and secures market share,” said Newall.

Equally important is Refraline’s ability to integrate anchor manufacturing with its wider refractory solutions. “We can manage the full chain, from thermal calculations and design drawings through to material supply, anchor production and final installation. That makes us a true one-stop shop,” he emphasises.

Advanced technology in design, production

The facility is equipped with a modern 3D computer

numerical control (CNC) bending machine, which enables rapid and precise anchor manufacture. Refraline draughtsperson Praylene Dikshoorn explains that the process begins with a CAD drawing, which is converted into a CNC programme.

“Once the client approves a design, I feed it directly into the machine, make the necessary adjustments, and run a sample. If everything matches the drawing, we proceed to full production,” she explained.

Depending on the size, anchors can be produced in seconds. Shorter designs take as little as two seconds, while longer models may require around 12 seconds.

The machine’s bending technology also produces smoother surfaces compared with pressed anchors, which can leave sharp edges. “Pressed anchors often show press marks that may compromise the lining material. With our method, we avoid that risk, ensuring a cleaner, higher-quality product,” noted Dikshoorn.

Refraline offers a wide variety of anchor types, from gullwings and bullhorns for shorter linings to more specialised designs for insulated systems. Some anchors are threaded or notched, providing versatility for different installation methods.

“The design depends entirely on the application – whether it’s for insulation, wear resistance or impact resistance. We work closely with clients to advise on the most suitable solution,” said Dikshoorn.

Looking ahead, Newall sees the anchor facility as a springboard for further expansion. “Right now, one CNC machine can handle a substantial workload. But as demand grows, we anticipate adding more machines and broadening our capacity,” he says.

For Refraline, the new division represents more than just additional capability. It reinforces the company’s reputation for professionalism, quality and innovation in refractory solutions.

“What we want clients to see when they walk into this facility is neatness, cleanliness and professionalism; a reflection of the standards Refraline has maintained for 45 years,” concluded Newall.

For further details visit Refraline on www.refraline.co.za ■

Chinese-backed steel mill rises in Nigel

A new steel mill, Chung Fung Metal, near Nigel, South Africa, is set to begin operations soon, producing 600 000 tons of long steel annually. Backed by Chinese investors, the R2.5 billion project has raised concerns amid a struggling steel industry and recent mill shutdowns.

According to various reports Chung Fung Metal has stated that the plant is situated on a 120-hectare site in the Kaydale industrial zone, just off Nigel Springs Road near the Dunnottar Airbase (Dunnottar Extension 8), and that it uses electric-arc furnace (EAF) technology, enabling lower carbon emissions compared with traditional blast furnaces.

Furthermore, the company added that the site was selected for its proximity to existing infrastructure, including rail links to the Durban port corridor, thereby providing strategic access to transport networks and integrating into the local industrial landscape previously dominated by legacy operations.

The investment arrives against a backdrop of persistent challenges for South Africa's steel sector. Ongoing power shortages, rising input costs, and the influx of cheaper imported steel continue to erode the competitiveness of domestic producers.

Over the past year, ArcelorMittal South Africa (AMSA) – the country's largest steel manufacturer – has announced several plant closures, retrenchments and production curtailments, citing unsustainable financial pressures. AMSA began preparatory steps to wind down its long-steel operations in Newcastle, KwaZulu-Natal, effective 1 September 2025. This has since been put on hold by a Labour Court ruling on 29 October 2025 ordering worker reinstatements. However, AMSA have applied for leave to appeal.

Nevertheless, the company stated that despite

engagements with government and stakeholders it had been unable to secure a viable path forward to sustain operations without incurring significant financial risk.

Despite the challenges faced by AMSA, Chung Fung Metal has projected the Nigel project will create approximately 1 200 direct jobs, with 1 000 positions already filled during phase one and further employment expected as operations expand.

The company reported that over 70% of the current employees are drawn from local townships, including Duduza, Tsakane and KwaThema, in line with its local economic empowerment commitments.

Recent job postings emphasise general-worker roles requiring red-seal qualifications and experience in the metal or civil-construction industries. In August 2025, local community groups petitioned the company to clarify recruitment processes and expand local-hiring quotas; Chung Fung Metal responded by increasing recruitment in line with regulatory and empowerment objectives.

It should be pointed out that in September 2025, the Industrial Development Corporation (IDC) announced a separate partnership – via a Memorandum of Understanding with China's Hebei Iron & Steel Group (HBIS) and the China-Africa Development Fund – estimated at up to R90 billion, to explore a new green-field steel plant with projected output of up to five million tonnes per year (drawing from ambitions in a 2014 MoU, with the 11 September 2025, agreement emphasising initial feasibility studies for a major iron and steel project).

Although unrelated to the Nigel project, the IDC stated the agreement reflects growing Chinese engagement in South Africa's metals and processing industries. ■

ITAC is proposing to reduce the Price Preference System (PPS) discount on scrap metal from 30% to 25%

Tight deadline to submit comment.

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

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

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

Interested parties are requested to provide comments on the draft terms of reference for the Technical Working Group established under the PPS. Submissions should be forwarded electronically within two (2) weeks from the date of this notice to the following Commission official:

Mrs. Dudu Mogale, Manager: Import and Export Control:
Email: dmogale@itac.org.za ■



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The art of electroplating – an unsung metalworking hero



Based in Anderbolt, Boksburg, Anderbolt Electroplaters offers electroplating and component finishing to a range of different industries

Anderbolt Electroplaters was established in 1994 by Trevor Fox and has been proudly run as a family-owned business since then, priding itself on personalised service and lasting relationships with clients no matter the size of the job.

Based in Anderbolt, Boksburg, Anderbolt Electroplaters offers electroplating and component finishing to a range of different industries.

"In terms of the amount of finishes that we are able to offer, no other jobbing shop comes close to us," says Darren Fox, Trevor's son and the next generation, now Managing Director of Anderbolt Electroplaters. Fox joined his father's business in 2001 and has been part of the growth trajectory it has experienced over the years since then.

"We regard ourselves as the most comprehensive electroplating jobbing shop around," continued Fox. "My dad

is still very much involved in the business at 81-years-old. He plays golf a few times a week and does some odd jobs for us when needed but his industry experience and knowledge are priceless. He is still very well respected in the industry and there just aren't that many people left in the industry these days with that kind of experience."

"After initially starting a powder coating business next door to this business, Dad decided to branch out into electroplating with this business when the opportunity to purchase it came his way. It's funny because neither of us were any good at chemistry at school – and that's everything that electroplating is about – but Dad has made a success of this business and I am fortunate to benefit from it."

"There are a lot of electroplating businesses around – but one of the key aspects that differentiates our business is that we are able to offer a number of different plating and ►



“In terms of the amount of finishes that we are able to offer, nobody comes close to us,” says Darren Fox, Managing Director of Anderbolt Electroplaters

finishing options. Other businesses may just offer one or two finishes that they have chosen, but we are basically a one-stop-shop if you will, as we offer 34 different kinds of finishes,” says Fox.

“We have always tried to stay ahead of the game here and for example all of our rectifiers have been replaced with air-cooled rectifiers instead of oil or liquid cooled rectifiers. We have always just made the decision to spend the money and ►



Anderbolt Electroplaters plate to SABS and DIN specifications and a number of finished components are exported to Europe, the Middle East and Australia



Anderbolt Electroplaters generally services parts that are exposed to harsh environments like the mining, automotive, rail, pressings, pharmaceutical and machined component industries

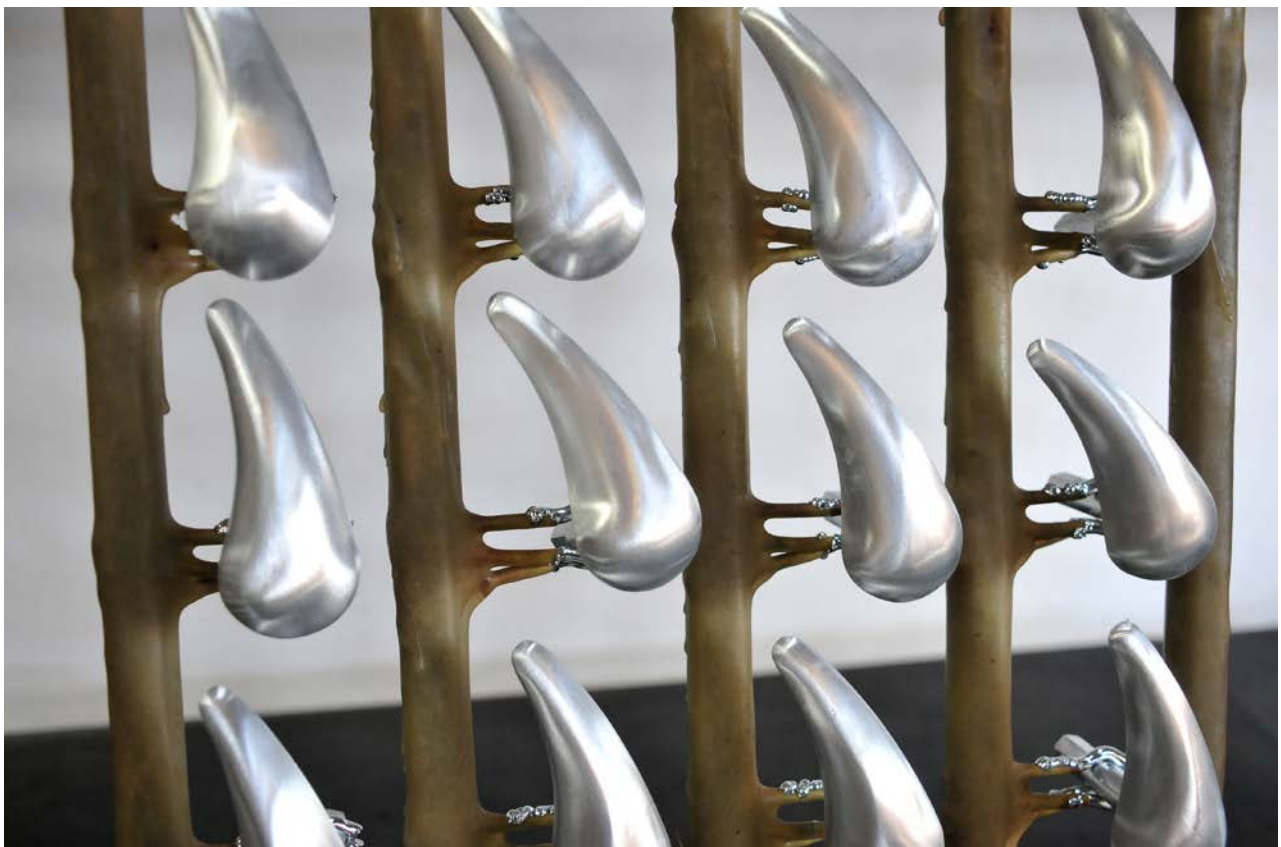
keep up to date with technology and processes. You need to put back into your business, if you not only want to grow it, but also if you want to stay ahead and be the best at what you do."

The art of electroplating

The art of electroplating is an often-overlooked aspect of the metalworking industry. An unsung hero of preservation

and finishing that we all just take for granted. It is an aspect of our industry that requires just as much precision as some of the components that are manufactured with machine tools and tight tolerances.

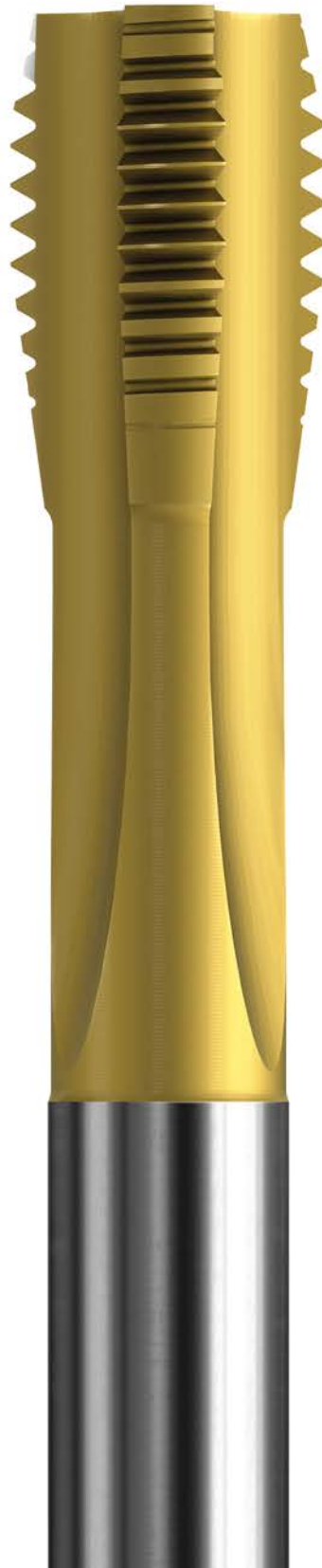
Electroplating has been part of manufacturing for more than a century and it remains critical to how components are protected, finished and made functional across a wide



Anderbolt Electroplaters also service decorative industries and finishes include for doorware and sanitary ware – where products can range from bath feet to flush valves, door handles and other decorative type finishes

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A finished component



“In this industry we speak about coating thickness and salt spray hours. Salt spray hours is a difficult term to define. I have heard guys say that 100 salt hours is about the equivalent of one year’s worth of corrosion protection. But then other guys will say something different. Essentially there is no direct conversion from salt spray hours to real world service life because real environments are a lot more complex.”



Aluminium Anodising. The anodising process produces a thick oxide layer on the surface of aluminium which is used to improve corrosion and wear resistance and can be done in a variety of colours

range of industries. The process may appear straightforward, but the precision and consistency it requires make it a technical discipline in its own right.

In simple terms, electroplating uses an electrical current to deposit a thin layer of metal onto a component’s surface. The component acts as the cathode and it is immersed in a chemical bath containing dissolved metal salts. A metal anode of the same type is also placed in the solution. When current is applied, metal ions move through the electrolyte and form a coating on the component. The anode slowly dissolves, keeping the chemical balance in the bath stable.

Electroless nickel is common where wear and corrosion resistance are needed. Zinc is applied to steel components as a sacrificial coating to prevent rust. Copper offers excellent electrical conductivity and is used in electronics and as the primary layer for further plating. Chrome provides a hard and bright surface and continues to be widely used in automotive, sanitary ware and door hardware to name but a few. Precious metals such as gold and silver are applied where conductivity and oxidation resistance are critical, especially in connectors and electrical contacts.

There are a few methods of applying the coating, barrel plating is used for smaller parts that can be tumbled together during the various stages of the process. Rack plating suits larger or more delicate items that need to be held in place.

Anderbolt Electroplaters offers all of these methods in its arsenal of corrosion and surface finishing treatments.

Maintaining consistent results depends on controlling a range of variables – the chemical make-up of the bath, temperature, pH and the applied current. Even small changes can result in irregular coating thickness, pitting and poor corrosion protection. Many plating facilities now use some kind of automation on their lines and continuously monitor their filtration systems and conduct analytical testing to keep the process stable and repeatable.

Environmental management has also become an important part of the industry. Traditional electrolytes once contained cyanide and hexavalent chromium, both of which pose significant environmental risks. Any reputable plating facility has already moved to trivalent chromium systems.

Compliance with global environmental standards has become as important as the technical quality of the coating itself. Anderbolt Electroplaters offers all trivalent passivations to local and international standards.

Despite advances in alternative surface technologies such as physical vapour deposition and spray coatings, electroplating remains a practical and cost-effective option. Its versatility, ability to coat complex shapes, and proven performance in demanding environments means that it is still a very



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HOLLOW BAR

ST52 | EN8 | EN19

PLATE

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Anderbolt Electroplaters services a wide range of industries and finishes can range from bath feet to flush valves, door handles and other decorative type finishes



Chrome plating (bright, satin and black chrome). Chrome plating is a process that involves applying a thin layer of chromium onto a surface, typically metal, to enhance its properties. The surface of chrome plating increases wear resistance, gives a bright, shiny, and smooth finish making it easier to clean and maintain

relevant method of metal finishing in modern manufacturing.

"We deal a lot with non-ferrous materials on the decorative side of the business – so brass, zinc die castings, aluminium and your stainless materials. On the industrial side of the business, it's mainly your mild steels as well as the anodising of aluminium."

"Anderbolt Electroplaters generally services components that are exposed to harsh environments like the mining, automotive, rail, pressings, pharmaceutical and machined component industries as well as doorware and sanitary ware – where products can range from bath feet to flush valves, door handles and other decorative type finishes – right through to the antique and restoration industries."

Zinc flake coating machine

"We have recently installed an automated zinc flake coating machine. Zinc flake finishing is essentially an automotive specification type finish and one of its biggest advantages is the long and durable service life it gives finished components. Here we will be coating things like fasteners, brackets and some smaller components like springs. Our aim with installing this machine was mainly to target the automotive and mining industries. It is however not just limited to these, it can also be used in most other industries," explains Fox.

"We are approved applicators in South Africa for a German company called Dörken Coatings. Zinc flake coating is not actually an electroplating finish as there is no current involved in the process. The controlled process firstly goes through a degreasing line and then we send them through our shot blasting process whereby we eliminate any risk of hydrogen embrittlement. Following this, the components get dipped, spun and then baked before going through the necessary quality control checks." ►



“We have a total of 94 tanks that include 32 different plating tanks. On the electro-galvanising or industrial side of the business we are able to plate a component 2.8m in length by 1.4m deep and 550mm wide. On the decorative side of the business, we can plate a component 1.8m in length by 700mm deep and 430mm wide.”



“The list of finishes we offer as I said is extensive and includes copper, antique copper, satin copper, nickel, antique nickel, satin nickel, chrome, satin chrome, black chrome, brass, antique brass, satin brass, silver, tin, electroless nickel, zinc, zinc nickel, zinc phosphate, zinc flake, Delta Tone / Delta Protekt, cold blackening and general anodising in different colours.”



Zinc flake coating machine. “We have recently installed an automated zinc flake coating machine. Zinc flake finishing is essentially an automotive specification type finish and one of its biggest advantages is the long and durable service life it gives finished components. Here we will be coating things like fasteners, brackets and some smaller components like springs. Our aim with installing this machine was mainly to target the automotive and mining industries. It is however not just limited to these, it can also be used in most other industries.”



Anderbolt Electroplaters' shot blasting machine

“Generally speaking, the zinc flake coating method involves two base coats and a top coat – with all the components getting baked in between – and this can give you in excess of 1 000 salt spray hours.”

“In this industry we speak about coating thickness and salt spray hours. Salt spray hours is a difficult term to define. I have heard guys say that 100 salt hours is about the equivalent of one year’s worth of corrosion protection. But then other guys will say something different. Essentially there is no direct conversion from salt spray hours to real world service life because real environments are a lot more complex.”

“To actively test salt spray hours (NSS), we can run salt spray testing on components in-house. This is an accelerated corrosion test that involves testing components and their coatings by exposing them to a fine mist of a salt solution. The components are placed in a salt spray chamber once coated and then continuously sprayed with a controlled salt mist, typically a 5% sodium chloride solution with the chamber kept at 35C. This replicates a harsh environment and is something we have done on all of our finishes. We are doing continual testing in this regard and we are also continuously analysing our tanks on a daily basis with our onsite laboratory,” continued Fox.

“As far as I am aware, we are the only electroplater in the country that runs a heat pump to heat our tanks. We have also invested in a solar powered system and have a 250kW system in place with panels on our roof. Additionally, we have added a generator for backup power if needed and we have made the strategic decision to keep a store of spares on site for issues that may come up like having spare rectifiers and filtration units available to minimise any down time.”

On galvanising – hot-dip or zinc plating?

“Hot-dip galvanising is a very different process to electroplating. What we do is called electro-galvanising – the material coating is still the same – zinc – except that what we do is a cold process. It’s done at room temperature versus dipping a component in molten zinc. The two different methods are also applicable for different types of finishes.”

“Our method of zinc plating though is more applicable to the type of components and industries that we service for example as it applies a thinner layer of zinc and will provide a smoother, more uniform finish versus a rougher, thicker finish you would get when hot-dip galvanising. Zinc plating is also more applicable to smaller more intricate components ▶



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Anderbolt Electroplaters can accommodate one-offs and small runs

versus larger more industrial type components. Our finish will always be more pleasing to the eye."

"With hot-dip galvanising you are looking at a finished surface of about 60 microns whereas with our process of plating you are looking at a finished surface of about 8 up to 25 microns, depending on customer requirements. Think of it this way, if you are galvanising a nut and bolt at 40 or 60 microns you are never going to get a nut to fasten onto a bolt, unless it's been cut to accommodate a much thicker coating."

Bath and tank capacities

"We have a total of 94 tanks that include 32 different plating tanks. On the electro-galvanising or industrial side of the business we are able to plate a component 2.8m in length by 1.4m deep and 550mm wide. On the decorative side of the business, we can plate a component 1.8m in length by 700mm deep and 430mm wide."

"The list of finishes we offer as I said is extensive and includes copper, antique copper, satin copper, nickel, antique nickel, satin nickel, chrome, satin chrome, black chrome, brass, antique brass, satin brass, silver, tin, electroless nickel, zinc, zinc nickel, zinc phosphate, zinc flake, Delta Tone / Delta Protekt, cold blackening and general anodising in different colours."

"We have been fortunate to work with a range of clients and industries over the years including your luxury safari lodges, artists and sculptors, general automotive and mining companies, aerospace, antique car restorers, interior designers, the scaffolding industry, the conveyor industry, the electrical industry, the rail industry, the sports industry – plating trophies for instance – there's virtually no industry that we haven't done work for directly or indirectly via suppliers and contractors. We once even gold plated a strip of aluminium for a sultan's private plane."

"We plate to SABS and DIN specifications and a number of our finished components are exported to Europe, the Middle East and Australia," concluded Fox.

Anderbolt Electroplaters have 43 permanent staff and operate from a 2 100m² factory.

Contact Anderbolt Electroplaters on Tel +27 (0)11 894 2046, Darren on 082 605 1265 or visit www.andele.co.za for further details. ■



Anderbolt Electroplaters can cater to almost any component and industry with their extensive range of plating options



"We deal a lot with non-ferrous materials on the decorative side of the business – so brass, zinc die castings, aluminium and your stainless materials. On the industrial side of the business, it's mainly your mild steels as well as the anodising of aluminium."



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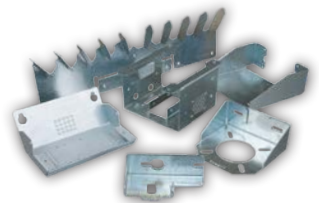
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LTP Series Laser Tube Cutting Machine



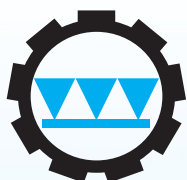
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How do you revolutionise the HVAC-R industry? You research, develop and manufacture the ANSWR



HC Heat Exchangers make use of an Amada EML 2515 AJ fiber laser / punching combination machine that processes 86 tons of thin gauge sheetmetal a month on average. That's about 2 400 sheets or 8 800m² of sheetmetal. The machine is equipped with two 10-tower loading and unloading pallet changers and an automatic turret tool changer

HC Heat-Exchangers (HC) is part of the HC Group of Companies, based in Elandsfontein, Germiston South Africa. The subsidiary specialises in the manufacturing of finned tube heat exchangers, refrigeration system and HVAC equipment at their 21 700m² factory. It is now comfortably the largest OEM turnkey solution manufacturer of such equipment in Southern Africa.

Driven by a strong in-house research and development team coupled with a legion of experienced engineers, HC Heat Exchangers has positioned itself for a further 50 years of manufacturing excellence consistently targeting itself with growth figures in excess of 25% year-on-year.

This kind of internal motivation and employee engagement is clearly a formula for business success.

"We manufacture our equipment primarily for the local market but we also export to numerous territories worldwide," explains David Nurden, HC Heat Exchangers' Chief Operations Officer.

"The Heating Centre group was founded in 1973 and subsequently traded under the German based Güntner SA banner from 1995 until their withdrawal from South Africa in 2001, after which HC Heat Exchangers was established from this solid foundation."

"The HC Group offers engineering solutions in design, manufacturing, installation and after-sales service specialising in the production of heating, ventilation, air-conditioning and refrigeration equipment with an end-to-end solution through our contracting partners. The HC Group has successfully introduced various business units since its inception in order to continuously add value to our customers across the broad range of industries that we serve."

The future of sustainable heating and cooling: The ANSWR – a combined chiller and heat pump which operates on CO₂

HC Heat Exchangers' latest product design breakthrough came when one of their American partners tasked the company with creating a solution for a challenge facing US cities.

Environmental laws require these cities to replace heating systems in their buildings without using fossil fuel-based equipment – like gas-fired boilers. The usage of direct resistive heating sources, although possible, would require new electrical reticulation and massive additional power generation that would make any such attempts completely unfeasible. ▶



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WHO WE ARE

Frankwen Forge was founded in 1981 and has grown into a key manufacturing and engineering business that services a multitude of industries, including the mining, petrochemical, power, marine and general engineering industries.

WHAT WE DO / DIVISIONS

FORGE DIVISION

- Hammers
- Ring Rolling
- Hydraulic Presses
- Expander Sizers
- Saw Bay

HEAT TREATMENT

- Normalise, Temper, Diffuse, Anneal & Stress relieve
- Deep surface salt bath hardening
- Straightening
- Oil and Water Quenching

SPECIAL STEELS

- Round Bar
- Carbon Steel
- Alloy Steels
- Peeled Bar
- Cut to length
- Deep Hole Drilling

MACHINING

- Rough and final machining
- Petrochemical division

FRANKTECH METALLURGICAL SERVICES

- Metallography
- Corrosion Testing
- Chemical Analysis
- Mechanical Testing

CARBURISING HEAT TREATMENT PLANT

Frankwen Forge has developed this facility as a response to the shortage in the South African market for Heat Treatment units capable of providing quality carburising on medium to extra-large gears and pinions.

For HC Heat Exchangers, the answer was simple: Research, design and manufacture a combined chiller and heat pump which operates on CO₂ – a natural refrigerant.

“One of the other foremost challenges was dealing with the limited supply of electricity into these buildings,” continued Nurden. “In built-up cities like New York for example, you can’t easily just run new power cables all over the city for the increased electricity needs.”

“The ANSWR is still able to utilise the same power input but the breakthrough is that it is able to provide both the heating and chilling needs to whichever application – buildings, apartment complexes, office complexes, hospitals and so on would require – with one piece of equipment and a single power input. Another advantage is that customers are then able to remove their old boiler and free up much needed space for whatever they might want to use that space for because of the ANSWR’s smaller footprint.”

“Once we were ready to present our prototype solution – all developed in-house here in our Innovations division and factory – to our American partners, they flew over here to come and have a look at the proof of concept and they couldn’t quite believe that we had been able solve the problem. They immediately got on their phones to report back to their superiors and we’ve gone from there.”

“Such is our belief in this product that we have recently



HC Heat Exchangers has achieved a breakthrough in the HVACR&E industry by developing and manufacturing a revolutionary solution that can simultaneously heat and cool commercial and industrial buildings using natural refrigerant. This solution is called the ANSWR heat pump chiller, and it uses CO₂ as the refrigerant. CO₂ has a Global Warming Potential of 1, which means it contributes positively towards climate change. Compare that to synthetic refrigerants, which can have a GWP of up to 3920, meaning a significant detrimental impact on climate change. The heat pump chiller is eco-friendly, cost-effective and energy-efficient. It can save up to 50% of energy consumption compared to conventional heating and cooling systems. It can also provide heating and cooling at different temperatures and capacities, depending on the demand

established an entity in Europe for representation as there is significant scope for the product there. We are also finalising agreements with other regions to bring the product to market in those areas,” explained Nurden.

And tariffs? Collectively the partners have come to an agreement to keep the product palatable for all parties concerned and manufacturing will still continue at HC Heat Exchangers’ South African factory – an element of the deal that the company is not prepared to budge on given its proudly South African manufacturing history.

“The product is now starting to gain a bit of traction. At the beginning we were manufacturing one or two here and there every few months but we now have a dedicated factory across the road from our main factory that focusses solely on assembling the units, with various components manufactured in the main factory,” says Nurden.

“The United States has very stringent electrical assembly requirements for example and part of being able to manufacture and supply the ANSWR units into the US market entailed us becoming UL 508A certified. Essentially this certification is a safety standard developed by Underwriters Laboratories ▶



HC Heat Exchangers’ Amada EML 2515 AJ fiber laser / punching combination machine is a workhorse



HC Heat Exchangers have installed an Amada ID-TOGU automatic tool grinding machine. Tooling maintenance is an important and indispensable element to keeping product quality in sheet metal products

for industrial control equipment, including panels, relays, and motor controllers.”

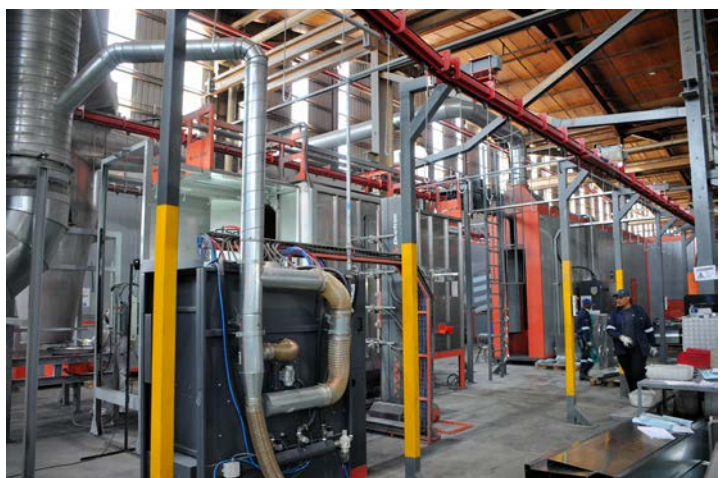
“Certification ensures that products meet the local requirements for electrical safety, performance, and reliability, verifying compliance with North American standards and allowing manufacturers to label equipment as UL-listed for safe industrial use. All of the components that go



Bending work is an integral part of HC Heat Exchangers' work and the company have a number of presses including an Amada RG-35S Hydraulic CNC press brake



Also on the shop floor is an Amada HG 1003 ATC Press Brake with Automatic Tool Changer (ATC)



HC Exchangers' Powder Coating Project – a complete turnkey solution by Coating Techniques SA. In September 2022, Coating Techniques SA began discussions with HC Heat for the design and delivery of a new powder coating facility. From the initial concept and design to fabrication management and installation coordination, Coating Techniques SA successfully led the project from start to finish

into the unit that we manufacture have to be either UL listed or UL recognised.”

“We therefore decided that a dedicated space and a dedicated specialist team be established to give the product the full attention it needs not just from a manufacturing and assembly point of view, but also from a quality control perspective.”

“When we speak of models and variations of the units, we speak in tons of refrigeration so initially we have gone to market with four models – a 20-, 60-, 90- and 120-ton variation being the options available.”

“To overcome a situation in which you may not be able to physically get a 60-ton unit into a building via a service lift we have designed the system as such to be modular so a customer could then incorporate three 20-ton units or more for example to make up their particular needs.”

“To give you some kind of comparison, a normal home would require around 6kW of power for efficient cooling and our 20-ton unit – the TR20 – will produce about 70kW of cooling capacity, as well as 100kW of heating. This means we can easily service 1-2 floors of a commercial building.”

“Its key selling point though is its versatility in that it's not only capable of providing a solution that cools water/glycol, but it also provides a solution for heating as well. The water cooling and heating property means that it can



Built to last, HC Heat Exchangers also make use of an Amada Vipros 255 CNC turret punch press



Typically, material worked with ranges from 0.5mm to 3mm but HC Heat Exchangers is able to process material up to 6mm thick. Pictured is their Bystronic 3015 6kW fiber laser with a ByTrans Extended two cassette loading system



HC Heat Exchangers specialises in the manufacturing of finned tube heat exchangers, refrigeration system and HVAC equipment at their 21 700m² factory

provide domestic hot and cold water as well as industrial hot and cold water. It's a four-in-one solution applicable across so many industries and functions. To make this even better these heating and cooling capacities are in no way dependant on each other meaning that we can supply any percentage of heating and/or cooling at any stage, meaning this single unit replaces two currently needed units – ensuring space saving and efficiency are prioritised."



A Burr Oak Fin Press is used to stamp out the fins from rolls of foil (aluminium, polyurethane, copper or stainless steel)

"Let's take a hospital for example – you can produce chilled water for things like the mortuaries down to -24 °C, while also producing chilled water that can be used for air-conditioning, then you have your hot water at around 55 °C to 60 °C that can be used for supplying geysers and then you will have your very hot water up to 85 °C that can be used for sterilisation and other such applications. All produced using the ANSWR, even when the load requirements are unbalanced."

The ANSWR is equally at home in a supermarket environment where you need a comfortable experience for shoppers and staff but at the same time an environment that ensures that a food chain is well taken care of.

The benefits of CO₂ – a natural refrigerant

"CO₂ has a Global Warming Potential (GWP) of 1, which means it contributes positively towards climate change. Compare that to synthetic refrigerants, which can have a GWP of up to 3920, meaning a significant detrimental impact on climate change. ANSWR eliminates the use of PFAS- Per- and Polyfluorinated Substances (Forever Chemicals). These can be found in many of the latest low-GWP synthetic refrigerant technologies."

"The heat pump chiller is eco-friendly, cost-effective and energy-efficient. It can save up to 50% of energy consumption compared to conventional heating and cooling systems. It can also provide heating and cooling at different temperatures and capacities, depending on the demand and season – all controlled via a sophisticated control panel."

When you consider a scenario whereby electricity is

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SPECIFICATIONS

TYPE Non-tilting furnace

POWER 400 V three phase

MELTING CAPACITY +250
kg/hr for aluminium ingots

SUITABLE FOR Can be used
to melt most non-ferrous
materials

SPARE PARTS New spare
motherboard, spare diodes
and capacitors, all manuals
included

TERMS

PRICE R1 250 000 ex VAT

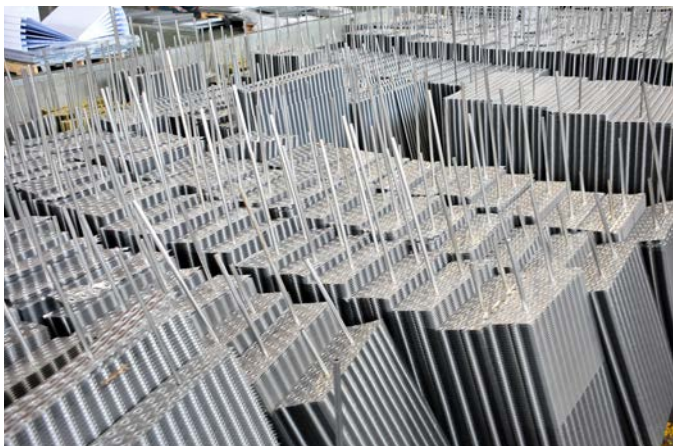
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HC Heat Exchangers is now comfortably the largest OEM turnkey solution manufacturer of finned tube heat exchangers, refrigeration system and HVAC equipment in Southern Africa

provided via renewable resources such as wind farms or solar energy, you can see how the ANSWR fits comfortably into promoting a circular economy and the future of heating and cooling within industrial, commercial and domestic environments.

HC Heat Exchangers' product range

Broadly speaking, HC Heat Exchangers' product offerings fall into five divisions: Coils, refrigeration systems, HVAC, electrical, and value add.

To offer solutions for the commercial and industrial space, the company produces condensers, evaporators (both flooded and direct expansion), chilled water coils, hot water coils, steam coils and dry coolers. The offering includes a variety of different construction materials to suit all operating environments including all stainless coils designed and manufactured to SANS 347 and ASME B31-5 specification.

On the refrigeration range, HC Heat Exchangers design and manufacture a range of compressorised refrigeration systems, specialising in freon and CO₂ systems. The division services the commercial and light industrial refrigeration industry with a range of indoor and outdoor multiplex racks and condensing unit assemblies that include catalogue and custom-built designs.

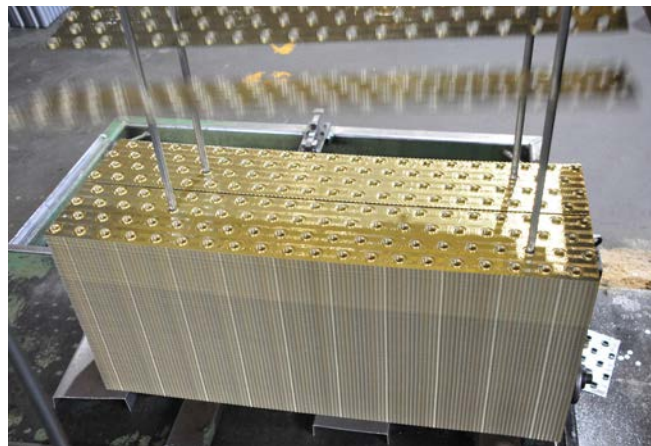
HC Heat Exchangers' HVAC division services the commercial and industrial air-conditioning market with air handling units and rooftop packaged units and HC Electrical offers a complete range of electrical distribution boards for air-conditioning and refrigeration where work is carried out according to appropriate national standards, specifically SANS10142, or the appropriate international codes with an in-house software development team.

The HC Value Add allows for a one-stop shopping experience where they conveniently package projects smalls and components to ensure clients have everything they need. HC Heat Exchangers also carries the ISO 9001:2015 standard along with the International Institute of Welding SANS ISO 3834 certification.

Applications

Applications for HC Heat Exchangers' product range include beverage production, cold storage warehousing, dairy processing, data centres, distribution centres, district cooling, food processing, marine refrigeration, petrochemical, pharmaceutical, refrigerated transport and HVAC for theatre rooms.

Of HC Heat Exchangers' range of products it manufactures, around 50% are supplied into the commercial market and the other 50% into industrial uses. Around 30%



Fins produced from the roll of foil after processing in the Fin Press



A stainless steel tubed industrial evaporator

of these products are what are deemed catalogue and standard issue products, with the remaining 70% being custom-designed to fit a particular need from which standard templates are used to formulate the final product designs.

Shop floor

Aside from the sourcing of some of the raw materials used in the manufacturing process, HC Heat Exchangers manufacture virtually all of their products in-house using an array of specialised CNC equipment coupled with various manual assembly processes and quality control processes. This includes the fiber laser cutting and bending of material as well as the decoiling of material. ▶



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Wire EDM



ROBODRILL
Machining Centre



ROBOSHOT
Plastic Injection Molding



CNC Controls



Industrial Robots



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HC Heat Exchangers services the commercial and light industrial refrigeration industry with its range of indoor and outdoor multiplex racks and condensing unit assemblies

Typically, material worked with ranges from 0.5mm to 3mm but HC is able to process material up to 6mm thick. With the recent addition of an Amada EML 2515 AJ fiber laser / punching combination machine, they are able to process 86 tons of thin gauge sheetmetal a month on average. That's about 2 400 sheets or 8 800m² of sheetmetal. The machine is equipped with two 10-tower loading and unloading pallet changers and an automatic turret tool changer.

Other CNC machines on the shop floor include an Amada Vipros 255 CNC turret punch press, a Bystronic 3015 6kW fiber laser with a ByTrans Extended two cassette loading system and an Amada RG-35S Hydraulic CNC press brake as well as an Amada HG 1003 ATC Press Brake with Automatic Tool Changer (ATC).

On the tube cutting side, HC Heat Exchangers make use of Burr Oak, Trident and in-house developed custom machinery.

HC Heat Exchangers' Powder Coating Project – a complete turnkey solution by Coating Techniques SA

In September 2022, Coating Techniques SA began discussions with HC Heat Exchangers for the design and delivery of a new powder coating facility. From the initial concept and design to fabrication management and installation coordination, Coating Techniques SA successfully led the project from start to finish.

Under the leadership of Managing Director, Ray Wilford, the team ensured every stage of the project met strict technical and quality standards while maintaining efficiency and collaboration between all partners involved.

From design to delivery

Fabrication of the system was carried out by Electrons advanced facilities in Izmir, Turkey. The manufacturing process took approximately four months, followed by six weeks of sea freight from Turkey to South Africa.

This project brought together the expertise of five specialised companies, each contributing critical components to the system's success: Coating Techniques SA – Project leaders and design coordinators, managing the entire process under the guidance of Ray Wilford; 4 Oaks Engineering – Designed and installed the effluent treatment and waste plant, ensuring the treated water could be safely returned to the municipal system; Zenoquip – Supplied the reverse osmosis (RO) plant, providing consistent, high-purity water for production, PTL – Provided the chemistry and powder materials required for coating operations; and Electrons Fabrication and Development Facility (Turkey) – Responsible for the fabrication and assembly of the complete coating system.

Plant Layout and Operation

The completed plant occupies an area of 13 meters wide by 50 meters long, with a continuous overhead conveyor running through the facility at 1.5 meters per minute.

Products manufactured internally by HC Heat Exchangers are loaded onto the conveyor at the loading area, initiating their journey through the seven-stage pre-treatment process, designed for optimal surface preparation and coating adhesion.

Pre-Treatment Stages include, 1. Heated Alkali Degreasing, 2. Water Rinse, 3. Heated Acidic Degrease, 4. Water Rinse, 5. Reverse Osmosis Water Rinse, 6. Conversion Coating, and 7. Reverse Osmosis Rinse No. 2.

After pre-treatment, the parts pass through a dry-off oven at 100 °C to prepare for powder application.

Advanced coating technology

Once dried, the Coating Techniques SA Part Detection System identifies each part's height and length, transmitting this data to the Electron Main Controller. The controller automatically adjusts spray parameters, activating the correct powder guns within the Electron Quick Colour Change Cyclone Booth – optimising coating consistency and efficiency.

The booth's automatic powder recovery system reclaims up to 98% of over sprayed powder, which is then cleaned through dual sieve screens and returned to the Electron PM120 feed center. Two manual touch-up stations are available for precision correction when required.

After coating, the conveyor moves the products through an LPG gas curing oven, where the powder is cured at 200 °C for 10 minutes. Once cooled, the finished components are offloaded and prepared for assembly.

Project Outcome

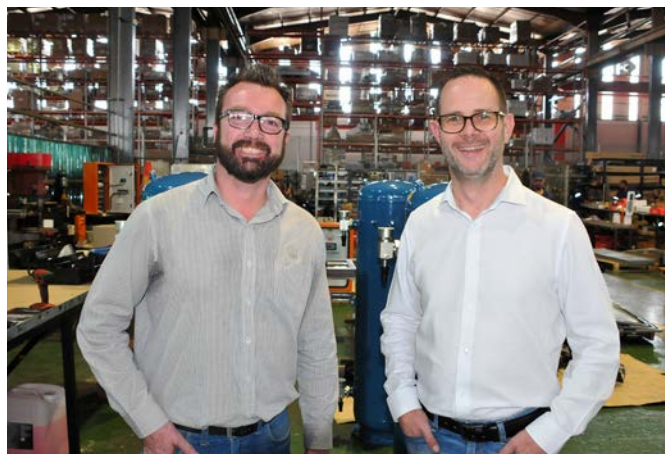
This facility represents a modern, efficient, and environmentally responsible coating solution for HC Heat Exchangers – built on strong collaboration, precision engineering, and the commitment of all partners involved.

"Coating Techniques SA is proud to have successfully managed this project and extends sincere thanks to HC Heat Exchangers for entrusting us with such an important part of their production process," said Ray Wilford.

"HC Heat Exchangers is able to offer turnkey solutions for customers for greenfield projects where we are able to integrate the structural engineering, civil engineering and architectural aspects where needed and manage the whole process from end-to-end. We have an in-house division here at head office that manages all of this for us and this enables clear communication across all our business units throughout the process," concludes Nurden.

HC Heat Exchangers now employs approximately 400 staff across its various divisions.

For further details contact HC on TEL +27 11 674 1237 or visit <https://hcaircon.hcgroup.co.za>



HC Heat Exchangers' Carl Du Toit, Group Head of Production and David Nurden, Chief Operations Officer

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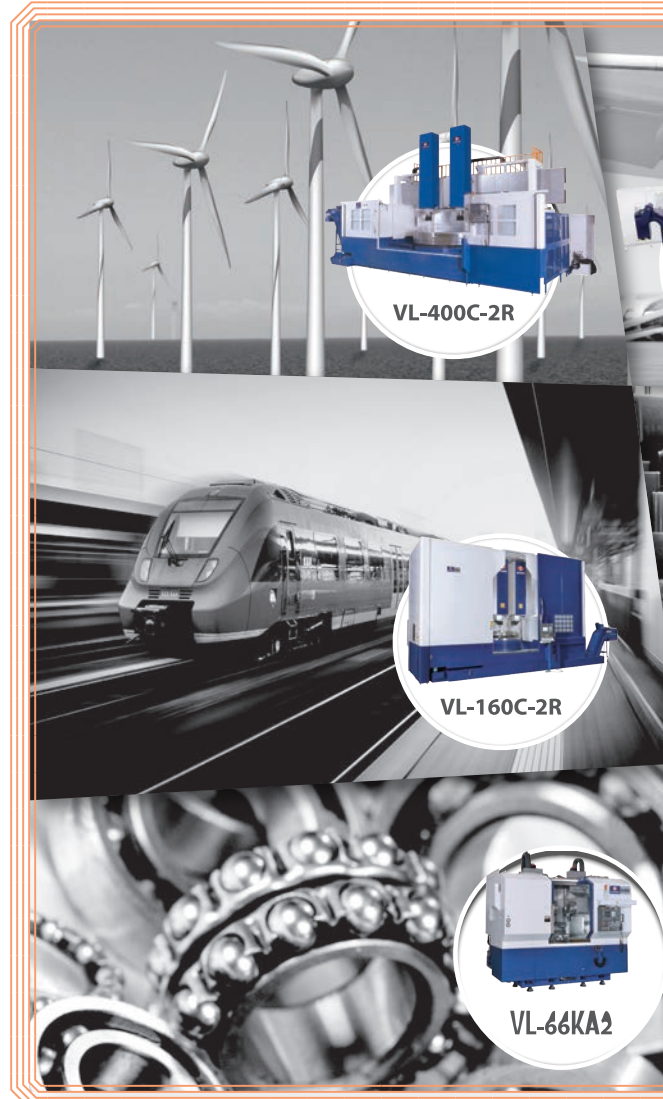
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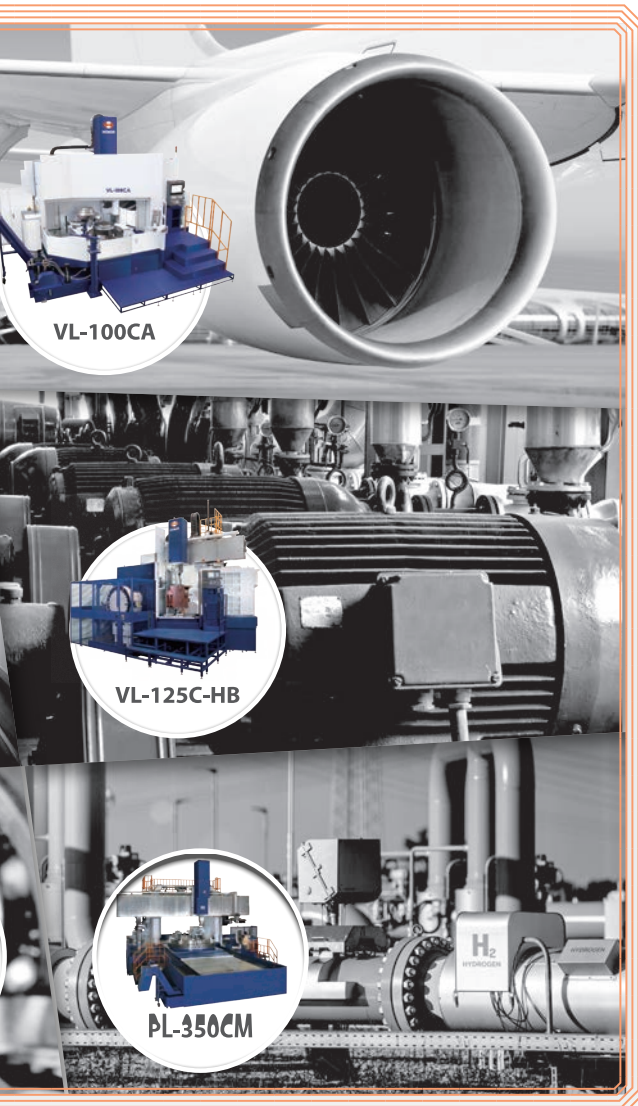
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Bearing, Energy, Railway, Valves,
Automobile, Construction



Intelligent Integration

Turnkey, Automation
Preventive Maintenance

Machine Thinking



Machining on CNC lathes

in unstable conditions and the impact of advanced cutting tool geometries on reducing cutting forces

Machining in unstable conditions, particularly when dealing with geometrically complex parts, presents significant challenges for manufacturers. One of the primary issues is maintaining the stability of the part during machining. Such parts are prone to vibrations and movement during cutting, which can affect surface finish, reduce operational efficiency, accelerate tool wear, shorten tool life, and even lead to tool breakage.

This article reviews the challenges and offers the latest solutions from ISCAR, in the toolmaking industry, for machining in unstable conditions. It focuses on the use of advanced cutting tool geometries, anti-vibration technologies, unique cooling methods, and optimisation of cutting parameters.

Machining parts with thin walls, high dimensional ratios, or made from non-homogeneous materials pose significant challenges due to the cutting forces exerted during material removal. These forces can cause:

- Vibrations and deformations of the workpiece, disrupting the cutting process
- Premature tool wear due to excessive tool movement
- Degradation of surface finish quality and dimensional accuracy because of instability

Advanced cutting tool geometries – The technological solution

Leading cutting tool manufacturers such as ISCAR, a member of the IMC Group, have developed unique insert geometries designed to reduce cutting forces and enhance process stability. ISCAR's Logiq-4-Turn insert features:

- Four active cutting edges for extended tool life and efficient use
- Positive rake angles to minimise cutting forces
- Geometry optimised to reduce vibrations, improving machining stability even in unstable conditions

The Logiq-4-Turn can be an excellent alternative to the popular CNMG inserts, which are typically negative (FIG. 1). Unlike CNMG, the positive geometry of Logiq-4-Turn helps to reduce cutting forces and vibrations, providing better stability and surface finish in challenging machining operations.

Logiq-6-Turn

Building on this concept, ISCAR also offers the Logiq-6-Turn – a smart triangular insert with six positive cutting edges providing an additional solution for reducing vibrations when machining unstable parts (Fig 2). A significant advantage ►

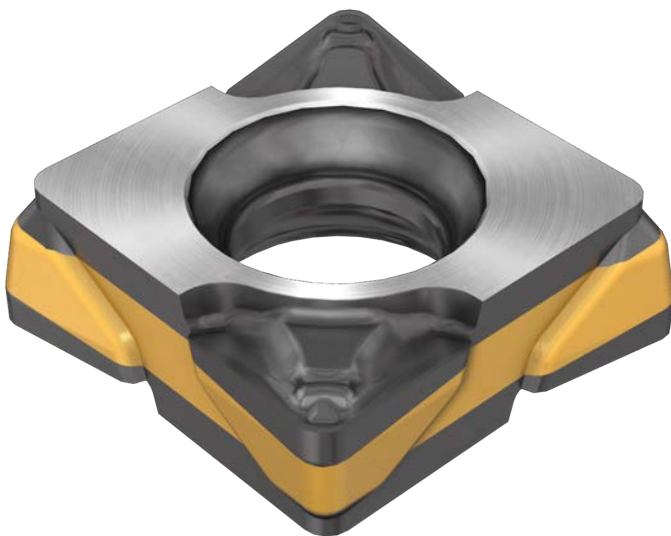


Fig 1 The Logiq-4-Turn can be an excellent alternative to the popular CNMG inserts, which are typically negative



Fig 2 ISCAR also offers the Logiq-6-Turn – a smart triangular insert with six positive cutting edges providing an additional solution for reducing vibrations when machining unstable parts

of this insert is its full compatibility with standard toolholders designed for TNMG inserts, enabling a straightforward upgrade without the need to replace existing holders. Thanks to its advanced geometry, ensuring smooth cutting action, the Logiq-6-Turn effectively reduces cutting forces, enhances process stability, and improves surface finish quality (Fig 3).

The combination of six usable edges and superior performance makes this insert a highly economical and efficient choice, especially in applications involving machining vibration-sensitive parts, using light-duty machines, or in challenging machining conditions with limited technological rigidity.



Fig 3 The Logiq-6-Turn effectively reduces cutting forces, enhances process stability, and improves surface finish quality

Anti-vibration systems – Whisper line

Another effective solution that greatly contributes to machining in unstable conditions is ISCAR's Whisper Line – a proprietary anti-vibration toolholder system (Fig 4), which is specially engineered to:

- Dampen and absorb vibrations during turning, boring, or grooving operations
- Ensure stable machining in long-reach applications that require a high tool overhang
- Minimise chatter
- Improve surface finish and dimensional accuracy, even in cases of low technological rigidity



Fig 4 ISCAR's Whisper Line is a proprietary anti-vibration toolholder system

By utilising Whisper Line toolholders, manufacturers can significantly enhance machining performance when dealing with cutting in unstable conditions, improving productivity and extending tool life.

Cooling techniques and optimisation

In addition to advanced geometries and anti-vibration systems, properly shaped internal coolant channels integrated into the tool are crucial for delivering coolant directly to the cutting zone. Effective cooling reduces temperature and prevents part deformation. Moreover, optimising cutting parameters such as speed, depth of cut, and feed rate, combined with real-time monitoring systems, allows quick

response to changes, creating a stable and reliable machining process.

Machining parts in unstable conditions presents a major challenge in manufacturing. However, with advanced tools featuring smart geometries like ISCAR's Logiq-4-Turn, the use of Whisper Line anti-vibration holders, innovative cooling systems, and dynamic process optimisation, manufacturers can achieve superior surface finish, tool life, and machining stability – ultimately improving productivity and part quality.

For further details contact Iscar South Africa on TEL: 011 997 2700 or visit www.iscar.com

Reflecting on EMO Hannover 2025: The evolution of automation matures as innovation becomes ever-more modular [VIDEO]

Manufacturing embraces the principle of the circular economy.



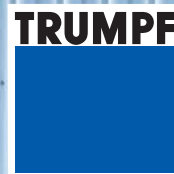
EMO Hannover 2025 took place from 22 – 26 September 2025 at the Hannover Messe in Germany and was attended by more than 80 000 trade visitors from all over the world including in excess of 1 600 exhibitors from 45 countries. This year marked 50 years of EMO

While it is clear that automation, digitalisation, modularisation and artificial intelligence (AI) are the future of manufacturing, one thing remains even more certain and that is that in-person networking will remain a critical feature of our industry. Soon we'll leave the mundane tasks completely to the robots, AI and the machines thus freeing up our human hunger for creativity.

EMO Hannover 2025 took place from 22 – 26 September 2025 at the Hannover Messe in Germany and was attended by more than 80 000 trade visitors from all over the world including in excess of 1 600 exhibitors from 45 countries.

Throughout the halls the energy was palpable and from smart workholding solutions to intelligent cutting fluids, pioneering software and machine tools built with the circular ►

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economy in mind, innovations in the metalworking industry were everywhere.

Follow the link to watch some highlights from EMO Hannover 2025 and more on the VDW's YouTube channel: <https://www.youtube.com/watch?v=ovvEBIVaC1Q>

EMO 2025 confirmed that the entire value chain of the manufacturing industry is enabling the optimisation of your production processes and finding application-specific manufacturing solutions are now easier than they've ever been.

For five days, the whole world of metalworking gathered in Hannover, Germany for EMO 2025, the world's leading trade fair for production technology to help celebrate the 50th anniversary of the exhibition.

Automation is not a new concept, but it has matured to a point whereby many manufacturers are now offering base machine tools with ever-increasing modular add-ons and accessories. According to the EMO organisers – the VDW (Verein Deutscher Werkzeugmaschinenfabriken – German Machine Tool Builders' Association) – 50 per cent of the visitors surveyed that attended the show were interested in how they can use automation to boost their productivity.

Just a few short years ago you may have needed three machine tools to perform operations to arrive at your finished or nearly-finished component, now you may only need one machine tool to fulfil that. And that machine tool's footprint on your shop floor has equally decreased in size.

Likewise with cutting tools and cutting fluids – smart sensors and AI-enabled production flow management and ERP systems are optimising your supply chain like never before without impacting the quality of the components you are manufacturing, in fact, efficiencies are demonstratively improving across the shop floor.

Says Dr. Markus Heering, Executive Director of VDW: "EMO 2025 was a great success. Despite the tense global



**Dr. Markus Heering, Executive Director of VDW.
Source VDW/Rainer Jensen**

economic situation, we welcomed around 80 000 trade visitors from all over the world to Hannover, including over 200 guests from South Africa. The exhibitors were very satisfied. And the visitor survey also gave us good marks."

"For us as the organiser of the event that is crucial. Once again, EMO has shown that it is the most important platform for industry. I am convinced that we need this platform to promote personal encounters, establish networks, initiate cooperation, and jointly develop ideas for the future of production."

"Customers see it similarly. They came from all important customer groups, mechanical engineering, the automotive and supplier industry, precision engineering and optics, aerospace, medical technology, iron and steel production, and many more. Almost half of the visitors came with concrete investment intentions, especially in the areas of machines,

tools, and software. We will see how this affects after-show business."

"The top theme at EMO 2025 was automation. Many impressive solutions were presented. They show the high pressure for greater efficiency and higher quality worldwide. The introduction of automated systems is happening much faster than many expected. This is being further fuelled by digitalisation and artificial intelligence (AI). We are only at the beginning of using AI in production. It will become a game changer in the coming years and will force companies to focus intensively on integration if they want to remain competitive," concluded Heering.

The show that turned prototypes into production talk

EMO Hannover indeed lived up to its hype as one of the world's leading machine ►



Friends of Metalworking News and manufacturing royalty at EMO Hannover. Dr Yoshiharu Inaba, Senior Advisor of Japan Machine Tool Builders' Association and Chairman FANUC Corporation, Shogo Nakamura, CEO and President of Nakamura-Tome and Kenji Yamaguchi, Representative Director, President and CEO FANUC Corporation

tool exhibitions, making the event a barometer of sorts for investment intent and technology direction across the supply chain. Time will tell as to whether this is enough to get the big old locomotive of manufacturing going again and for deals to be sealed, especially in Europe.

Three themes dominated the show: automation to reduce ever-increasing labour-driven bottlenecks and skills shortages, AI being applied to real-world production problems, and the software and interface work needed to make digitally connected cells practical.

Many exhibitors framed these themes in new product launches – for instance DN Solutions has demonstrated that it has firmly entered the additive manufacturing space – system demonstrations and company directions rather than lofty statements. Visitors responded with practical questions about integration and payback for their investment intentions.

Automation and robots moved from periphery to centre stage: robots tending robots with cobot integration as standard. Stand-alone robot cells were joined by end-to-end demonstrations that paired machine tools, robot arms and pallet handling under a single supervision layer. Renishaw demonstrated this with the addition of the latest CMM technology incorporated into these now very practical machining cells. Material goes in, perfect, complex components come out. Every time. All monitored from wherever you may be in the world.

The same systems emphasised easier programming, graphical offline programming and the reuse of cell templates to cut commissioning time. Robot suppliers showed systems that use machine-vision and simplified user interfaces to reduce the need for specialist integrators. For this to succeed,

automation must be easier and cheaper to buy and faster to commission if it is to broaden beyond high-volume cells.

AI was visible in two practical roles. First, it appeared in process optimisation like software that analyses spindle loads, tool wear and part geometry to recommend feeds and speeds or to sequence operations for minimum tool changes. Second, AI featured as an assistive layer for operators – chatbots and natural-language interfaces that translate a user request into diagnostic checks, maintenance steps or programme edits.

HELLER's ASK.me interface attracted attention as an example of a conversational aid that links machine status, manuals and support pathways. Taken together, some of the ▶

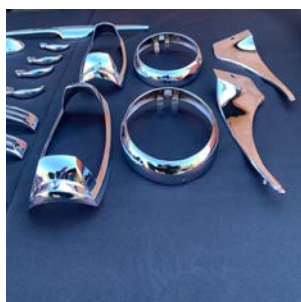
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AI demos at EMO focused on showing concrete evidence of how they are reducing machine downtime, shortening setups and raising machine utilisation rather than attempting to replace core engineering tasks.

Software vendors used EMO to demonstrate that manufacturing software can no longer be an afterthought. New CAM releases and digital twins promise to reduce the gap between design intent and machine code. One headline software launch was ENCY 2.0, presented as an overhaul that bundles an AI Process Planner with expanded milling and additive toolsets and improved offline robot programming. The company positioned local processing and privacy as selling points for shops cautious about cloud dependency. Such releases reflect an incremental but durable shift: software now sets the pace for how quickly a shop can adopt multi-axis machining, hybrid processes and robot-assisted operations.

And data privacy?

A persistent nuance at EMO 2025 was connectivity, standards and data privacy. The umati initiative – the open, standardised machine interface – was shown in live demonstrations that linked machines and cell components from different manufacturers. Visitors who saw the umati

demos could see that standardised interfaces simplify data capture for shop analytics and make plug-and-produce scenarios more credible. Standards work, umati argued, and this is one of the quiet enablers that will allow AI, metrology and automation to operate across vendor boundaries.

The umati initiative demonstrated how its OPC UA-based data interface standard is moving from concept to practical deployment. Developed by the VDW in cooperation with the OPC Foundation, umati defines a common communication layer that enables machines, equipment, and IT systems from different manufacturers to exchange data securely and in a structured way.

umati's demonstration at EMO connected a cross-section of production machinery, controls, and software platforms to show how encrypted, standardised communication can flow between the shop floor and enterprise systems. All data transmission within the umati framework is based on OPC UA's security model, which includes encryption, authentication, and user-level access control to safeguard operational data.

Exhibitors used the live ▶



UNITED MACHINING SOLUTIONS made its world premiere at EMO Hannover 2025. They marked the occasion by launching several brand-new machines for milling, EDM, laser and automation. With the acquisition of the GF Machining Solutions Division of Georg Fischer AG, the UNITED GRINDING Group expands its portfolio to 15 brands. The new group operates under the name UNITED MACHINING SOLUTIONS. Stephan Nell, CEO UNITED MACHINING SOLUTIONS addressed the hundreds of people from across industry that attended the occasion, joined by Ivan Filisetti and Michael Horn, part of the Management Board of the new group



Rolls-Royce, a world leader in aerospace engines, is in the midst of a bold transformation – reshaping itself into a high-performing, competitive, resilient, and growing business. At the heart of this are digital technologies and AI, accelerating engineering innovation, boosting operational excellence and unlocking new value. The impact is already clear, from smarter engine design to enhanced operations and customer solutions. To push these boundaries, Rolls-Royce partnered with Siemens to explore how a reimagined production process can help to streamline development and enhance performance for one of its critical components – the lubrication and scavenge pump



Jacob Harpaz, President and Chairman, IMC Group of Companies on the ISCART stand

network to illustrate how standardised connectivity supports applications such as energy consumption tracking, carbon footprint reporting, and AI-driven process optimisation. Because umati defines both the semantics and structure of machine data, users can analyse production efficiency or sustainability metrics without custom interfaces or vendor-specific gateways.

The core message was that interoperability and data privacy are not opposing goals. With the umati framework, manufacturers can build connected factories that share data for optimisation and compliance while keeping control of how that information is accessed and used.

Metrology and in-process measurement as digital enablement

Metrology and in-process measurement are now standard partners to automation, not as separate disciplines. Integrated measurement systems were displayed as tools to close the loop between machining and quality control, enabling corrective action without human intervention. Several exhibitors emphasised traceable measurement data feeding back into CAM, MES systems and eventually ERP systems to reduce scrap and rework.

The combination of inline metrology and automated handling makes single-piece flow and small-batch production more viable and machine tool builders used the opportunity to demonstrate new mechanical capabilities. High-dynamic spindles, improved thermal control and machine structures designed for automation were also common highlighting an increasing worldwide trend for high-mix, low-volume production. A faster spindle without process data and a path to automation remains a partial upgrade.

Calculating the carbon footprint of a machine tool

At the beginning of 2024, the German Machine Tool Builders' Association (VDW) began working on a practical method for calculating the product carbon footprint (PCF) of machine tools. Developed with industry partners, the method defines clear rules for determining emissions from raw material extraction to the point the machine leaves the factory.

The calculation is based on a weight-based breakdown of the machine. Using the Pareto principle, manufacturers calculate emissions for roughly 80% of the machine's mass and estimate the rest. Emission factors are drawn from suppliers or recognised databases, and the manufacturer's own energy-related emissions are included. "Control cabinets and motors must be considered separately, as they may contain CRM (Critical Raw Materials) such as rare earths, copper or cobalt, which are associated with high CO2 emissions," say the VDW.

The method is also based on taking an average of 40% machine up time, using an average machine tool lifespan of 25 years. The use phase of the machine tool will equal most of its carbon emissions (roughly 95%).

The result is a cradle-to-gate CO2 figure that provides a consistent benchmark for reporting and comparison. The method is designed to be manageable for small and medium-sized manufacturers without the need for full lifecycle analysis.

The approach offers a standardised basis for supply-chain transparency and the VDW's initiative aligns with growing industry requirements for emission disclosure in the metalworking industry. An ISO standard is expected by 2028 and it will enable machine tool builders to provide verified data to customers, supporting procurement specifications and sustainability reporting.

Canada at EMO: Building smarter and better

Jayson Myers, Chief Executive Officer / Président-directeur général of NGen Canada, spoke exclusively to Metalworking ►



Jayson Myers, Chief Executive Officer / Président-directeur général of NGen Canada. "After many years of the fair, Canada was EMO's first alliance country. It was above all a symbolic gesture to send a message that the international manufacturing community – at least those dependent on international markets, as most equipment and machine tool companies are – stand in support of rules governing international trade and open access to markets and suppliers worldwide. It's a theme that Canada backs 100%."

News about his reflections on being EMO's first alliance country: "Canada is at a pivotal moment of its history. After almost 40 years of deep supply chain integration and increasing economic dependence with the United States, our major trading partner is turning its back on free trade."

"The United States will always be Canada's closest economic partner. But the lesson of the past year to Canadian industry and policy makers alike is that Canada needs to find new customers, new innovation partners, and new investors outside North America. That's why Canada's participation at EMO was so important this year."

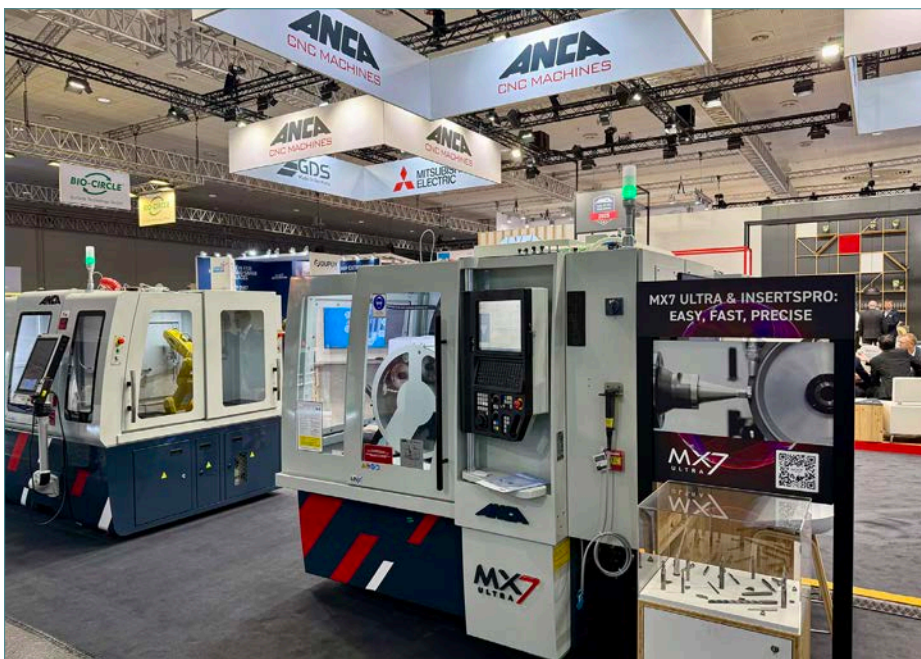
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"Our delegation at EMO was relatively small. It was led by Next Generation Manufacturing Canada (NGen), the organisation that spearheads Canada's Global Innovation Cluster for Advanced Manufacturing. We were joined by Canada Makes, Canada's additive manufacturing cluster, AI4M, Canada's industrial AI cluster, Canadian Robotics Council, Canadian Mold Makers, and the Canadian Tooling and Machining Association. So, even if our delegation was small, advanced manufacturing, metalworking, and machining companies from across Canada were well represented."

"We were also joined by 15 companies exhibiting solutions in the fields of additive, AI, cybersecurity, specialised chemicals, robotics and automation. All the



Soraluce at EMO Hannover 2025: Soraluce unveiled a world premiere of the Soraluce Fork-type Head – a new range of 5-axis machining heads, engineered for flexibility and accuracy on complex geometries. The heads deliver power outputs up to 100kW and speeds reaching 30 000rpm. Also shown was Soraluce's Smart Automated Solutions. The systems are designed to accommodate large-scale components with tailored configurations adaptable to different part types and batch sizes. From single machines with CNC-integrated pallet control to advanced flexible cells coordinated by industrial PCs, the palletising systems are engineered around the principles of precision, modularity, and adaptability. These systems streamline workflows, reduce changeover durations, and significantly boost overall plant productivity. Further enhancing production agility, Soraluce have implemented centralised tool storage systems, operating in full integration with proprietary tool management software. This interconnected setup enables shared tool access between machines, eliminates selection errors, reduces the need for duplicate tooling, and minimises the space required for storage infrastructure. All tool automation processes are data-driven – guided by real-time production orders, delivery schedules, and tool availability



One of the machines on display on the ANCA Machines stand was an ANCA MX7 ULTRA, a next-generation 5-axis CNC tool grinder engineered for ultra-precision and high-volume production that can manufacture large volumes of endmills and other cutting tools to the highest accuracy and quality. The MX7 ULTRA features one nanometre axis resolution and its performance can maintain less than +/- 0.002mm line form accuracy of any profile which includes ballnose and corner radius endmills. ANCA paired the machine with their innovative new software – InsertsPRO, ANCA's special inserts grinding package. It's a fully flexible, high-precision software solution that empowers cutting tool manufacturers with a universal approach to insert grinding – combining advanced simulation, automation, and optimised features to deliver unmatched quality, efficiency, and profitability. InsertsPRO supports ISO-standard inserts sourced from global catalogues – suitable for any milling or turning machine, as well as customer-specific special inserts developed for optimised applications

Canadian delegation reported excellent leads from participating at EMO – not only for sales, but opportunities to identify new technology suppliers and investors as well. All have a role to play in the evolution of the metalworking and machine tool industry."

"Metalworking is a major segment of Canada's manufacturing economy. It represents 19.5% of Canada's manufacturing GDP, and it's currently in the crosshairs of the Trump administration. The only way that Canadian manufacturers can compete and expand their markets in the face of tariffs is to double down on their use of advanced equipment, automation systems, and other technologies that will allow them to enhance value and improve processes."

"Like metalworking companies around the world, Canadian manufacturers are exploring new business models and new innovation solutions. They are moving to greater product and service specialisation, increased automation to achieve more flexible machining processes, modular and flexible milling systems, IIOT integration and AI adoption for prescriptive maintenance, asset efficiency, and process optimisation, the integration of advanced additive ►

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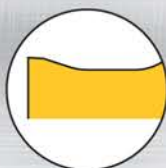
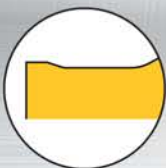
Depth of cut

Roughing
General cut

Medium
General cut

Medium
Light cut

Finishing
Light cut



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It wouldn't be EMO if there weren't large part machined components on display. In the background is WFL Millturn Technologies' M70 MILLTURN – the machine had its world premier at EMO Hannover 2025. The M70 is a multifunctional turning, drilling, and milling center combining the capabilities of a powerful lathe, a high-precision 5-axis machining center, and – depending on requirements – a gear cutting or deep drilling machine. All machining steps can be performed in a single setup. The M70 is designed for very large and heavy workpieces. It can accommodate parts with a centre distance of up to 8 000mm, a maximum swing diameter of 850mm, and a workpiece weight of up to 5.5 tons. For comparison: 5.5 tons is roughly equivalent to the weight of a full-grown elephant. In the foreground is a crankshaft for a diesel engine for a ship that has been completely machined from a forged blank. All crankshaft geometries and complete machining of crankshafts, including deep hole drilling of oil passages or the production of gear teeth can be completely machined in a WFL Millturn

manufacturing processes, and a much greater emphasis on energy management, emission reductions, and environmental sustainability.”

“There was no better place to be than EMO this year to see the latest solutions that equipment and technology providers from Germany, across Europe, and around the world have to offer. What was clear from the fair is how applications of advanced manufacturing technologies from sensors and vision systems, digital networks, AI, software, and cybersecurity, to robotics, automation systems, and advanced materials are being integrated into new machine tools and metalworking solutions.”

“Our takeaway is that the future of machine tools and metalworking production equipment is going to be smart, flexible, modular, and connected. EMO helped demonstrate how Canadian technology can play an important role in the evolution of the industry. It also showcased solutions that will give Canadian manufacturers the capabilities they need to withstand the storm. Those solutions are already driving productivity improvements for manufacturers around the world.” ▶



FANUC is expanding its range of M-1000 high-performance heavy-payload industrial robots with the addition of the M-1000/550F-46A extra-long reach model. Designed to meet the needs of automotive gigacasting, among other heavy-duty applications, this large six-axis articulated-arm robot has a 550kg payload and an impressive reach of 4.6m. It's flexible, lifts heavy things, and is very fast at doing that

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Renishaw's Stewart Lane, Head of Business Development – EMEA, Renishaw, with Renishaw's new Equator-X™ 500 dual-method gauge and MODUS™ IM Equator software. Together the combination offers a complete OEM specification gauging solution for shop floor processes, combining Absolute and Compare measurement functionality on a single device. High-performance measurement speed and accuracy also offer significantly improved inspection capacity and throughput compared to conventional 3-axis CMMs. MODUS IM Equator software brings code-free programming and reporting capabilities

Stewart Lane, Head of Business Development – EMEA, Renishaw, said: "It was difficult to know what to expect going into this EMO, European industry faces both challenges and new opportunities in equal measure, so having the chance to gauge the mood of the visitors first hand was a real benefit."

"And we had a good show, with lead count higher than expected and a lot of interest around our new product release; the Equator-X™ 500 dual gauge and measurement machine with MODUS™ IM Equator easy to use software."

"So what stood out at the show for me? Firstly, the sheer pace at which manufacturing technology is evolving. Machine interconnectivity, talked of for so long, is now very real and it will be interesting to see how the data generated can be used to boost productivity. I was also curious to see DN Solutions enter the market with their own range of AM machines."

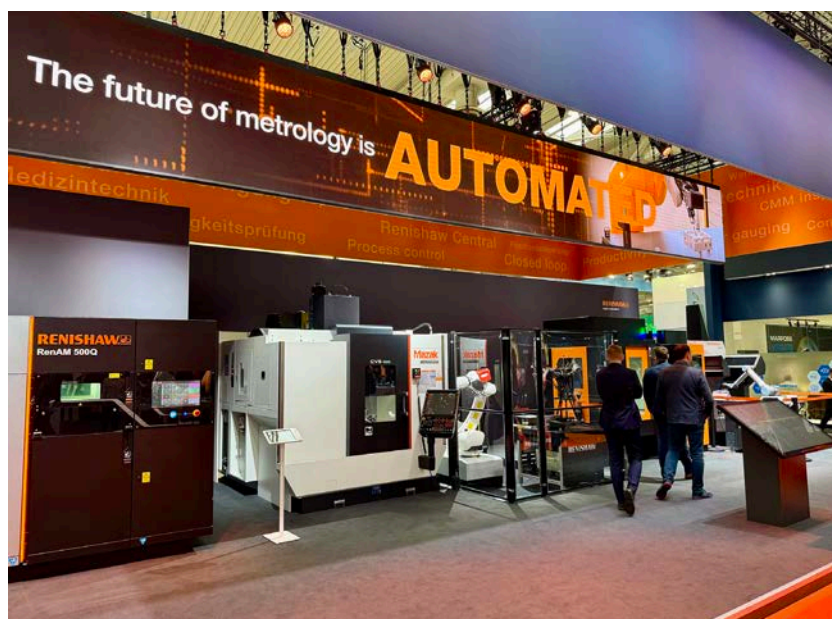
Reflecting on EMO Hannover 2025: A collection of perspectives from some of the South Africans that visited the show this year.

Jacques Bezuidenhout, Siemens South Africa, Digital Industries Service Execution

Albeit my first experience / exposure to an expo of this size (and being totally overwhelmed), a closer look at the core of the exhibitors' stands reflected the radical shift towards automation, sustainability and the influence of various innovative software solutions.



Japan Day at EMO, organised by the Japan Machine Tool Builders' Association (JMTBA), was used to discuss Japan's machine tool industry and JIMTOF 2026 taking place from October 26 – 31, 2026. Pictured are Mr Yuji Nagahama, Vice President of the JMTBA and Mr Kazuo Yuhara, President of the JMTBA



Machining cells were common displays at EMO Hannover 2025 including this one on Renishaw's stand that demonstrated how cells can also be collaborative and include a mix of machines, CMM equipment and data-driven software from different machine tool manufacturers. All of which can be remotely monitored. Raw material fed in on one side of the cell, to highly complex finished components out on the other side. The definition of what lights-out manufacturing looks like

The focus on virtualised machining design, and overall shop floor intelligence was especially prominent, thus enabling the end-customer to really know what is going on and where to improve process flows and runtime availability.

It was truly amazing to see the drive towards a more eco-friendly and innovative production stream within the new types of machines (large and small scale) with a focus on energy efficiency and circular economy / manufacturing concepts.

All exhibitors, regardless of size or brand name, exuded the aura of "brotherhood in design" – rather than being straight on competition, let us rather see how we can supplement each other's offerings.

Of course, the Heritage Day South African get together was extremely insightful, as to see how close-knit the local experts are.

Graeme Cooper, Managing Director, WD Hearn Machine Tools

I generally find the value in these shows in speaking to other dealers from around the world, hearing from them what's happening in their markets and with their competition, and what works for them and what doesn't. ▶



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Japan Day was an interactive networking event and included the chance to learn how to fold origami cranes, a traditional Japanese paper craft. Pictured are AMT's Ed Christopher, TLL Media Publishing House's Teodora Ivanova and JMTBA's origami instructor for the day in the centre, Hiroyuki Isozaki

From a machine perspective at EMO – again automation and lights out machining was everywhere, it's now relatable technology and more people can implement it and machine builders are now offering.

In-field modular expansion systems, so you can plug and play your automation later.

Another worthwhile note for me was the amount of software companies that are being bought and sold at the moment. Just look at the CAM world where Hexagon now own half a dozen outstanding CAM brands, Sandvik invested in MasterCAM and others, Siemens' biggest investment area is software (and digital twins). The world of CAD / CAM is about to be turned on its head in my opinion, especially with what AI can bring to CAM systems and especially to post processors.

One thing is for sure, the global machine tool industry is in a state of flux (apart from maybe Poland), some key countries and economies are battling due to economic and leadership volatility – if we think we have problems with our government, we should sit down and talk to colleagues from Turkey and Argentina and Canada which certainly lifted my spirits.

Traditional machining businesses are shifting in major markets such as Germany – where every one of their giant automotive manufactures are battling against the Chinese industry – Chinese cars are now reliable and come with everything, and they are 1/4 of the price, the same trend is now happening with machine tools – in my opinion.

The Chinese builders are no longer relying on countries like Taiwan or Korea for machine tool technologies (PLC, spindles, linears, ball screws etc), they have copied and mastered the standard and traditional 2-axis and 3-axis turning and machining centers, and those companies in Taiwan and Korea, that didn't move to high technology 5-axis or multitasking are officially in a world of

pain, and many won't survive.

The Chinese government played an excellent long game on skills transfers, and they are now stamping all over certain markets, either by selling direct – or at ridiculously low prices through dealers. They are selling machine tools as though they were a commodity product now. By three for the price of one, and keep one for spares.

I have not seen so many Chinese machine tool builders at EMO before, and I have not seen so few Taiwanese machine tool builders there. We are seeing a shift at EMO from the big players, Grob's stand was half the size of the previous year (still substantial at 600m²), Kitamura's stand was 40% smaller (yet still cost them euro 600 000 to be there), Tornos were not even there and I visited them before hand in Switzerland, and business is ok for them, but they all believe that the days of mega big machine shows and stands are a thing of the past. They would prefer to invest more into in-house shows, and fancy websites, than on shows which incur so many sundry costs.

I also believe this will be the last EMO at Hannover – there are rumours of it being shifted to Dusseldorf, I believe these rumours.

I also believe that EMO won't get any bigger than this, if you want to visit a mega machine show going forward, keep your eye out for Beijing or Shanghai where there will be over 4 000 Chinese builders on display – as well as representation from the major European players – which is also an unusual trend, European companies attending Chinese machine shows.

Paul Hammerton and Seamus Thompson – Easson-Vertex

From the beginning to the end it was a whirlwind of technology, bright lights and noise. Getting to the expo was a breeze on the public transport with the railway station right at the showgrounds.



It wasn't all about work at EMO Hannover 2025. Thanks to my fellow South Africans that joined me on the Wednesday evening to celebrate South Africa's Heritage Day and Metalworking News's South African manufacturing evening. While not everyone could make the event, what better way to celebrate the holiday back home than in our Springbok rugby jerseys in an Irish pub. The only thing that was missing was a braai

It was great to see a huge presence of European machine tool manufacturers who have reinvented themselves to embrace the latest technologies available. The pace of change is almost unbelievable.

Our own suppliers showcased their latest products which we will be stocking in the near future. We also sourced a new range of products which we will be launching soon.

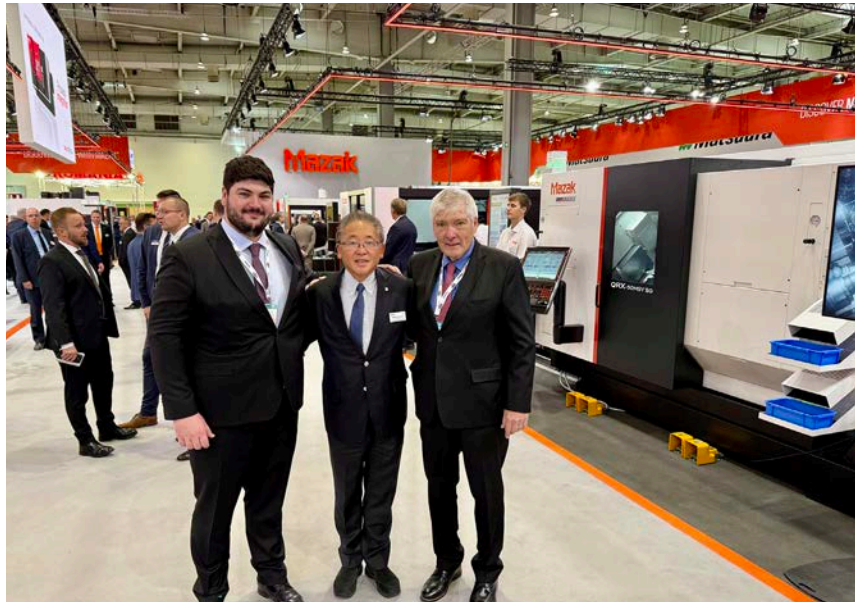
Well worth the trip, looking forward to EMO Milan 2027.

Chris Killian, Sales Director, H-Tech Machine Tools

Attending EMO Hannover 2025 was an insightful and inspiring experience that highlighted just how rapidly global manufacturing continues to evolve. The event showcased impressive advancements in automation, precision machining, digital integration, and sustainable production – each playing a key role in shaping the future of modern engineering.

For Hi-Tech Machine Tools, the exhibition provided valuable perspective on emerging technologies and trends that are directly relevant to our customers and the South African manufacturing sector.

Beyond the machines and systems on display, EMO offered an opportunity to exchange ideas, build relationships, and explore how innovation can translate into real-world productivity gains. The visit reinforced our



Chris Killian, Sales Director, Hi-Tech Machine Tools, Takashi Yamazaki, President Yamazaki Mazak Corporation and Peter Killian, owner and Managing Director of Hi-Tech Machine Tools

ongoing commitment to bringing world-class manufacturing solutions to our local market and supporting our customers in achieving greater efficiency, accuracy, and competitiveness.

Keith Opperman, Technical Sales, Duncan Macdonald & Co

EMO 2025 was a successful visit, meeting up with suppliers which have become friends, being able to meet up with fellow distributors from all over the globe, discussing issues and solutions, which can be applied to our local manufacturing, is always a bonus.

There were plenty of innovative solutions that are revolutionising efficiency, precision, and flexibility in manufacturing, with automated processes optimising production, reducing costs and securing competitive advantages, on display.

Travelling was made easy, as the exhibition ticket was used as a ticket for the tram services, EMO 2025 was a worthwhile experience.

Dudley Meredith, Managing Director, Victor Fortune

After missing the last two EMO shows, my return this year came with a few surprises. The most striking difference was the scale – noticeably smaller than in previous years. Conversations with several OEMs confirmed my impression: the exhibition was estimated to be around 40% smaller, with a notable absence of many Taiwanese manufacturers and several major German OEMs known for their larger machines.

This reduction in scale is, perhaps, a reflection of the economic turbulence and shifting global markets of recent years. Despite this, EMO still managed to showcase some truly exciting advancements – particularly in automation and artificial intelligence within the machine tool industry.

Automation stood out as the dominant theme. From robotic loading and unloading systems to automated fixture changing, the technology on display was both fascinating and practical.

For South African manufacturers, this represents the future of production efficiency. Beyond the show floor, Hannover remains a charming and enjoyable city to visit, making the EMO experience all the more worthwhile. Looking ahead, EMO 2027 will be hosted in Milan – a welcome change of scenery and one I'm already looking forward to.

See you all in Milan!



Vipul Chopda, Director of KTA Spindle Toolings and Keith Opperman, Technical Sales, Duncan Macdonald & Co



Dudley Meredith, Managing Director, Victor Fortune and Wayne Hsueh, Director, Machine Tools Overseas Sales and Service Department, Victor Taichung



TJ Pretorius, Director, Top-Tool SA

TJ Pretorius, Director, Top-Tool SA

Attending EMO 2025 was a pleasant reminder of how this massive global manufacturing platform continues to evolve. The first thing I noticed was the fact that suppliers from all over the world follow the same trend and AI is the hot topic as much as every other industry.

From my point of view the biggest drive must be automation. Not to eliminate the need for humans but to relieve the pressure on industry due to the global shortage of skilled labour.



Nico Myburgh, Operations Manager, Lucchini SA and Juno Wang, Sales Section Manager HONOR SEIKI

The more established machine builders showed off proven world class automation systems with the same message from the workholding and cutting tool guys. The target is clear, unmanned machining, automated workholding with cutting tool solutions that won't leave you stranded halfway through the shift!!

I think the turnout at EMO proves that human relationships and in person networking remain the heart of industry. Sure, AI is great and will forever play a vital role in our lives but nothing beats the value of in person exhibitions and networking events.



Graeme Bell, Global Commercial Director, Filtermist, Jonathan Vermaak, Owner & Director, Vertech, Dominique Ullmann, Business & Development Manager EMEA, Filtermist and René Joppi, Managing Director, Filtermist

Jonathan Vermaak, Owner & Director, Vertech

This was my first time attending EMO, and it was an incredible experience. The show was much bigger than I expected and offered a fantastic display of the latest technology and innovation in the CNC manufacturing industry. There was so much to take in and be inspired by.

What stood out most to me was the reminder that even though we work in an industry built around machines, it is really about the people. Strengthening existing relationships and building new ones was the highlight of the trip. Nothing compares to meeting face to face and sharing ideas in person.

I left feeling motivated about where the industry is heading and am already looking forward to attending the next EMO. ▶



Ryan Jung, Managing Director of HYUNDAI WIA Europe and Melvin Howard of Spectrum Machine Tools

Mike Lee, Sales Director, Retecon Group

The RETECON Group sent 6 people to visit the EMO 2025 Show in Hannover this year. Our main purpose was to be enlightened with the new technology available, visit our long list of suppliers as well as to look for new markets that will benefit us and our customers in South Africa.

The EMO show has slowly become smaller over the years. In saying that, our bigger suppliers were there still in full force. DN Solutions had one of the larger stands at the exhibition, showing off all the 5-axis turning and milling machines, also launching their new additive manufacturing solutions.

UNITED GRINDING, another of our suppliers, launched the integration of CHARMILLES Wire Cutting and MIKRON Milling into their fold. Thus, making them a one stop solution factory out of Europe. All our other suppliers showed off their new machinery from saws, structural machines, grinding, milling, to turning and automation.

Our customers who were there with us were very impressed with the technology that we, as the RETECON Group, offer in South Africa. Back-up and service is what we pride ourselves on from reputable suppliers.

Deepak Maharajh, Tool Pro

Once again EMO did not fail to impress. The exciting new developments and technological advancements in the sector has proven to be way above industry standards and expectations.

There was an impressive variety of high-end tooling that would be a great advantage to the industry. This is going assist with reducing manufacturing times and improving the quality of the end product. I was impressed to see the availability of a two jaw and three jaw chuck in one. I see this has a great way of reducing setting up times and reducing delays.

We at Tool Pro where fortunate enough to attend the last two EMO exhibitions and were very impressed with the large variety of tools, machinery and technology available to the engineering and manufacturing industry.



Johan Neveling, Technical Director, WD Hearn Machine Tools, Graeme Cooper, Managing Director, WD Hearn Machine Tools, Steven Nieberle, Senior Manager Sales GROB-WERKE and Christian Müller, CSO and Member of the Board GROB-WERKE

For me personally I felt like a kid in a candy store. You just want to have everything that's available to you. The show has allowed us at Tool Pro to improve our product output, reduce manufacturing times and improve our delivery output. Apart from the show providing us with such a variety of machines, tooling and equipment, it's the knowledge we have gained from speaking to some of the best in the industry sharing their experience and providing us with an expanded network of people that we can always turn to for advice and sharing ideas.

It was also great to see the large number of other South Africans at the exhibition, this is a clear indication that South Africa is moving to keep up with the rest of the world in our industry.

We went to the Exhibition with the intention of finding a CMM machine, a CNC milling machine and an upgrade for our programming software and we are pleased that we may have found some great machines and technological advancements to allow us to grow and improve in the future.

We look forward to Milan 2027 and are very excited to see what's going to be available to us then.

Carlo Coenraad, Independent Contractor to the Global Precision Manufacturing and Engineering Industry

For me, EMO 2025 hit a little different this year.

Since 2005 I attended at least two EMO exhibitions every decade between Milan and Hannover. It seems to be much less attended by both exhibitors and visitors than usual. We



Chris Kroeger CEO and Executive Chairman, Retecon Group and Hannes Botha of Retecon Group

would have to visit the historical data to confirm.

In the time leading up to the EMO I had discussions with my colleagues abroad, and we noticed more machine tool manufacturers opted to not exhibit, and have an open house instead.

I'm currently also consulting with companies in India, which in particular is a really progressive industry at the moment and one that is experiencing vertical growth. We investigated automation options and found some good solutions.

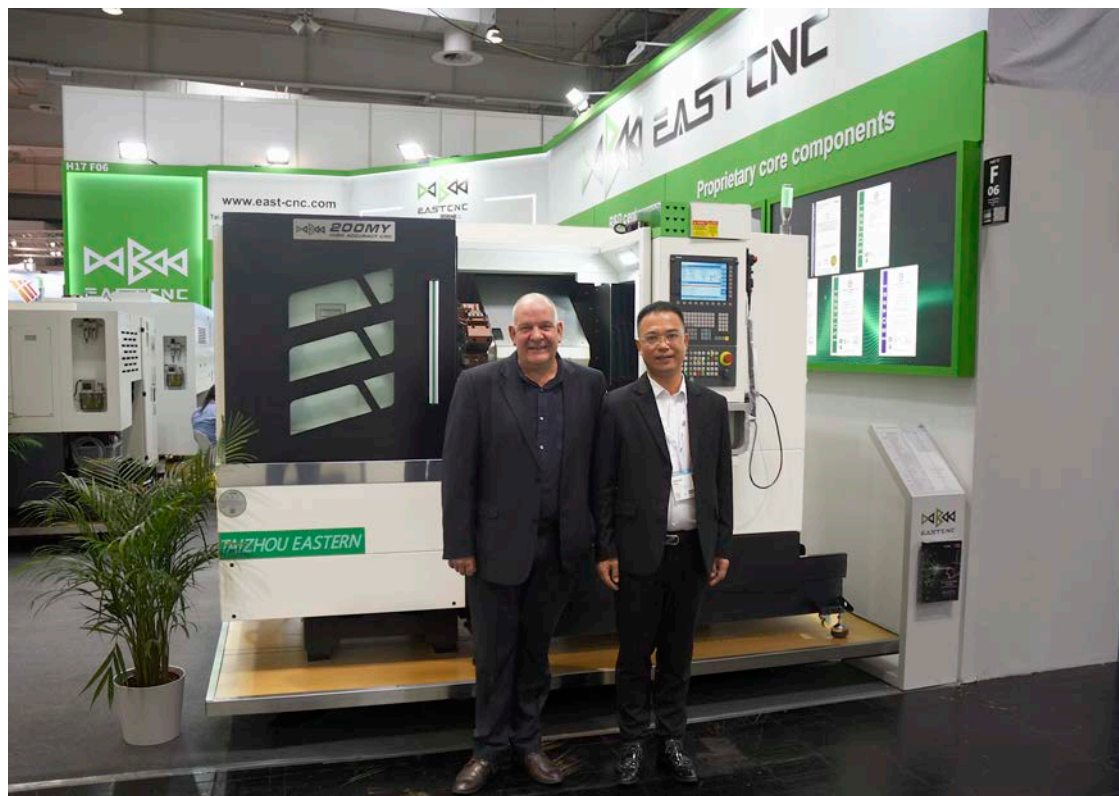
My expectation is that the next sleeping giant, Africa, with its 1 billion + population could experience something similar in the upcoming decades. For that we should strive to keep

manufacturing alive and find ways for the youth to be more involved with the art of toolmaking.

Eugene Hugo, General Management, JHPE Precision Engineering

The scale of EMO always amazes me. Even if you visit often you tend to forget the sheer scale of the event. We go with a small 'focus list' of specific things we want to look at, I think if you don't you simply won't get through everything if you try and stop everywhere.

I think the best part of the show is ►



Johann Nel of Spectrum Machine Tools and XiaoGang Zhao, Sales Director, Taizhou Eastern CNC Co., Ltd



Nico Myburgh, Operations Manager, Lucchini SA, Mike Lee, Sales Director, Retecon Group, Chris Kroeger CEO and Executive Chairman, Retecon Group, Bradley Thomson, Sales Specialist at Retecon Group and Dean and Sean De Andrade of Sylton Engineering. DN Solutions is represented in South Africa by Puma Machine Tools, part of the Retecon Group

even though we go with these pre-prepared ideas we always find some other new and interesting things that keep us thinking long after we are back.

I am excited to see what changes AI brings to our current programming and design software and perhaps changing in tooling over the next few years.

All in all it remains a bucket list item for anyone involved in the manufacturing industry, truly a must-visit.

Nico Myburgh, Operations Manager, Lucchini SA

At this year's EMO exhibition, industry professionals reaffirmed the value of face-to-face engagement and hands-on exposure to emerging technologies. Attendees emphasised the importance of networking and reconnecting with peers – particularly for those from regions like South Africa.

A key highlight was the surge in innovation from the Chinese manufacturing sector, showcasing advanced machining methods and equipment. Exhibitors demonstrated how global competition is driving rapid technological evolution.

Siemens stood out with its cutting-edge shop floor control systems, enhanced component monitoring tools, and preventive maintenance solutions. Their booth drew attention for its clarity, expertise, and forward-thinking approach, marking

a significant leap in industrial automation.

Another standout was Blaser's new liquid tool technology, designed to automate coolant management. This system ensures consistent concentration levels, reduces human error, and provides real-time digital reporting accessible via mobile devices – streamlining operations and improving oversight.

Overall, EMO proved to be a vital platform for discovering innovations, strengthening industry relationships, and gaining insights into the future of manufacturing.

Peter van Vuuren, Managing Director, Trigon Tooling

In September, I had the privilege of attending the EMO show in Germany for the first

time, aiming to connect with new suppliers and expand options for our customers.

It was impressive to see such a wide range of tooling companies spread across three halls. However, I noticed a lot of the offerings were quite similar, and I was hoping to see more niche or cutting-edge technologies.

Spending a whole week at the show felt a bit long, as most of what was relevant could be covered in a shorter time. Overall, it was a good experience, but I look forward to ►



Hea Jeong Hwang, Head of Sales, SCHUNK, Peter Killian, owner and Managing Director of Hi-Tech Machine Tools, Chris Killian, Sales Director, Hi-Tech Machine Tools and Victor Vashpanov, Global Distributor Management, SCHUNK



Johan Neveling, Technical Director, WD Hearn Machine Tools, Graeme Cooper, Managing Director, WD Hearn Machine Tools and Ryota Fuke, General Manager International Sales, Nakamura-Tome



Dr. Akihiro Kitamura, President and CEO, Kitamura Machinery and Graeme Cooper, Managing Director, WD Hearn Machine Tools



Jacob Makgai DMG MORI South Africa

seeing more innovation in future visits.

See you in Milan in 2027

From what Metalworking News observed in terms of sales conversations, these conversations tended to move quickly from machine tool metrics to questions about workholding and tooling, cell layout, to software and digital twin capabilities and aftersales support. Several exhibitors reported a pipeline of projects where one or two pilot cells would be followed by phased roll-out across shop floors and plants – a sign that interest is converting into investment plans, albeit cautiously.



Johann Nel of Spectrum Machine Tools, Dorian Wilger, Area Manager Okuma Europe and Melvin Howard of Spectrum Machine Tools



Johan Neveling of Lead Machine Tools and Dalung Hung of MICRO DYNAMICS



Paul Hammerton of Easson-Vertex, Chris Huang of Vertex Taiwan and Seamus Thompson of Easson-Vertex

EMO 2025 closed with concrete outcomes and practical solutions. The show identified technologies that shop floors can adopt this year: robot cells with simpler programming, AI tools targeted at process stability, software that shortens the CAM-to-machine loop and standards to link heterogeneous equipment with every tool, insert, fluid and process in between.

To remain competitive, shops should be prioritising integration, planning for measurable returns, and treating

software and standards as the plumbing that makes automation work for repeatable production outcomes.

With special thanks to the entire VDW (Verein Deutscher Werkzeugmaschinenfabriken – German Machine Tool Builders' Association) team for organising and hosting a memorable event. See you in 2027.

EMO 2027 will take place from October 4 to 8 in Milan, Italy. Visit: <https://www.emo-milan.com/en> for further information. ■

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Bystronic expands into new markets with strategic acquisition

Acquires “Tools for Materials Processing” business unit of US-based Coherent Inc.
Unit includes Rofin brand, which was previously known as Rofin-Sinar before Coherent acquired the company in 2016.

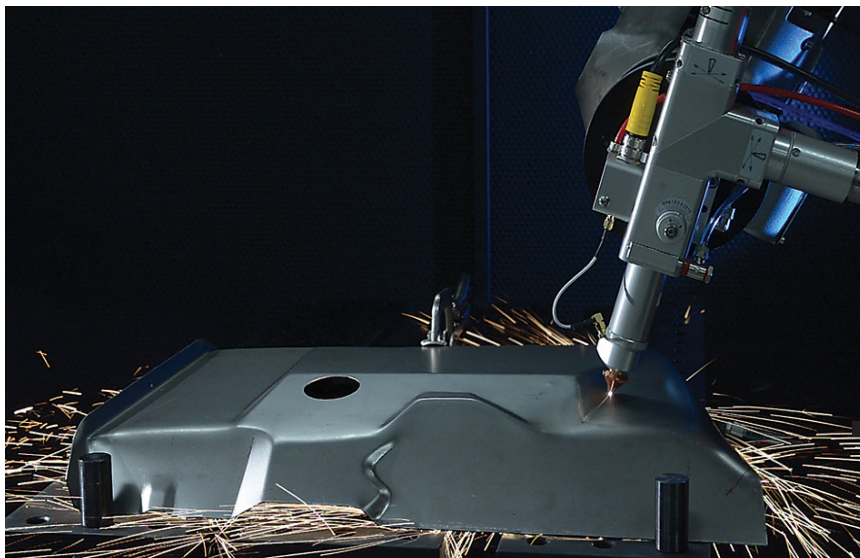
Bystronic has announced it has entered into an agreement to acquire the “Tools for Materials Processing” business unit of US-based Coherent Inc.

This acquisition will help Bystronic expand into additional attractive growth markets such as medical devices, semiconductors, and general manufacturing. In addition, new laser applications, such as micro material processing, marking, labelling and drilling will be added to the Bystronic portfolio.

With this acquisition, Bystronic will also obtain the rights of the well-known Rofin brand and will integrate this business into a new “Bystronic Rofin” business unit. The Rofin brand was previously known as Rofin-Sinar before Coherent acquired the company in 2016.

Bystronic Rofin’s versatile laser technologies will enable the processing of a wide variety of materials – from metal, glass and ceramics to polymers and organic materials. In addition to synergies generated in procurement, the acquisition will leverage know-how in research and development.

Domenico Iacovelli, CEO of Bystronic, states: “Through the acquisition of the ‘Tools for Materials Processing’ business unit, we are expanding into adjacent applications in attractive growth markets. This acquisition is an excellent technological and cultural fit for us, and I am excited to welcome the



employees and customers of Bystronic Rofin.”

With approximately 400 employees, the profitable business unit “Tools for Materials Processing” generates annual sales of about USD \$100 million. Its headquarters are in Gilching, near Munich, Germany.

The transaction is subject to customary closing conditions and is expected to be completed in the coming months. The terms of the deal are confidential.

About Bystronic

Bystronic is an international sheet metal processing technology and innovation company. As a full solutions provider, the company offers advanced flat and tube laser cutting systems, press brakes, and intelligent automation solutions supported by global services. With Bystronic Software, the company is accelerating the digital transformation of the industry. Bystronic’s headquarters are located in Switzerland, with development and production facilities in Germany, Spain, Italy, China and the USA. The company serves customers in more than 30 countries with its own subsidiaries and a network of dealers and agents.

About Coherent

Coherent is a global photonics related company. They harness photons to drive innovation. Industry leaders in the data centre and communications and industrial markets rely on Coherent’s world-leading technology to fuel their own innovation and growth. Established in 1971 the company operates in more than 20 countries.

Contact Cutronic on Tel: +27 (10) 410 0200 or visit www.bystronic.com or www.dne.global For further details.



Siemens and machine tool builders agree on groundbreaking data alliance

The alliance enables a data exchange for AI applications in manufacturing. New partnership paves the way for revolutionary industrial AI solutions.



One conceivable use case in the field of machine tools is the automated creation of a part programme for machine tools

Siemens and several leading machine tool manufacturers including Grob, Trumpf, Chiron, Renishaw, and Heller, along with the Machine Tool Laboratory (WZL) of RWTH Aachen and the Voith Group, formed a groundbreaking alliance that provides for a systematic exchange of engineering, manufacturing and machine data that will be used to develop new generative AI applications for industrial environments.

This collaboration marks a decisive step toward the realisation of an industry-specific AI model, the Siemens Industrial Foundation Model. Siemens first presented its vision for this model at EMO Hannover Messe 2025.

“Along with our customers and partners, we are taking a significant step to scale industrial AI. I see a great opportunity here for the European economy and its strong industrial base – from automotive, chemicals, and pharmaceuticals to mechanical engineering, energy, healthcare, infrastructure, and transport among others. By making our companies’ unique data treasure available to create generative AI models, we can achieve totally new levels of productivity – and this data alliance in the machine-building industry is leading the way,” says Roland Busch, CEO of Siemens AG.

The alliance intends to significantly increase efficiency and innovation cycles in the manufacturing industry with the targeted use of AI technologies. One conceivable use case in the field of machine tools is the automated creation of a

part programme for machine tools. These programmes could be created significantly faster, while the error rate in code creation is reduced. In addition, programmers will be relieved of basic tasks and can focus on more complex challenges.

“Access to high-quality machine data from different manufacturers is the key,” Busch explains. “With this alliance, we can develop AI systems that reflect the complexity inherent in development and manufacturing, and so it will become a powerful partner for skilled workers.”

The partnership involves the exchange of anonymised machine data in strict compliance with data protection and security standards. Among other things, the data will be used to develop and train AI models specifically tailored to the requirements of industrial manufacturing. The data from the alliance will be used to automatically create NC programmes: a kind of “work instruction” for special manufacturing machines. Other use cases include predictive maintenance with precise machine-specific forecasts, adaptive manufacturing processes that adapt in real time to changing conditions, and energy-efficiency optimisation through the intelligent control of machine parameters.

The alliance’s long-term strategy includes bringing more companies on board – even beyond the machine tool industry – to leverage industrial artificial intelligence across different industries. ■

Salvagnini to exclusively distribute new Metevo panel benders



The new Metevo MX-1417 panel bender, which is a strategic collaboration between Salvagnini and Lanhao Intelligent Technology

A new brand of panel benders born from the strategic collaboration between Salvagnini, a global leader in sheet metal fabrication, and Lanhao Intelligent Technology, a company specialised in proprietary control systems and panel bending machines.

Salvagnini, a global leader in sheet metal fabrication systems headquartered in Italy, and Lanhao Intelligent Technology, a Chinese company specialised in proprietary control systems and panel bending machines, are pleased to announce a cooperation agreement aimed at broadening access to cost-effective and efficient panel bending solutions.

Under this agreement – entered by the parties as independent entities – Salvagnini will exclusively distribute

out of China a new range of panel benders, developed by Lanhao specifically for Salvagnini and marketed under the new brand. These machines will initially be launched across Asia, Middle East and South America.

The distribution of the panel benders marks a strategic step forward in delivering differentiated automation technologies to a broader customer base – driven by Salvagnini's extensive global presence, decades of application expertise and a robust and professional service network covering most major markets worldwide.

The new Metevo panel benders only require 4 standard multi-purpose bending tools to process the entire range of thickness and materials. The range initially consists of three machines – the MX-1417, which has a bending length of 1 400mm and bending height of 170mm, the MX-2017, which has a bending length of 2 000mm and bending height of 170mm and the MX-2517 which has a bending length of 2 500mm and bending height of 170mm.

On all three machines there are minimum thicknesses of 0,4mm for mild steel, stainless steel and aluminium and maximum thickness for mild steel 2mm, for stainless steel 1.5mm and for aluminium 3mm.

Each MX is equipped with a manually adjustable blank holder, which can be set according to the size of the panel to be bent and a manipulator, a clamp and rotator, which are responsible for automatically handling the sheet during bending. The sheet is centered then automatically manipulated, clamped, and rotated.

The sheet is centered only once using mechanical stops at the beginning of the cycle. The machines can either be manually loaded/unloaded or come with automatic options.

Visit www.met-evo.com or email info@met-evo.com for further details. ■

TMTS 2026: Taiwan International Machine Tool Show highlights online-offline integration

Organised by the Taiwan Machine Tool & Accessory Builders' Association (TMBA), the Taiwan International Machine Tool Show (TMTS 2026) will be held from March 25 to 28, 2026 at the Taichung International Exhibition Center.

With the three themes of "AI-Powered Sustainable Manufacturing," "Ecosystem Co-exhibition," and "Showroom-Factory Experience in Taichung," TMTS continues to build the most comprehensive smart manufacturing platform. As the show approaches, the organiser has launched an integrated online-offline marketing campaign, unveiling highlight exhibitors in advance to help global buyers capture the key trends.

Technology trends driving the future

AI and sustainable manufacturing have become the cornerstones of industrial upgrading. TMTS 2026 will

showcase the latest applications in artificial intelligence, smart connectivity, and energy-saving carbon reduction, helping the industry seize the momentum of global manufacturing transformation.

Seamless online-offline connection for global buyers

Through its official website and social media platforms, TMTS 2026 will continuously release exhibitors' highlights and product information. Global buyers can stay updated anytime, anywhere. This online integration not only enhances international visibility but also establishes pre-show communication channels, making onsite interactions more efficient. During the exhibition, the physical venue will feature complete solutions, while the digital platform ensures a continuous information stream – creating an "exhibition that never ends." ►

Enriched activities to deepen visitor experience

To help visitors gain deeper insights into industry trends, TMTS 2026 will host a variety of interactive activities, including professional forums, product launches, live demonstrations, and cross-disciplinary academic-industry exchanges. These activities will allow attendees to experience smart manufacturing first-hand, engage directly with experts and industry leaders, and obtain practical solutions tailored to real-world needs.

Showroom-Factory experience showcasing cluster strength

Leveraging Taichung's complete machine tool industry cluster, TMTS 2026 will highlight the unique "Showroom-Factory" model. Buyers will not only see the latest equipment at the exhibition but also visit local factories to experience product performance and services first-hand, enhancing the immediacy and trust of procurement decisions.

Academia-Industry collaboration creating value

The show will also serve as a key platform for academic-industry collaboration, bringing together research institutions, scholars, and industry representatives to foster technical exchange and innovative cooperation, injecting new momentum into smart manufacturing development.

Global connections expanding business opportunities

As a premier event for the global machine tool industry, TMTS 2026 will connect international buyers with Taiwan's manufacturing strengths through diverse and innovative showcases, creating greater opportunities for collaboration and business. TMBA sincerely invites industry leaders and global buyers to join and witness the new chapter of smart manufacturing.

Taiwan showcases AI-driven machine tool solutions at EMO 2025, with 121 exhibitors ranking 4th worldwide

Taiwan made a strong impression at EMO 2025 with 121 exhibitors, ranking fourth worldwide. Under the theme "AI Shaping the Future", Taiwan showcased how artificial intelligence is transforming manufacturing with greater precision, efficiency, and sustainability.

At the Taiwan AI Empowered Machine Tool Industry Executive Dialogue, industry leaders emphasised Taiwan's complete ecosystem – spanning electronics, ICT, semiconductors, and machinery – that accelerates AI adoption in machine tools.

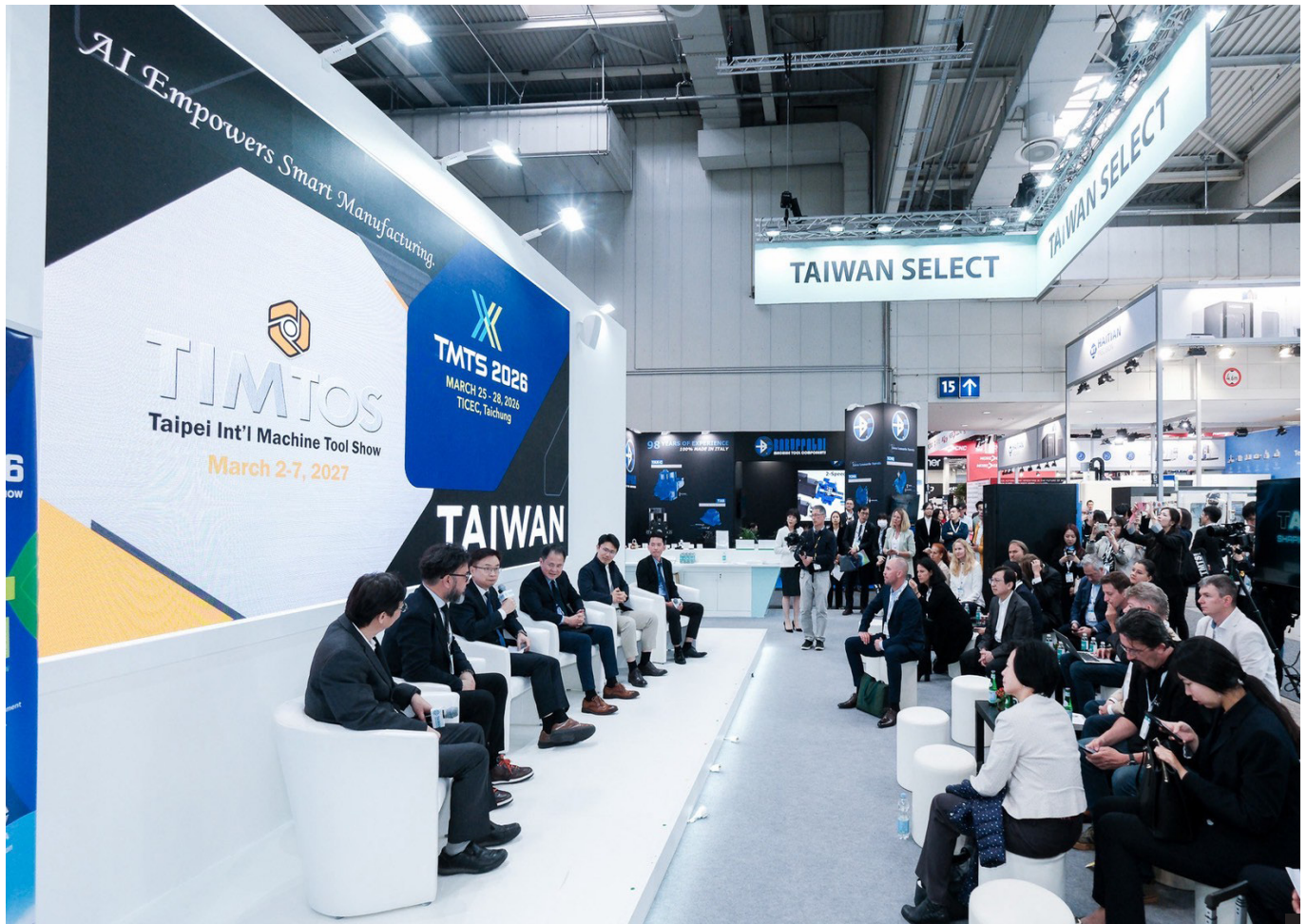
Key highlights included: Cosen Precision: AI sawing system boosting efficiency and stability in aerospace. She Hong: AI thermal compensation improving mould machining accuracy by 60%. HOSEA Precision: AIoT platform enabling SMEs to upgrade with predictive diagnostics and energy savings.

Industry associations TAMI and TMBA stressed Taiwan's shift from "price competition" to "value competition," promoting digital transformation and an AI knowledge-sharing platform to speed up adoption.

Looking ahead, Taiwan will showcase its latest innovations at TMTS 2026 in Taichung (AI empowerment, smart and sustainable manufacturing) and TIMTOS 2027 in Taipei (AI deeply integrated into smart manufacturing).

From aerospace to automotive, from complete machines to components, Taiwan's AI-driven machine tool industry is rapidly advancing and is set to play a pivotal role in the global transformation of manufacturing.

For more information visit <https://www.tmts.tw/en>



SoftBank acquires ABB robotics unit for \$5.375 billion

One of the world's largest industrial automation providers is changing owners. The ABB Group has said it is divesting its ABB Robotics & Discrete Automation division to SoftBank Group Corp. for \$5.375 billion.

The Zurich-based company had announced plans to spin off the unit during an earnings call in April. At the time, it noted that orders and revenues had fallen sharply from 2023 to early 2025.

With 2024 revenues of \$2.3 billion, ABB Group said ABB Robotics represented about 7% of its revenues and had an operational EBITDA (earnings before interest, taxes, depreciation, and amortization) margin of 12.1%. The division has about 7 000 employees, while ABB said it has a total about 110 000 worldwide.

ABB Robotics' US headquarters and factory are in Auburn Hills, Mich. In March, it said it planned to invest \$120 million in expanding production in the US. The company's portfolio includes industrial automation, force- and power-limited robot arms, and autonomous mobile robots (AMRs) acquired with ASTI Mobile Robotics for \$191 million in 2021.

"SoftBank's offer has been carefully evaluated by the board and executive committee and compared with our original intention for a spin-off," stated Peter Voser, chairman of ABB. "It reflects the long-term strengths of the division, and the divestment will create immediate value to ABB shareholders."

"ABB will use the proceeds from the transaction in line with its well-established capital allocation principles," he added. "Our ambitions for ABB are unchanged, and we will continue to focus on our long-term strategy, building on our leading positions in electrification and automation."

SoftBank beefs up robotics portfolio — again

"SoftBank's next frontier is physical AI," asserted Masayoshi Son, chairman and CEO of SoftBank Group. "Together with ABB Robotics, we will unite world-class technology and talent under our shared vision to fuse artificial super intelligence and robotics driving a groundbreaking evolution that will propel humanity forward."

Not only has SoftBank invested in robotics companies, but it has also owned several over the years, with mixed results. The Tokyo-based company's robotics unit also produces the Whiz floor cleaner.

SoftBank acquired humanoid service robot maker Aldebaran Robotics for \$100 million in 2012, rebranded it as SoftBank Robotics in 2016, and sold it as SoftBank Robotics Europe to United Robotics Group in 2022. In June 2025, Aldebaran went into receivership.

In 2018, SoftBank invested \$375 million in Zume Pizza, which shut down two years later. In 2019, it gave Nuro, ai \$940 million, and the driverless delivery vehicle maker reached a \$6 billion valuation in August 2025.

SoftBank acquired legged robot developer Boston Dynamics from Alphabet in 2017 and sold it to Hyundai Motor Group for \$880 million in 2021.

In addition, SoftBank took a 40% stake in warehouse automation provider AutoStore for \$2.2 billion in 2021. In 2023, SoftBank merged with Berkshire Grey in a cash deal worth about \$375 million.

ABB Group said the divestment of the robotics division will result in a non-operational pre-tax book gain of approximately \$2.4 billion with expected cash proceeds, net of transaction costs, of about \$5.3 billion. It expects separation costs of around \$200 million, about half of which was already included in its 2025 guidance. ABB estimated transaction-related cash tax outflows for local business carve-out of \$400 million to \$500 million. ■



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Building momentum for a successful SIMTOS 2026

Korea's biggest manufacturing exhibition, SIMTOS 2026, is just six months away. Due to strong exhibitor demand, over 5 000 booths, accounting for 92.4% of total exhibition space have already been reserved. This marks the highest reservation rate in SIMTOS history.

Having completed its exhibitor assignments, the SIMTOS Secretariat is now focusing on designing the exhibition hall layout and booth allocations. SIMTOS 2026 will take place from April 13 to 17 at KINTEX Halls 1 and 2 (102 431m²), under the theme "AI Autonomous Manufacturing Meets Talent." The event will feature dynamic side programmes, offering visitors an in-depth look into the future of smart manufacturing.

Strategic preparation and record-breaking achievements

Following the conclusion of SIMTOS 2024, the Secretariat immediately began preparing long-term strategies for the next edition undertaking a two-year preparation process. This level of planning is rare, especially considering that most domestic machine industry exhibitions are typically organised within just five to six months.

Such thorough preparation underscores SIMTOS's unique value as a must-attend business platform not only for domestic and international manufacturers, but also for stakeholders across the entire production ecosystem, including government agencies and research institutions.

In May, SIMTOS 2026 began accepting exhibitor applications and saw an overwhelming level of interest from companies. Over 5 000 booths were reserved in just 25 days, setting a record both in speed and scale for the event. The SIMTOS Secretariat continues its step-by-step preparations to ensure a high-quality exhibition that meets the expectations of its participants.

More companies join as the deadline approaches

With exhibitor recruitment virtually complete, SIMTOS 2026 began designing the exhibition layout in October, aiming to allocate booths by December. Booth allocation is more than assigning space, it marks the starting point for exhibitors to officially announce their participation.

From that point forward, exhibitors

will have access to SIMTOS's promotional platforms, enabling them to showcase products and build anticipation prior to the event.

Visitors can plan their routes in advance by referring to online and offline promotional materials and identifying must-visit companies. Thus, following booth allocation, SIMTOS's promotional efforts shift to align more closely with the specific interests of individual visitors.

SIMTOS 2026 goes beyond a conventional manufacturing exhibition. It serves as a future-oriented platform where visitors can explore the future of the industry, build new partnerships, and gain insights into the global shift toward smart manufacturing.

With about six months to go until SIMTOS 2026, the SIMTOS Secretariat stated: "We are committed to enhancing the overall quality of the exhibition through meticulous preparation. The record-breaking level of exhibitor interest reflects the high expectations for SIMTOS 2026, and we are fully dedicated to meeting those expectations with thorough and strategic planning."

SIMTOS 2026 will take place over five days, from April 13 to 17, 2026, at KINTEX Halls 1 and 2. The exhibition will feature five specialised pavilions: Metal Cutting and Die Mould Tech; Materials Parts and Control Tech; Tooling and Measuring Tech; Metal Cutting-Off and Welding Tech; and Press and Forming Tech.

Concurrent with SIMTOS 2026 will be a special exhibition, M.A.D.E. in SIMTOS, showcasing innovations in AI-driven manufacturing and their transformative impact on industry.

Visit <https://simtos.org/eng/index.do> for further information.



OPEN MIND has established a new subsidiary in Seoul, Korea

OPEN MIND has established a new subsidiary in Seoul, Korea, to continue its course of international expansion. With OPEN MIND Technologies Korea, the leading provider of CAD/CAM and MES solutions, is strengthening its presence in Asia and creating a foundation for further growth. From the Seoul metropolitan region, the company aims to develop new markets.

"Korea is one of the most exciting and important markets in Asia, with a highly developed manufacturing industry and

leading high-tech sectors. This dynamic economy offers ideal conditions for the use of hyperMILL[®]," said Volker Nesenhöner, CEO of OPEN MIND Technologies AG.

"With our innovative CAD/CAM solutions and powerful automation technologies, companies can optimise their production processes and increase both quality and efficiency."

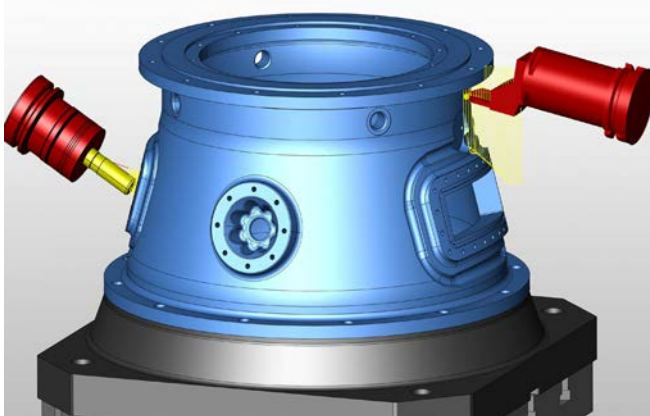
Direct access to software, service, and support

"With our new subsidiary in Seoul, customers in Korea will now receive direct support from OPEN MIND. Customers can communicate directly with hyperMILL[®] experts, benefit from faster response times, and gain early access to software updates. This means that new features and enhancements can be implemented more quickly," explains Mr. Dong-Keug Kim, Managing Director of OPEN MIND Technologies Korea.

"Our customers can be confident that our team will deliver the same high-quality work as before. Their trusted contacts remain in place. This will be enhanced with the additional advantages of support directly from OPEN MIND," Mr. Kim added.

The long-standing reseller Open Solution is working directly with OPEN MIND Technologies Korea, a connection that strengthens the partnership and further enhances customer support.

For further details contact Hi-Tech Machine Tools on TEL: 011 608 0088 or visit www.hitech.co.za



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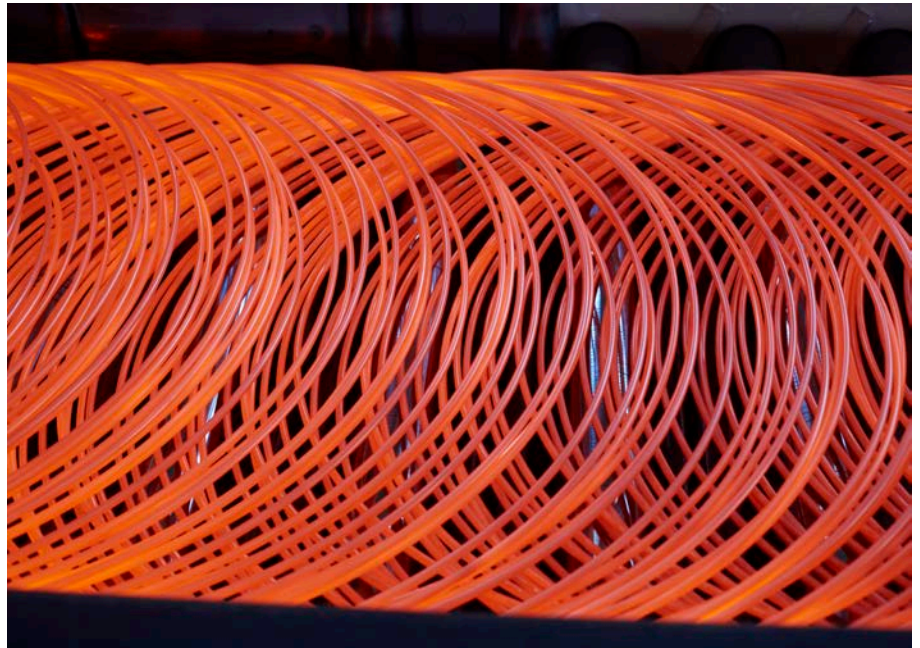
www.tbatools.co.za

Global steel demand outlook – Executive snapshot (2025-2026)

The World Steel Association (worldsteel) has recently released its latest Short Range Outlook (SRO) for global steel demand in 2025 and 2026. Global steel demand in 2025 is projected to be flat compared to 2024, reaching about 1 750 million tons (Mt). A modest rebound of 1.3% is forecast for 2026, pushing global demand to 1 773Mt.

The projected growth in 2026 is driven by a mix of powerful regional trends. We expect to see a slowdown in the decline of steel demand from China, coupled with strong growth in developing economies like India, Vietnam, Egypt, and Saudi Arabia. Critically, we also anticipate the long-awaited return of steel demand growth in Europe.

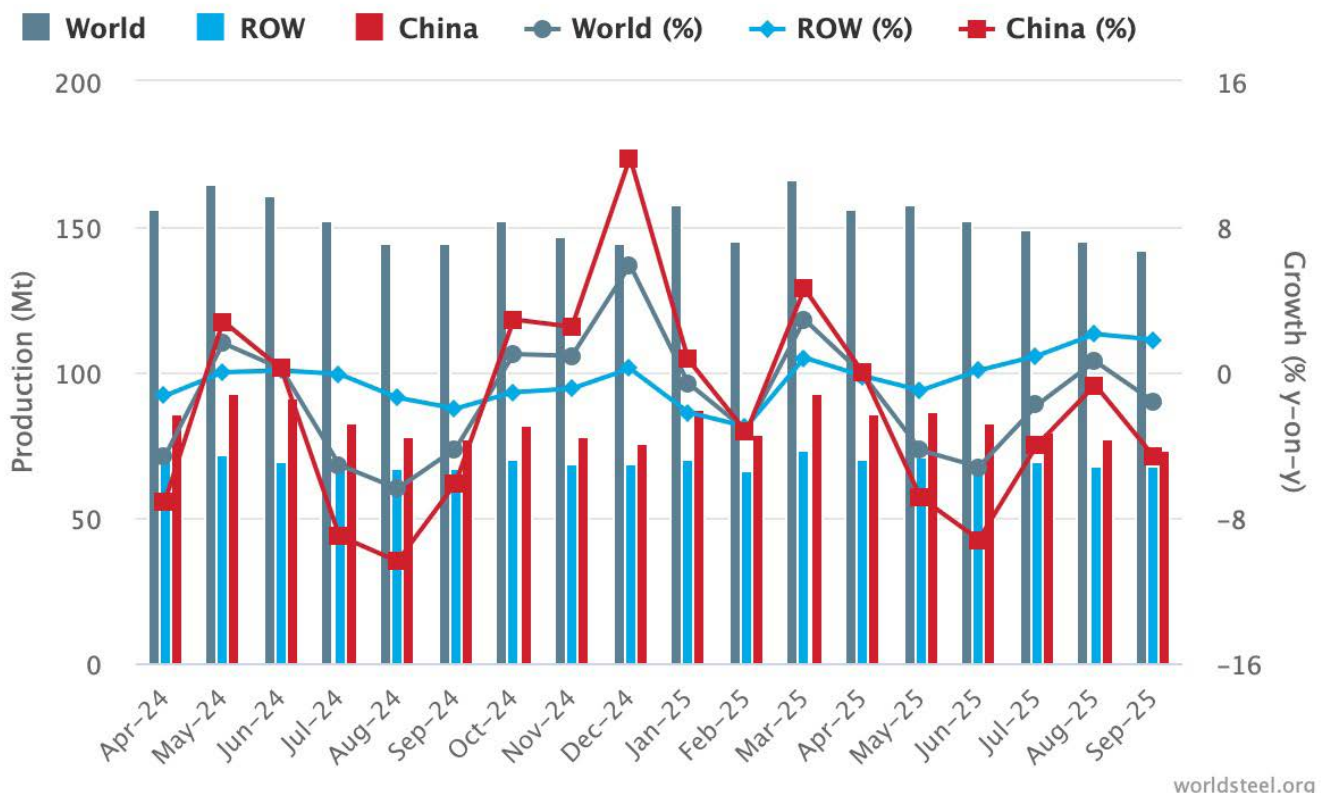
However, the path forward isn't without its challenges. First, the global manufacturing sector continues to face a squeeze from elevated production costs and sustained affordability pressures on consumers. Second, escalating trade tensions are having a direct, negative impact on steel demand in economies heavily reliant on the export of



Steel wire rod on the cooling line at BSW, Germany

steel-intensive goods, such as machinery and automotive components. Finally, geopolitical uncertainties act as a major deterrent, chilling both consumer and investor confidence, ▶

Crude steel production



worldsteel.org

and dampening steel demand across key markets.”

It is anticipated that China’s steel demand will continue its decline in 2025, falling by approximately 2.0%. This forecast represents a moderation of the downward trend observed since 2021, driven primarily by the ongoing downturn in the housing market. Looking ahead to 2026, the decline is projected to further decelerate to 1.0% as the housing market bottoms out. We believe that the risks to our current China steel demand outlook weigh on the downside. A tougher global trade environment poses a significant downside risk, potentially slowing steel demand from the manufacturing sector. Additionally, lingering financial pressures on local governments could constrain infrastructure investments, further dampening demand.

Steel demand in the developing world excluding China is forecast for robust growth, with a 3.4% increase in 2025 and a 4.7% increase in 2026. This expansion is primarily driven by strong performance in India, and some ASEAN and MENA countries.

Projections suggest Indian steel demand will continue to charge ahead with around 9% growth in its steel demand over 2025 and 2026, driven by continued growth in all steel using sectors. In 2026, steel demand in India is projected to be almost 75Mt higher than in 2020.

For nearly a decade, starting in the mid-2010s, steel demand in Africa remained largely flat, hovering around the 35 to 40Mt mark. However, a significant shift has been underway since 2023, with clear indicators of a strong resurgence in construction and steel consumption across the continent. An analysis estimates that over the past three years, Africa’s steel demand has grown by an average of 5.5% per annum, fuelled particularly by robust activity in the Northern and Eastern regions. This renewed momentum, which brought Africa’s steel demand to about 41Mt in 2025, is underpinned by improving macroeconomic fundamentals and governance. For instance, most of Africa’s major economies have recently achieved greater stability, seeing a noticeable reduction in volatility across inflation



	Sep 2025 (Mt)	% change Sep 25/24	Jan-Sep 2025 (Mt)	% change Jan-Sep 25/24
Africa	2.0	8.2	17.3	4.2
Asia and Oceania	102.9	-2.1	1 016.5	-1.5
EU (27)	10.1	-4.5	94.6	-3.7
Europe, Other	3.6	1.4	31.7	-4.2
Middle East	4.6	9.3	40.7	2.0
North America	8.8	1.8	80.5	0.1
Russia & other CIS + Ukraine	6.2	-5.3	61.3	-5.1
South America	3.5	-2.7	31.1	-1.9
Total 70 countries	141.8	-1.6	1 373.8	-1.6

The 70 countries included in this table accounted for approximately 98% of total world crude steel production in 2024.

Regions and countries covered by the table:

- **Africa:** Algeria, Egypt, Libya, Morocco, South Africa, Tunisia
- **Asia and Oceania:** Australia, China, India, Japan, Mongolia, New Zealand, Pakistan, South Korea, Taiwan (China), Thailand, Viet Nam
- **European Union (27):** Austria, Belgium, Bulgaria, Croatia, Czechia, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
- **Europe, Other:** Macedonia, Norway, Serbia, Türkiye, United Kingdom
- **Middle East:** Bahrain, Iran, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen
- **North America:** Canada, Cuba, El Salvador, Guatemala, Mexico, United States
- **Russia & other CIS + Ukraine:** Belarus, Kazakhstan, Russia, Ukraine
- **South America:** Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela

and exchange rates. Furthermore, several African nations are actively pursuing ambitious economic diversification agendas, supported by key reforms. These developments might be paving the way for a potentially sustained period of steel demand growth in the continent.

The developed world is forecast to experience a 0.5% decrease in steel demand in 2025, marking the fourth consecutive year of decline since 2021. However, a recovery is anticipated in 2026, with projected growth of 1.5% as steel demand in the EU and US is expected to bottom out in 2025 and post modest growth thereafter. Conversely, steel demand in Japan and Korea is projected to remain subdued throughout 2026.

It is expected the EU+UK region’s demand to grow 1.3% in 2025 and 3.2% in 2026. The long-awaited return of steel demand growth in the EU reflects the impact of increased infrastructure and defence spending in the continent in combination with improving macroeconomic conditions such as lower inflation, easing credit conditions, and improvements in real household income.

Steel demand in the US is expected to rebound by 1.8% in 2025 thanks to front-loading of production ahead of increased tariffs and continued growth in infrastructure spending. In 2026, we expect steel demand to grow by 1.8%, aided by pent-up demand in residential construction and private investment, easing financing conditions, and reduced uncertainty. Additional upside could come from the launch of the “One Big Beautiful Bill” stimulus, which may boost multiple sectors.



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TaeguTec's range of chip breakers from roughing to finishing applications for steel

Machining steel has never been as easy as this. TaeguTec has four unrivalled chip breakers that drastically improve the performance of roughing to finishing applications for steel machining.

Focusing on the market's requirement in automation and improved productivity, TaeguTec's series of optimised chip breakers and grades offer improved stability, longer tool life with improved coating, excellent chip control performance while covering a wide range of applications. Overall, these chip breakers deliver optimal machining performance and high reliability in a wider range of operations.

These inserts are easily distinguished by a new designation system that clearly defines their application range. The new chip breakers deliver optimal machining performance and high reliability in a wider range of operations.

FLP type

The FLP chip breaker (for finishing) minimises machining load at low depths of cut, has excellent chip control capability due to the wide, stable supporting area, and enables excellent workpiece dimensional accuracy.

MLP type

The MLP chip breaker (for semi-finishing to medium) enables excellent chip control capability due to the side wave edge geometry in highly variable depths of cut, and with a specially designed edge that enables stable machining in a wide range of medium applications.

MGP type

The MGP chip breaker (for medium), characterised by good chip control, is the first recommended machining solution for a wide range of operations. Also, the MGP is designed with cutting edge strength and has a wide support area that promotes stable and reliable machining.

RGP type

The RGP chip breaker (for roughing) is suitable for roughing applications due to its reinforced cutting edge and wide chip groove, and can perform reliably without chipping even in extreme interrupted machining conditions.

Contact TaeguTec SA on TEL: 011 362 1500 or visit www.taegutec.com for more information. ■



FLP



MLP



MGP



RGP

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The MSY Series can handle a wide range of components for all kinds of applications thanks to a highly versatile control system that comes with the 100 MSY, 100 MSY with sub spindle and the 200MSY.

The MSY Series machines are designed for high-rigidity, reliability and productivity as demonstrated in both surface finish quality and repeatable precision. The MSY CNC Slant Bed Lathes have a Swing of 500/560mm, Machining Length of 350/560mm, Bar Diameter of 42, 52 and 74mm, a12 Tool Post Live Tool Turret(Y-Axis,BMT55) and as standard FANUC Series Oi-Model F Plus, Renishaw Automatic Tool setter Automation ready (Robot and Bar feeder).



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Often the thread of component is damaged at the end of the thread, preventing the use of taps or dies for carrying out the repair. Nes external and Nes internal thread restorers have the capability to enter below the damaged area and work outwards to complete the repair.

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Contact TBA Tools on TEL: 012 653 4018 or 082 891 2104 or 083 233 6929 or visit www.tbatools.co.za for more details. ■

Introducing a solution to one of the most common and frustrating reoccurring problems in working with fasteners stripped and damaged threads. Nes Thread Repair specialises in repairing both external and internal damaged threads, replacing hundreds of taps and dies. No need for calibration, and repairs standard or metric threads. The outstanding innovation of these hand tools was recognised and received an Editor's Choice Award from Popular Mechanics. The award was given for outstanding achievement in new product design and innovation.

The Nes external and Nes internal assortment of thread restorers are the ideal tools for saving money during maintenance activities in the industry: while fixing your valuable production equipment, when plumbing, doing construction or agricultural jobs, doing car repair, and for many other applications where there are components with damaged threading.

Compare the cost of disassembling the part in order to repair a component with the instant repair that can be performed with the Nes external and Nes internal thread restorers.

These hand tools automatically adjust to any thread's diameter and pitch,



Mazak

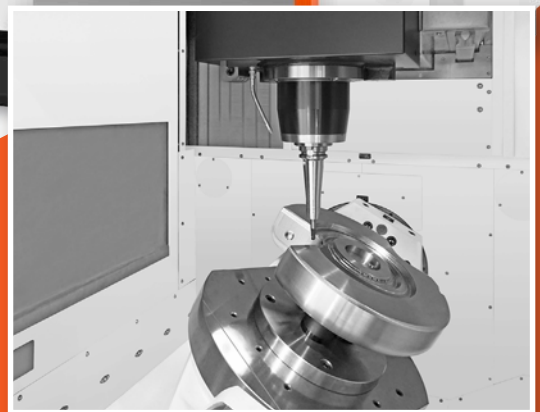
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**VARIAXIS C-600 eases
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The automation-ready VARIAXIS C-600 simultaneous 5-axis vertical machining center uses rigid C-frame construction, a standard 30-tool changer, dual-supported tilting table and fast rapid traverse rates to reduce cycle times on demanding jobs. It accepts a wide range of spindles, including high-speed and high-torque options, to produce a wide range of parts from steel and non-ferrous metals.

- Its MAZATROL SmoothAi CNC adds efficiency and value, with a wide variety of advanced programming functions for complete ease of use and repeatable high-accuracy performance.
- High-torque and high-speed spindle options for versatile performance in a wide variety of materials, including aluminium, stainless steel, nickel and titanium
- Automation-ready design includes options such as a 2-pallet changer, robotic loaders and hydraulic/pneumatic jigs



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Mitutoyo introduces QM-Fit:

A smart vision system for fast, intuitive measurement

Mitutoyo, global leader in precision measurement solutions, is proud to announce the launch of QM-Fit, a compact, high-performance manual vision measuring machine designed for quick, accurate inspection of small and thin components. QM-Fit redefines ease of use with a smart, touch-based interface and is positioned as a next-generation alternative to traditional profile projectors.

A smarter way to measure

QM-Fit is built to make precision measurement accessible to everyone – regardless of skill level. With its intuitive User Interface, touch panel operation, and advanced automatic part recognition, users can simply place a part on the stage and initiate measurement instantly. The system automatically detects features such as circles and edges, and offers real-time, graphical feedback.

Instant measurement with automatic recognition

QM-Fit offers instant measurement with automatic recognition, allowing users to simply place the part on the stage. The system immediately identifies the workpiece, detects circles, lines, and other elements without the need for setup, alignment, or manual focusing, and begins measurement right away.

Intuitive operation: No skills required

Its intuitive touchscreen interface ensures that no special skills are required to operate the system. Visual guides and auto-suggestions minimise training time and reduce user errors, while results are displayed graphically in real time with clear pass/fail indicators.

Graphically Supported Caliper Snap

Another standout feature is the Graphically Supported Caliper Snap, which enables fast and precise measurement by snapping digital rulers to part edges or geometries – eliminating the time-consuming crosshair alignment used in traditional projectors.

Higher throughput, lower costs

QM-Fit also improves productivity and reduces costs by delivering repeatable results with minimal operator influence, cutting down on variation and rework. Automatic detection and digital zoom shorten cycle times, helping to remove bottlenecks in quality control and first-article inspection processes.

Compact, space-saving design, powerful optics and high-resolution imaging

With its compact, space-saving design (366mm x 407mm



Compact and powerful. At just 25kg, QM-Fit fits any workbench while delivering high-resolution imaging with 20MP CMOS optics and $\pm 10\mu\text{m}$ accuracy and built-in calibration ensure consistent, repeatable results every time

x 621mm and 25kg), QM-Fit fits easily on any workbench and operates as a true stand-alone unit, complete with integrated PC and 15.6-inch touch monitor. Its powerful 20MP CMOS colour camera, digital zoom up to 100x, telecentric lens, and 36 mm depth of field provide high-resolution imaging and accurate focus even on uneven parts.

Reliable and traceable

Finally, the system ensures reliability and traceability, with calibration to $\pm 10\mu\text{m}$ accuracy and repeatability within $2\sigma \leq 4\mu\text{m}$. Built-in traceability functions and environmental correction further enhance measurement confidence.

A better alternative to profile projectors

While traditional projectors require manual alignment and operator skill, QM-Fit automates these steps with smart detection and digital visualisation. It delivers faster, more consistent results, making it an ideal replacement for optical comparators in quality control, incoming inspection, and shop floor applications.

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

Hermle's C 12 compact 5-axis machining center

The C 12 is the most compact Hermle machining center in the High-Performance-Line. Designed for machining cubic parts up to 100kg in weight, the C 12 works in the most diverse applications compactly, precisely and dynamically.

The especially compact and space-saving C 12 machining center meets the ever-increasing demands placed on speed and precision thanks to the corresponding Hermle setups. It goes without saying that there are also many options available for more complex situations. You can discover more details about the C 12 via the i-buttons in the 360 degree view.

High-tech tool spindles with collision protection

The slimline tool spindles are constructed in two parts and can be replaced easily and quickly during servicing. Thanks to low interfering edges and collision protection by compression sleeves, safety is given primary importance by maximum collision

avoidance. Damage can be prevented in 50% of collisions.

The Hermle C12U is a compact vertical 5 axis machining centre with a swivel rotary table design and is the smallest machine in the Hermle High Performance range. It is built on one-piece mineral casting which offers excellent thermal and vibration dampening qualities resulting in a very stable and accurate machine platform.

The modified gantry design provides a very rigid set up over the entire work area leading to excellent cutting performance and tool life. Uncompromising build quality leads to unrivalled performance, meaning the C12U can be used for some of the most demanding materials and applications.

The working envelope is 350mm x 440mm x 330mm and the maximum workpiece in full 5-axis is Ø320mm by 265mm height.

For further details contact Top-Tool on 076 511 3066 or visit www.top-tool.co.za



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Mazak's Integrex i-350S Neo multitasking machine



Mazak's Integrex i-350S Neo multitasking machine is designed to provide high versatility, precision and efficiency. Building on Mazak's "Done-in-One" concept, the Integrex i-350S Neo offers increased thermal stability and combines high-performance turning, milling, and, for the first time, grinding operations, along with advanced automation features.

The Integrex i-Neo Series of machines offers a wide range of automation solutions that meet diverse customer requirements. For applications utilising overhead gantry loaders, unloaders or bar feed systems, the series provides a standard ergonomic front-mounted tool magazine that also provides seamless integration with automation. Mazak also offers the option to locate tool magazines at the rear of the machine along with optional retrofittable automatic front doors/robot interfaces that allow the machines to easily accommodate floor-mounted robots.

The Integrex i-350S Neo includes both a main and second turning spindle (S) and a milling spindle headstock. The main spindle accommodates a 10" chuck and features a Y-axis stroke of 305mm and X-axis stroke of 685mm for

a maximum part diameter capacity of 670mm. Both the main and second turning spindles operate at 4 000rpm, while the compact milling spindle comes standard as 12 000rpm (22kW) and 20 000rpm (22kW) as optional. The machine processes parts up to 1 519mm long with a 1500 U-style bed and up to 2 490mm with a 2500 U-style bed.

The Integrex i-350S and i-350ST model Neo Series machines incorporate the latest Mazak Mazatrol SmoothAi CNC control technology. For fully optimised machining operations, the AI-powered technologies within the new Mazatrol SmoothAi control make for fast and easy

programming as well as controlled spindle speed for reduced vibration and greater machine thermal stability.

These Mazak AI-powered technologies include Solid Mazatrol that allows users to automatically generate programs from 3D part models; Smooth Ai Spindle that automatically optimises spindle speed based on sensor feedback to minimise machining vibration for superior part surface finishes; and Ai Thermal Shield that adapts to and learns from environmental changes to control the effects of heat on machining accuracy.

In addition to Smooth Technology solutions and control functions, the control also provides access to Mazak's Mazatrol Twins software, which allows shops to create synchronised digital twins of real machines on their shop floors. The digital twin's software solutions provide highly efficient machine operation through Smooth Project Manager that promotes efficient job setups and Smooth CAM Ai for an open and interactive interface for CAD/CAM software packages.

For further details contact Hi-Tech Machine Tools on TEL: 011 608 0088 or visit www.hitech.co.za

OSG's A Brand AE-CPR2-H end mill

A 2-flute high-precision finishing long neck carbide radius end mill for high-hardness steel.



The AE-CPR2-H is a 2-flute long-neck radius carbide end mill optimized for high precision finishing of high-hardness materials. Since the number of cutting edges cutting simultaneously is small, tool deflection is suppressed with low resistance, enabling high-quality processing. The corner radius is designed with a 3-dimensional negative geometry that combines both sharpness and cutting edge rigidity. Furthermore, with the addition of OSG's "DUROREY" coating optimized for high-hardness steel, high chipping resistance is achieved even in workpieces of over 60 HRC, enabling long tool life and high-precision machining.

The A Brand AE-CPR2-H end mill offers the following features:

- Two-Flute Design: Low cutting resistance reduces tool deflection, providing a high-quality machined surface
- Optimised 3D Negative Geometry: Balances sharpness and cutting-edge rigidity for superior performance
- Flat Cutting Edge: Designed for bottom surface milling, achieving optimal results with minimal tool wear while delivering higher precision and a smoother machined surface
- Optimised Corner Radius and Shank Precision: With a corner radius accuracy of $\pm 0.002\text{mm}$ and an h4 shank tolerance for secure and stable toolholding.

Contact Somta Tools on TEL: 011 390 8700 or visit www.somta.co.za or www.osg.com for further details.

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Introducing Sandvik Coromant's CoroTap® 100 with -PM geometry: Uninterrupted precision threading in steel balancing, chip control and thread quality

Sandvik Coromant, a global leader in metal cutting tools and manufacturing solutions, has introduced its CoroTap® 100 tool with -PM geometry, a new family of optimised straight flute cut taps for ISO P materials. Engineered with a high-performance chip-breaking design, the new iteration of the tapping tool drastically reduces production interruptions and eliminates the need for manual chip removal. The result is a safer production environment and a more stable machining process with continuous, reliable output and minimal manual intervention.

Effective chip evacuation is critical, especially in blind holes. CoroTap® 100 with -PM geometry is optimised for internal coolant delivery, ensuring clean chip removal and a high-quality finish. For through holes, external coolant via collets or nozzles is recommended for optimal performance.

"By integrating precise chip management with high-quality threading, we're helping manufacturers maintain steady production with minimal operator input," says Cory Carpenter, Global Product and Digital Application Specialist at Sandvik Coromant. "The chip breaker chamfer may seem like a subtle feature, but its effect is substantial. Applying it to just two

flutes allows for efficient chip separation while preserving the accuracy and finish of the thread."

"Coolant isn't just a support function, it's crucial in precision threading," adds Carpenter. "With the right flow, pressure, and concentration, we can prevent chip recutting and maintain a clean, efficient process."

The CoroTap® 100 tap range is available in a comprehensive selection of geometries tailored for ISO P, K, N, and H materials. The assortment includes straight flute taps, spiral point taps, spiral flute taps, and forming taps – offering manufacturers the right solution for every threading challenge.

Learn more about the CoroTap® 100 tap range on the Sandvik Coromant website.

Contact Sandvik Coromant on TEL: 010 500 2295 or visit www.sandvik.coromant.com for further details. ■



Kennametal introduces Top Notch grooving and threading inserts

Grooving and threading inserts with proprietary coating technology.



Kennametal has announced the introduction of KCU10B and KCU25B grades for

Top Notch™ grooving and threading with KENGOLD™ PVD. This advanced multilayer coating not only detects wear easily but also boosts tool life performance. The KCU10B grade offers superior hardness, making it perfect for continuous cuts, while the KCU25B grade provides enhanced toughness, ideal for medium applications in roughing or small interrupted cuts.

"These shallow grooving inserts now feature the gold multilayer wear detection and stability that customers request for safer and more efficient operations," said Scott Etling, Kennametal Vice President Global Product Management. "The KCU10B and KCU25B graded inserts offer stronger, tougher and more accurate indexing across multiple materials, resulting in increased reliability and repeatability."

"Manufacturing facilities today face a constant challenge of balancing tool longevity with productivity, says Greg Sage, regional product manager for turning at Kennametal, and the company's latest turning inserts were created to address both concerns at once."

The U in the name stands for universal, meaning the inserts can be used with a wide range of materials. "They can be used in steels, stainless steels, high-temp alloys, cast irons and even

aluminium depending on the geometry," Sage notes. "Job shops that need that versatility can use them across the board and get excellent results."

Sage says the new grades are engineered to withstand longer runs and higher speeds, helping shops reduce downtime and get more parts out the door. "Not only can we give them longer tool life, but we're also seeing productivity increases, which is making the customers more money and providing them cost savings," he says.

Top Notch shallow grooving solutions feature:

- Positive chipbreaker delivering very low cutting forces for excellent chip control
- Precision-ground inserts allowing for accurate indexing, resulting in reliability and repeatability
- Improved cutting conditions for tool life, stability and rigidity
- Quick and easy tool switching for fast replacement of the insert's cutting edge
- Maximum insert holding power, eliminating movement and force shifts

Kennametal's line of new products and enhanced technology allows customers to leverage the best outcomes for their machining challenges, maximising cost and increasing tool production.

For more information contact Kennametal South Africa on TEL: 011 748 9300 or visit www.kennametal.com ■



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Efficiency without compromise: Gühring's solid carbide circular milling cutters for smooth slotting and grooving



Gühring is adding a powerful solid carbide circular milling cutter to its grooving tool range. The tool not only scores with perfect surface qualities and long tool lives, but also impresses with significantly smoother running compared to the competition. For maximum cost-effectiveness when milling slots and internal contours.

The new solid carbide circular milling cutter is a reliable all-rounder for slotting and grooving on machining centres or lathes. Thanks to its optimised coating, the tool can be used in almost all materials, while the higher number of teeth ensures a longer tool life.

Powerful and efficient: Feed rates increased by 78%

The solid carbide circular milling cutter features an innovative geometry: The combination of positive chip and axis

angles, innovative uneven pitch and large chip spaces ensures maximum running smoothness and low cutting forces. This allows higher cutting parameters to be achieved and machining times to be reduced. And all this without compromise: users also benefit from excellent results in terms of surface quality.

Excellent chip removal ensures a reliable process

The circular milling cutter ensures short, controlled chip breaking, which guarantees optimal chip removal. For this reason, the tool ensures a reliable process when turning and milling internal contours with high cutting data and longer tool lives – making it an efficient alternative to groove turning.

Strong as standard, flexible as a special design

The circular milling cutters are available in all common designs and dimensions as standard, which means that users benefit from fast delivery times. Furthermore, the circular milling cutters are designed with application-oriented undersizes (e.g. $d1 = 7.8\text{mm}$ for holes with a diameter of 8mm), which allows holes and internal radii to be machined close to contour and effectively. To meet individual requirements for the workpiece or process, Gühring also offers circular milling cutters as special designs with corresponding contours and dimensions.

Contact Gühring SA on TEL: 041 372 2047/46/43/38 or visit www.guhring.co.za for further details. ■

Hypertherm expands XPR[®] plasma cutting features

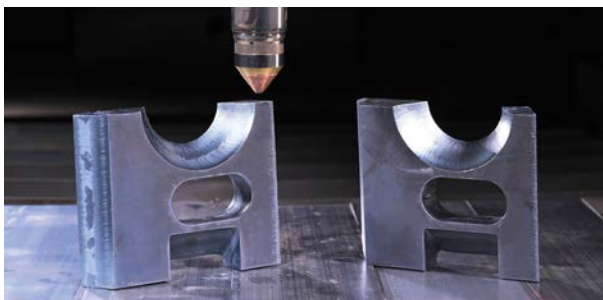
Hypertherm has announced enhancements coming to its Hypertherm XPR platform by the end of the year, including a new streamlined modern design, featuring IIoT capability, Manual Set-mode, automated gouging capability, Vented Water Injection processes, and Improved True Bevel™ technology for thicker, more precise bevel cuts.

XPR enhancements

The new control board enables Ethernet LAN capability for IIoT connectivity and robust access to the XPR interface tool. It also incorporates MTConnect[®] communication protocol for data exchange between machines and software applications for machine monitoring and process analysis. This capability puts cutting data at the operator's fingertips and allows remote plasma system monitoring from anywhere in the world.

For straightforward applications that do not require sophisticated integration with a CNC/PLC such as gouging and off-table bevelling, XPR now features a Manual Set-mode – perfect for repetitive jobs using the same plasma process. Even after a power cycle, the system remembers the last setup, keeping operations smooth and efficient.

The new XPR gouging capability radically decreases the



time needed to get weld-ready parts with wider, deeper, cleaner, and consistent gouge profiles that need little, or no clean-up compared to traditional gouging technologies.

Compared to carbon arc or low-amp plasma hand gouging, XPR automated gouging on a robot, cobot, or track-guided motion control reduces labour and increases productivity by speeding up weld-prep for high-precision welding applications. XPR gouges further from the plate, reaching hard to access and tight spaces with an extended arc stretch and higher arc transfer height.

XPR460 boosted capabilities

In addition to these XPR platform enhancements, Hypertherm boosted capabilities for the XPR460 with 460A Nitrogen/Vented Water Injection (VWI) for high-quality cuts with smooth surfaces on thick stainless steel and aluminium. New 460A Y-Top True Bevel™ capability for thicker mild steel increases accuracy and quality consistency, eliminating machine operator guesswork.

For further details visit www.HyperthermAssociates.com ■

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