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ULTIMATE GUIDE TO PROFITABLE MANUFACTURING

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From submarine periscopes to India's first MRI magnet, Munjal Shah of Paras Defence is steering the company into niche, high-value technologies that strengthen national capabilities and global credibility.

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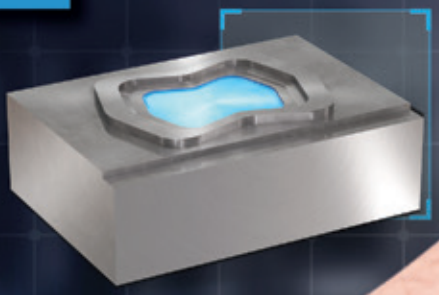

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RESILIENCE OVER RIVALRY

Photography: Vaibhav Nadgaonkar

Manufacturing has never existed in isolation. It sits at the crossroads of geopolitics, trade, and technology. And today, as tariff wars flare up across continents, the sector once again finds itself in the line of fire. For India, this is both a challenge and an opportunity.

Let's be clear: tariff escalations between major economies can disrupt supply chains overnight. What was once a predictable flow of components and raw materials can suddenly become expensive, delayed, or even inaccessible. For a country like ours which is still building depth in critical technologies, this volatility can sting. Yet, if history has taught us anything, it's that Indian manufacturers are nothing if not resilient.

Our cover story this month on Paras Defence and Space Technologies captures that resilience in action. Munjal Shah and his team have chosen the harder road by investing in niche, mission-critical technologies where dependency on imports is risky and costly. From submarine periscopes to India's first MRI magnet, their work highlights a bigger truth that self-reliance is not a slogan, it's survival. Tariff wars only sharpen that lesson. Every percentage point added to the cost of imports is another reminder that building capacity at home isn't optional, it's urgent.

Globally, too, the narrative is shifting. The 10th Annual State of Smart Manufacturing Report makes it clear- manufacturers are no longer dabbling in digital, they are racing ahead. AI is moving from experiment to essential, cybersecurity is no longer an IT department afterthought, and resilience has overtaken efficiency as the new gold standard. That last point resonates deeply. In a world where tariffs, sanctions, and supply shocks can rewrite business models overnight, resilience of systems, people, and strategies matters more than squeezing out the last ounce of efficiency.

For Indian industry, the question is not whether tariff wars will hit us. They already are, and they will again. The question is how do we turn that pressure into propulsion? Part of the answer lies in doubling down on R&D spending, nurturing talent that can think beyond replication, and building ecosystems where academia, industry, and government work hand in hand. Another part lies in leadership, leaders who understand that the playbook cannot just be cost arbitrage anymore. It has to be innovation, resilience, and global credibility.

At the ET Now Machinist, we believe this is India's moment to lead not by shielding itself from the storm, but by building vessels strong enough to sail through it. Tariff wars will come and go. Resilient manufacturing rooted in technology, talent, and tenacity is what will carry us forward.

Happy Reading!

Amit Shanbaug
Editor.

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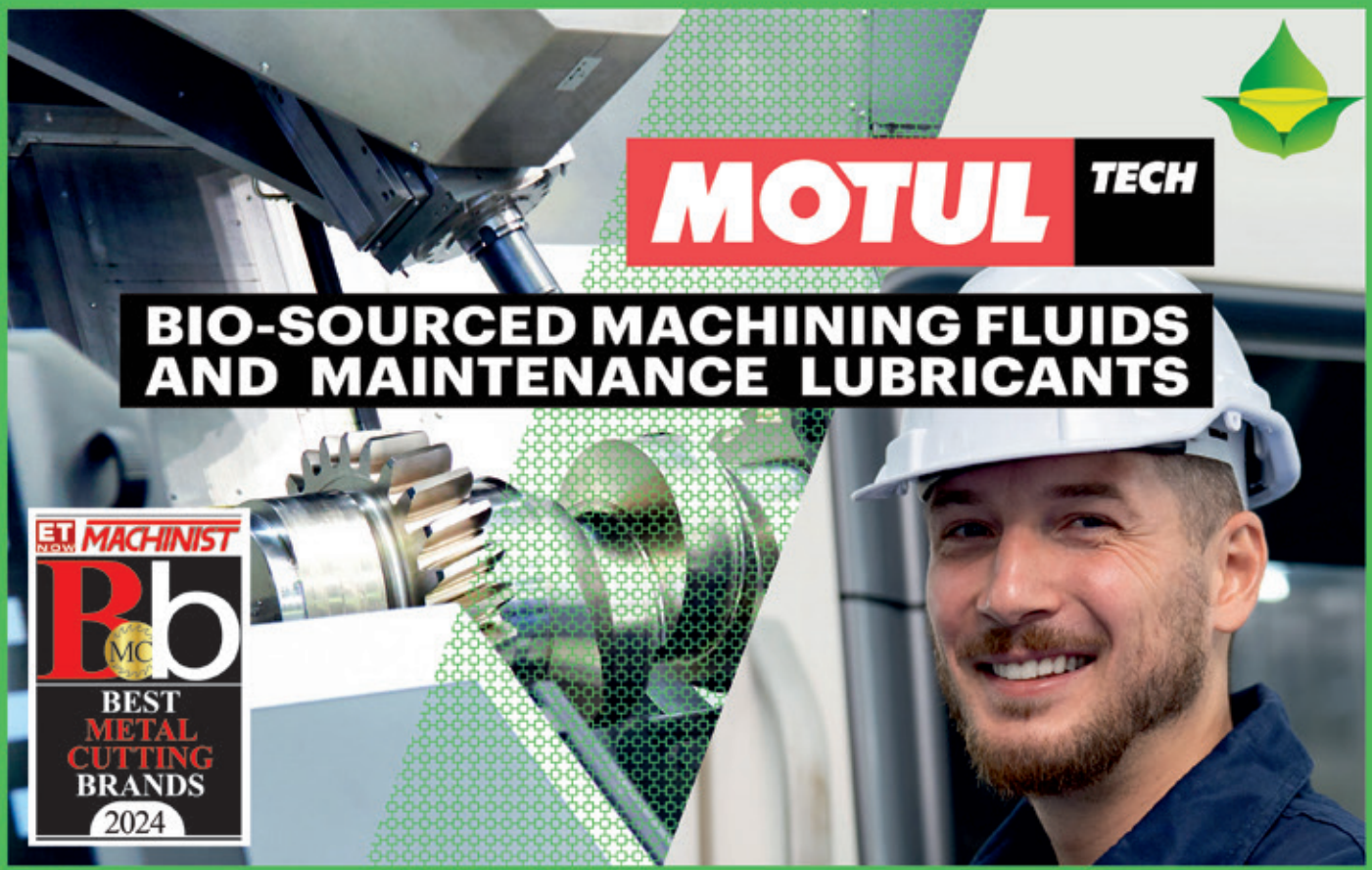

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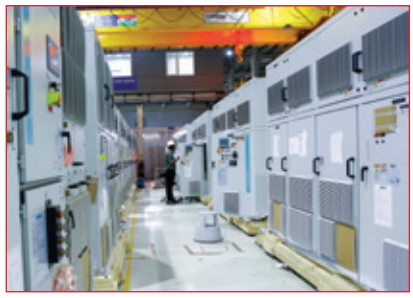

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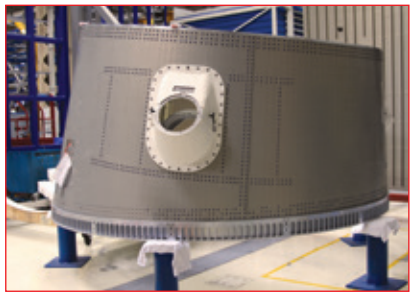

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NEW MOBILITY BRAND TO DEBUT AT IAA 2025

AUMOVIO, formerly Continental's Automotive division, will showcase technologies for safer, smarter and more sustainable vehicles in Munich this September.

By Team ET Now Machinist

AUMOVIO, the newly established identity for Continental's former Automotive group sector, will make its official debut at the IAA Mobility 2025 trade fair in Munich this September. Running from September 9 to 12, 2025, the event marks AUMOVIO's first major appearance since its transition into a standalone company.

The brand is introducing itself to the industry with a focus on technologies that reflect four broad themes shaping the future of mobility: safe, inspiring, connected, and autonomous. Its showcase will include systems and solutions designed to support electric vehicles, software-defined architectures, and various levels of automated driving.

Among the highlights is a new brake technology designed specifically for electric vehicles. Known as the Green Electric Caliper, it operates without hydraulic fluid and weighs less than traditional systems, potentially improving range while also reducing complexity and environmental impact. According to the company, the design aligns with modern vehicle platforms and supports sustainability goals many manufacturers are targeting.

AUMOVIO will also display a modular corner module that integrates the engine, braking system, steering and suspension into a compact unit. Developed with urban mobility and software-defined vehicles in mind, the unit offers up to 150-degree steering angles and is fully "by-wire," enabling greater flexibility in vehicle design and enhanced manoeuvrability.

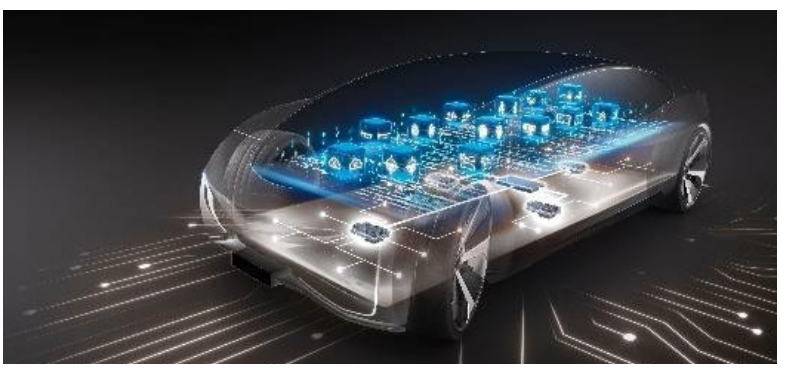
On the software front, the company is introducing Xelve, a modular system aimed at enabling assisted and automated driving from Level 2 to Level 4. It is intended to be scalable across vehicle segments and adaptable to a wide range of use cases—from intelligent parking assistance to high-level automation with AI-supported decision-making.

In the area of perception technologies, AUMOVIO will showcase a new AI-assisted night vision camera, developed to improve visibility in low-light conditions. By enhancing image clarity, the system supports both human drivers and automated systems in detecting objects and navigating safely at night.

A more user-oriented innovation comes in the form of Window Projection—a display concept that projects information like battery charge or personalised graphics onto the side window of a parked vehicle. The system combines a small projector, a dimmable glass surface, and intelligent software to create a new mode of external interaction.

Rounding out AUMOVIO's presentation is the "Road to Cloud" platform, a comprehensive digital infrastructure that enables over-the-air updates, secure connectivity, and flexible software deployment across various vehicle models.

AUMOVIO's debut highlights a broader trend in the automotive industry, where traditional suppliers are reconfiguring around emerging mobility technologies and software-driven development.



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igus' new readychain eco-rack slashes return transport volume by up to 88%, saving space, fuel, CO_2 and costs for lorry freight.

By Team ET Now Machinist

Traffic jams on Germany's motorways often tell the same story, long chains of lorries carrying freight across the country. In 2024 alone, around 231 million lorry journeys covered more than 21 billion kilometres, transporting nearly 2.8 billion tonnes of goods. Forecasts from the Ministry of Transport suggest freight traffic could rise by over 50% by 2051 bringing with it more congestion, emissions and costs.

Against this backdrop, efficient use of loading space is more important than ever. Cologne-based motion plastics specialist igus has unveiled an innovative solution: the readychain eco-rack. Designed for the transport of pre-fitted energy chain systems, the eco-rack is a modular returnable packaging system that saves up to 88% of transport volume on the way back. The result: lower CO_2 emissions, less fuel consumption, and reduced forwarding costs.

From metal to modular

Traditionally, customers have relied on heavy welded metal racks to transport energy chains. The eco-rack offers a smarter alternative. Made from multiplex birch wood panels, it is robust yet lightweight and can be dismantled without tools. Built on a modified Euro pallet, the rack can be adapted to suit each machine's geometry, ensuring the energy chain is delivered ready for installation without complex lifting or repositioning.

Once the system is installed at the customer's site, the eco-rack can be taken apart in just a few steps. The difference in space is dramatic: where a delivery rack requires around 1.5m³, the dismantled return takes up only 0.17m³. "This means a volume reduction of about 88% compared to conventional metal racks," says Markus Hüffel, Product Manager readycable & readychain at igus. "And because the eco-rack is lighter, lorries also consume less fuel."

Ready to connect, ready to save

The eco-rack complements igus' wider readychain service, where customers receive fully harnessed energy chains. All chainflex cables, plug connections and predictive maintenance sensors are pre-installed, cutting assembly time by up to 75%. This eliminates the need for customers to source and integrate multiple components from different suppliers.

It also simplifies logistics. With everything supplied under a single part number, fewer individual deliveries are required. "That means fewer lorry trips overall, which helps reduce traffic and emissions," explains Hüffel.

Every week, some 400 harnessed energy chain systems leave the igus readychain factory in Cologne. Thanks to high automation levels, the company offers customised harnessing at scale, with no minimum order quantities. The eco-rack now adds a new layer of sustainability and efficiency to this service.

For a world where road freight continues to grow, igus' readychain eco-rack represents a clever step towards making every kilometre – and every cubic metre of space – count.

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HITACHI VANTARA SECURES GIGAOM LEADERSHIP FOR INNOVATION IN OBJECT STORAGE

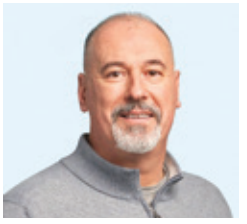
With its Virtual Storage Platform One Object, the company redefines how enterprises manage, analyse, and future-proof their data.

By Team ET Now Machinist

Hitachi Vantara, the data storage, infrastructure, and hybrid cloud arm of Hitachi Ltd., has been named a Leader in the latest GigaOm Radar for Object Storage, earning praise for its innovation and forward-looking capabilities. The recognition centres on the company's Virtual Storage Platform One Object (VSP One Object), launched recently, which has rapidly evolved to include industry-first native support for Amazon S3 Tables and advanced data intelligence services.

These enhancements allow customers to transform unstructured data into structured tables, enabling high-performance SQL-based analytics directly on open-format data without the headaches of complex data movement or extraction. The result? Faster insights, simpler architectures, and flexibility for long-term data strategies.

The GigaOm Radar assesses 22 leading enterprise object storage solutions, weighing their performance, scalability, security, and readiness for emerging edge workloads. In a landscape where unstructured data from AI workloads to IoT streams is growing at an unprecedented pace, object storage has become essential. The report highlights how platforms like VSP One Object bring not only raw storage capacity but also strategic value for IT leaders aiming to innovate while ensuring compliance and adaptability.



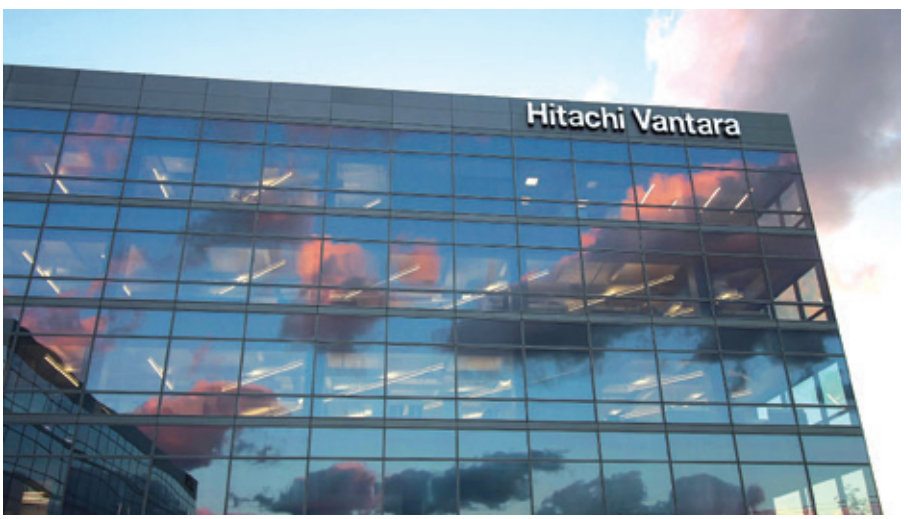
Octavian Tanase, Chief Product Officer, Hitachi Vantara

Hitachi Vantara's strengths, highlighted in the evaluation, include advanced reporting and analytics on usage patterns, intelligent storage optimisation to remove redundancy, and deep public cloud integration particularly expanded AWS S3 API support with S3 Object Lock and S3 Tables. Analyst Whit Walters of GigaOm noted that within the company's unified VSP One data plane, VSP One Object delivers scalable, secure, and self-healing storage for workloads ranging from backups and archives to AI analytics.

By supporting open formats like Apache Iceberg through S3 Tables, the platform simplifies modern data lakehouse deployments. Automating once-manual processes such as compaction, snapshot management, and metadata cleanup reduces operational overhead, freeing enterprises to focus on extracting value from their data rather than managing infrastructure.

Chief Product Officer Octavian Tanase frames this as part of a broader vision—one unified platform across block, file, object, SDS, and mainframe storage, all managed through the VSP 360 control plane. The approach aims to give customers full visibility across on-premises and cloud environments, along with the scalability needed for today's AI-driven age.

The upcoming release of VSP One Object will support flash-based NVMe-QLC and TLC storage options, promising even greater price-performance benefits. This GigaOm leadership adds to a growing list of accolades, including a 2025 Fortress Cybersecurity Award for Data Protection.



As the demands on data infrastructure continue to mount, Hitachi Vantara's momentum in object storage signals a clear commitment: enabling enterprises to store smarter, analyse faster, and adapt seamlessly to the data challenges of tomorrow.

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GLOBAL MANUFACTURERS EMBRACE AI

AI, workforce evolution, and cybersecurity survival strategies for a rapidly changing world.

By Team ET Now Machinist

In 2025, global manufacturers are no longer cautiously stepping into digital transformation—they're running full speed toward it. That's the unmistakable message from the 10th Annual State of Smart Manufacturing Report, conducted in March 2025 by Sapio Research in collaboration with Rockwell Automation.

Based on responses from 1,560 leaders across 17 countries, the report offers a revealing, data-backed look into how the manufacturing world is being reshaped by artificial intelligence (AI), workforce evolution, cybersecurity needs, and shifting leadership priorities.

AI HAS MOVED FROM EXPERIMENT TO ESSENTIAL

For years, artificial intelligence hovered around the edges of manufacturing—interesting, full of potential, but ultimately a "someday" technology. Not anymore.

A staggering 95% of manufacturers surveyed say they've either already invested in AI or plan to within the next five years. That's not just a statistical milestone—it's a cultural one. AI is now seen as the nervous system of modern manufacturing.

And what's driving that shift? The data says it clearly: quality control. It's the top use case again this year, with 50% of respondents saying they'll deploy AI to improve product quality in 2025. That tells us something important—AI isn't just about cutting-edge automation. It's about getting the basics right, consistently.

CYBERSECURITY ISN'T JUST AN IT PROBLEM ANYMORE

Cybersecurity has vaulted to the top of manufacturers' concerns. In fact, 49% of them now say they plan to use AI to help protect their operations. That's up nearly 10 percentage points from last year.

That change reflects a new reality: as manufacturing goes digital, threats grow more sophisticated. This isn't about avoiding an occasional virus—this is about preventing operational shutdowns, data theft, and potential safety risks.

In a world where a single breach can halt production or compromise critical systems, AI is becoming manufacturers' frontline defender.

WORKFORCE REINVENTED

Here's one of the most striking insights from the report: AI and automation aren't replacing workers—they are transforming them. Nearly 48% of manufacturers say they are either creating new roles or repurposing current ones because of smart manufacturing technologies.

And while the stereotype around AI often leans toward job loss, this data suggests a different story. Companies are looking for people who can work alongside AI—people who can manage, interpret, and act on what the technology uncovers.

In fact, 41% of manufacturers are actively using automation and AI to fill skills gaps, not just to cut costs. In other words, AI isn't taking jobs away—it's helping fill the ones no one else can.

LEADERSHIP REDEFINED

There's a growing emphasis on analytical thinking and data literacy. Compared to last year, there's a 5% increase in the number of companies identifying data-savviness as a must-have skill for their leaders.

Executives and managers aren't being asked to code machine learning models, but they are being asked to understand what data is telling them—and to make smarter, faster decisions as a result.

This shift marks a broader evolution: from experience-based intuition to insight-driven decision making. In today's world, gut feeling just doesn't cut it anymore.

RESILIENCE MATTERS MOST

If there's a theme running through the entire report, it's this: resilience beats efficiency. Manufacturers aren't just racing to optimize every second or squeeze every penny—they're trying to build operations that can bend without breaking.

That's why so many companies are investing in tools that give them visibility, adaptability, and speed.

And resilience isn't just technological—it's human. From workforce upskilling to new approaches to leadership, the most resilient companies are those willing to evolve their culture alongside their capabilities.

A TURNING POINT

For years, manufacturers have been inching toward digital transformation. But the findings in this report show that 2025 may be the year that tipping point is finally reached.

The near-universal commitment to AI, the renewed urgency around cybersecurity, the shift in workforce planning, and the call for data-literate leadership—these aren't isolated trends. They're signals of a permanent change in how manufacturing works.

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RENISHAW UNVEILS SMART SOLUTIONS AT AUTOMATION EXPO 2025

At Automation Expo 2025, Renishaw leaders **Sanjay Sangam** and **Rahul Desale** showcased breakthrough robotics and metrology solutions designed to transform industrial automation across sectors.

By Team ET Now Machinist

Automation Expo 2025 provided a glimpse into the future of industrial automation, where robotics and precision technologies are fast becoming indispensable. Renishaw, a global leader in metrology and manufacturing solutions, made its presence felt with a series of new product launches that underlined its commitment to "automating the automation." Sharing their insights were Sanjay Sangam, Dy Director - Sales and Technical, Renishaw India and Rahul Desale, Senior Marketing and Communications Manager of Renishaw India, who outlined the company's vision and offerings for the Indian market.

For Sangam, the new introductions mark a significant milestone. "There has always been a demand to know what Renishaw is doing in automation," he said. The company's latest solutions, designed to enhance reliability and reduce dependence on manual skills, are aimed at robot manufacturers, system integrators, and end customers alike. "All three segments are looking for more precision, faster recovery from downtime, and reduced reliance on skilled manpower. That's where we come in," Sangam explained.

He also emphasised how India is emerging as a critical market for such technologies. With robotics applications expanding across machining, inspection, welding, and beyond, Renishaw is investing in local teams and partnerships. "We now have people with deep experience in robotic applications and have started working with OEMs and integrators," he added. The company has also been strengthening its technology centres across Pune, Chennai, Bengaluru, Baroda, and Delhi, ensuring closer proximity to customers and faster problem-solving.

Sanjay Sangam, Dy Director - Sales and Technical, Renishaw India


Rahul Desale, Senior Marketing and Communications Manager, Renishaw India

> "Renishaw showcased robot probing and automation solutions that boost precision and cut downtime. This is expected to reinforcing India's role as a hub for customer-focused manufacturing.

Complementing this perspective, Rahul Desale described Renishaw's new product line with an engaging analogy. "In my words, these are robot car doctors," he said. The newly launched Industrial Automation Product Division (IAPD) solutions, including robot probing systems, are designed to make robots not just functional but healthier and more accurate. From aerospace and automotive to semiconductors and medical devices, Desale believes every industry using robots stands to benefit.

"What we are offering will save manufacturers significant time when they want to calibrate or shift a robot," he explained. The probing systems will also allow robots to perform measurements, creating additional efficiencies on the shop floor. For Desale, the bigger picture is about democratizing automation. "We always say the probe is the simplest form of automation. Whether you are a small, medium, or large manufacturer, automation is for everyone," he added.

Sangam painted a picture of Renishaw's twin priorities: expanding its traditional stronghold in industrial metrology while simultaneously spearheading new advances in robotics and automation. With applications spreading across automotive, aerospace, electronics, medical, and the fast-growing semiconductor industry, their message was clear—India is poised to become a hub where cutting-edge automation meets practical, customer-focused solutions.

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SHAPING THE FUTURE OF INDUSTRIAL SAFETY AND AUTOMATION

At Automation Expo, **Schmersal leaders Michael Ambros and Ramji Singh** share insights on innovation, partnerships, and customer-centricity shaping the future of industrial automation.

By Team ET Now Machinist

The Automation Expo this year was more about conversations that brought the future of manufacturing and safety into sharper focus. At the centre of this dialogue were two leaders from the Schmersal Group: Michael Ambros, Managing Director and CEO of the Schmersal Group, and Ramji Singh, Managing Director of Schmersal India Pvt. Ltd.

What stood out in both their perspectives was a simple truth that progress is built on a strong foundation of people, communication, and trust.

Michael Ambros, who moved from the world of finance and corporate strategy to the helm of Schmersal, believes leadership is less about titles and more about clarity. "When you are part of a global family, it's all about keeping expectations clear and staying connected," he said. This emphasis on open communication, he feels, is what has helped Schmersal earn the recognition of being among Germany's best-managed companies for three years in a row.

Ambros also reflected on the company's unique position of working across more than 600 industries worldwide. With such a vast canvas, adaptability and innovation are everyday necessities. And yet, he insists, Schmersal's family-owned roots help preserve a culture of harmony while giving room to take bold bets. "If I believe in something, I don't always need a lengthy business plan. I can take it to my customers and show its value," he explained.

Looking ahead, Ambros sees industrial safety no longer as a standalone function but one that increasingly blends with software, AI and smart technologies. This is where

Ramji Singh, Managing Director of Schmersal India

Michael Ambros, Managing Director and CEO, Schmersal Group

> At Automation Expo, Schmersal leaders highlighted how the combined power of people, trust, and collaboration can drive innovation. With global expertise and local agility, Schmersal is blending safety with AI, thereby building smarter and sustainable industries worldwide.

partnerships, he stressed, will play a defining role. "No company can be the best at everything. Collaborations help us go further, faster," he added.

From a local lens, Ramji Singh offered a grounded perspective on how Schmersal India is carrying forward this global vision. For him, automation in India is not just about efficiency anymore, it is about safety and sustainability. As industries modernise, the demand for solutions that combine robust hardware with digital intelligence is rising sharply.

What gives Schmersal India an edge, Singh pointed out, is its closeness to customers. "Being nearby means we can respond faster, and design solutions that actually fit local realities. That practicality matters as much as cutting-edge tech," he said.

Both leaders returned to the same theme: listening. Whether it's about scaling globally or tailoring for local needs, keeping customers at the heart of decisions is what makes the difference.

Their shared message at Automation Expo was clear – Schmersal's strength lies in blending its heritage with innovation, and its global reach with local relevance. As automation and safety continue to evolve, the company's approach feels less like a rigid strategy and more like a promise: to keep industries safer, smarter, and more sustainable in the years to come.

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LEADING INDIA'S LEAP INTO INDUSTRY 5.0

With innovation, sustainability, and human-centricity at its core, Delta is reimagining automation in India through cobots, digital twins, and future-ready smart manufacturing solutions.

By Team ET Now Machinist

As the nation embraces Industry 5.0, where technology and human ingenuity converge, Delta Electronics India's Industrial Automation Division has emerged as a driving force. Spearheading this transformation is Dr. Sanjeev Srivastava, Head of Industrial Automation Business Group, Delta Electronics India who believes the future of industry is not "man versus machine" but "man with machine."

Delta's journey in India began with a vision to move beyond being just a components supplier. Early on, the company recognised that Indian manufacturers needed integrated solutions rather than isolated products. With strong manufacturing bases in Gurgaon, Uttarakhand, and Tamil Nadu, and an R&D hub in Bengaluru employing over 500 engineers, Delta has steadily evolved into a comprehensive automation solutions provider. Today, its team of highly qualified engineers is pioneering human-centric Industry 5.0 concepts in India.

At the heart of Delta's growth are three guiding principles: innovation, sustainability, and human-centricity. Innovation is evident in solutions like the D-Bot collaborative robots, launched at ELECRAMA 2025, capable of payloads up to 30 kilograms while safely working alongside humans. Digital Twin technology is another milestone, bridging the physical and digital worlds to allow manufacturers to predict, optimize, and refine processes in real time.

Sustainability, meanwhile, is a design principle, not a buzzword. Since 2006, Delta's automation systems have saved over 43 billion kilowatt-hours of electricity globally, cutting CO_2 emissions equivalent to 43,000 tonnes. Its solutions are built to help manufacturers conserve resources, reduce waste, and achieve greener operations.

Dr. Sanjeev Srivastava, Head of Industrial Automation Business Group, Delta Electronics India

> "Delta is shaping the next industrial revolution that empower manufacturers to work smarter, safer, and lead on the global stage.

Most uniquely, Delta places people at the centre of automation. While Industry 4.0 emphasized connectivity and data, Delta's Industry 5.0 vision focuses on collaboration. From cobots designed to empower workers, to AR-based training modules and ergonomic workstations, the company is ensuring that humans remain partners in the manufacturing process.

Delta's commitment to customers goes beyond products. A striking example comes from the paint industry, where a simple yet impactful automation system was designed to ensure promotional tokens were accurately placed in buckets. This solution not only improved accuracy but also provided sales insights through integrated barcoding, highlighting Delta's philosophy of anticipating customer needs and delivering unexpected value.

Looking ahead, Delta is betting big on sectors like semiconductors and electronics, showcased by its participation in SEMICON India and Productronica India 2025. Its ambitious five-year roadmap includes doubling its Indian business, expanding OEM partnerships, and scaling up its R&D operations in Bengaluru for global markets.

Dr. Srivastava sums up the company's mission best: "The next industrial revolution is not about man versus machine. It's about man with machine." With cobots, AI, and smart ecosystems at the forefront, Delta is not only helping Indian manufacturers keep pace with global trends but also empowering them to lead.

The future of manufacturing in India will be intelligent, collaborative, and sustainable—and Delta is determined to make that future a reality.

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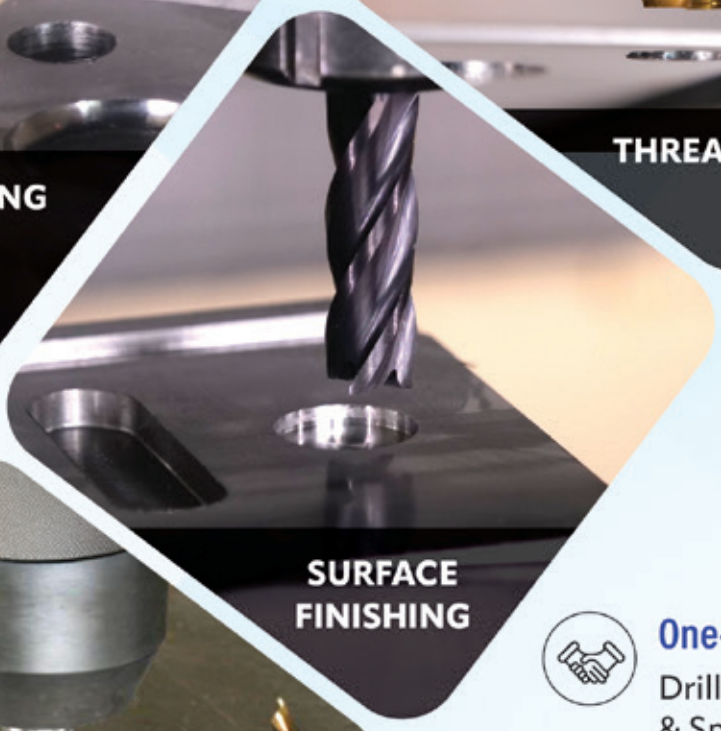

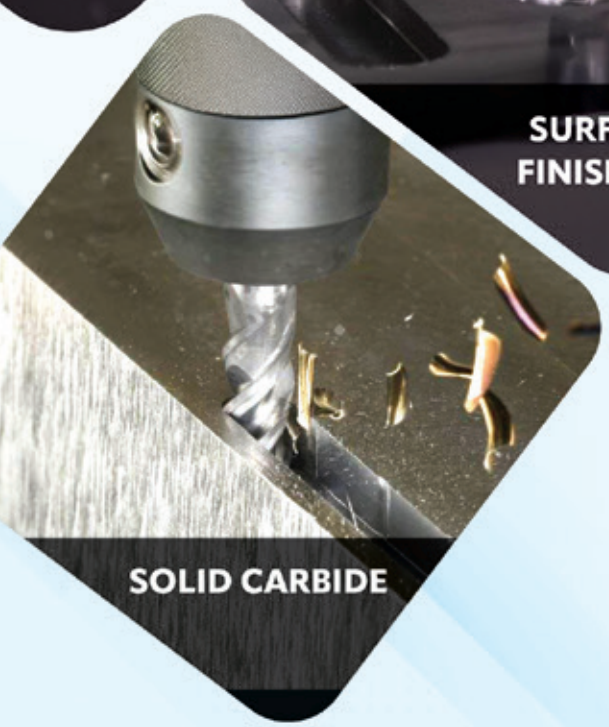

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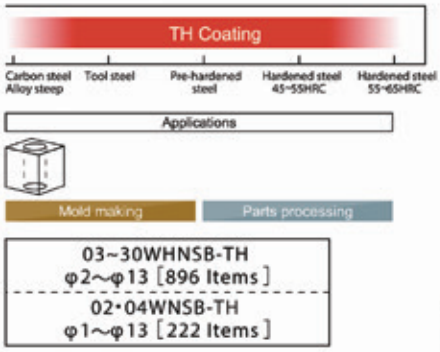
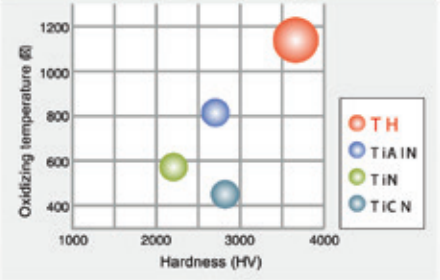
04 High accuracy shank capable of shrink fitting.
05 High-efficiency boring even for environment friendly MQL machining.

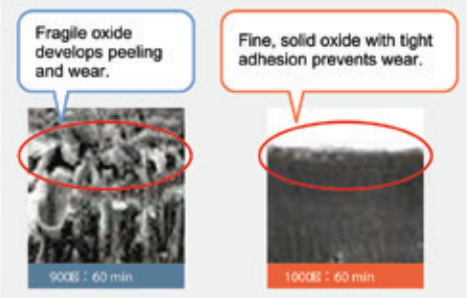


Features 01 TH coating improves stability during high-temperature boring.

Oxidation-resistant TH coating enables high-efficiency boring that causes high temperature.

Oxidizing temperature and coating hardness



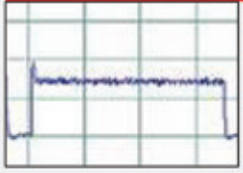


Features 02 Specially shaped grooves removal chips effectively

Torque change on the main spindle

- Tool : 20WHNSB0600-TH
- Cutting conditions : v_c=100m/min f=0.15mm/rev H=120mm
- Work material : S50C
- Water-soluble coolant : internal oil supply

Carbide Non Step Borer



Well-shaped chips

NSB specially formed groove removal chips effectively.

Features 03 Double margins enable firm guide.

Four guides with double margins

Double margins enable stable boring even in the last stage of boring a through hole.

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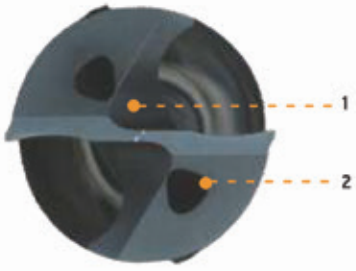
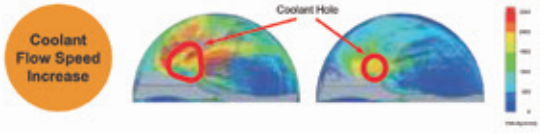


1. "XR" Point Thinning

Optimised chip control and load reduction

2. TRI-Cooling Technology for All Dia.

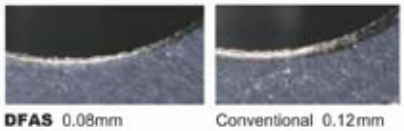
For machining stainless steel and titanium



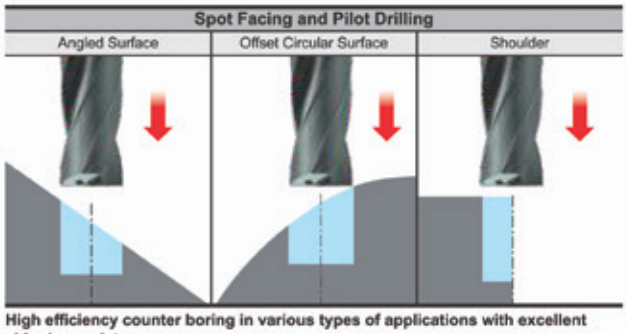
3. Original Sharp Cutting Edge Shape

Suppression of Burrs

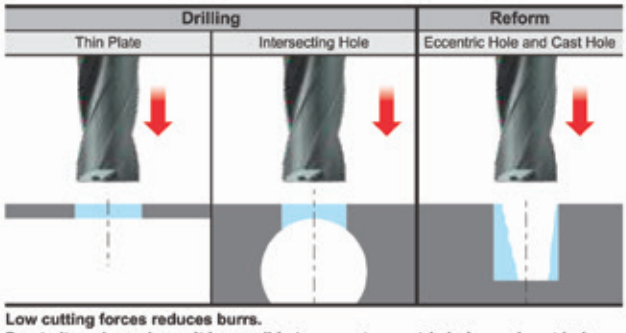
Comparison of burrs when machining titanium alloy



DFAS 0.08mm Conventional 0.12mm



High efficiency counter boring in various types of applications with excellent chipping resistance.



Low cutting forces reduces burrs.
Due to its unique shape, it is possible to correct eccentric holes and cast holes with high accuracy.

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YOUR GLOBAL CRAFTSMAN STUDIO

BUILDING WITH TRUST

At Automation Expo 2025, Eaton spotlighted local innovation and human-centred leadership championing safety, efficiency, and empathy in India's industrial growth.

By Team ET Now Machinist

The hum of industrial ambition filled the air at Automation Expo 2025, and at Eaton's stall in Hall 6, visitors were treated to more than just polished tech. Eaton unveiled breakthrough solutions crafted for harsh environments, all while weaving a narrative of empathy, trust, and homegrown impact.

For Philipose Jacob, Country Director of GEIS India at Eaton, the message was clear: innovation and human connection are two sides of the same coin. With a calm confidence, he noted, "We don't see any big challenges today except one: the speed at which we must respond to our customers."

Philipose Jacob, Country Director, GEIS India, Eaton

That sense of urgency framed every new product on display, from the MTL Zone Guardian ACDC surge protection devices for renewable energy to the Beeline cable management systems for growing data centres. But the real headlines were reserved for two standout launches: the CEAG VLL Series Ex Lights and the B-Line Series Support Systems. These were not just new items, they embodied Eaton's commitment to safety and India's manufacturing future.

The CEAG VLL Series Ex Lights, which is tailored for hazardous environments, is a combination of explosion-proof endurance with efficient LED brilliance. What makes them even more impactful? They are being manufactured right in Chennai, a testament to Eaton's push for strong local roots.

Similarly, the B-Line Series Support Systems bring resilient cable management and structural support for volatile sectors like oil, gas, and chemicals with a sharp focus on simplifying installs and enhancing operational reliability.

> "This year, at Automation Expo, Eaton launched new products ranging from from explosion-proof lights to resilient support systems. Being made locally these innovations showcase how Indian ingenuity, and empathetic leadership are powering manufacturing's future.

The lineup didn't end there. Eaton also showcased its wire-mesh Flextray System for modular, airflow-friendly data centre builds, and the ROI LED Lighting Calculator, a tool to help clients visualise energy savings and returns before upgrading.

But Jacob didn't let the technology steal the show. He deliberately oriented the narrative toward people and local empowerment. "Most of the products you see here today are manufactured in Chennai," he said, emphasising that localisation isn't just cost-effective, it signals trust in India's potential as an innovation hub.

Even more striking was Jacob's leadership philosophy: "My style is built on trust and empathy," he said. "Teams face complexity every day, it's clarity, resilience, and human connection that carry them through." In an industry fixated on specs and supply chains, those words stood out.

At Automation Expo 2025, Eaton's showcase was more than a product reveal, it was a portrait of purpose. Behind every LED light, cable tray, or surge protector lay a story about Indian ingenuity, rapid response, and compassionate leadership. And amid the stalls and screens, Philipose Jacob reminded everyone that innovation shines brightest when it's paired with humanity.

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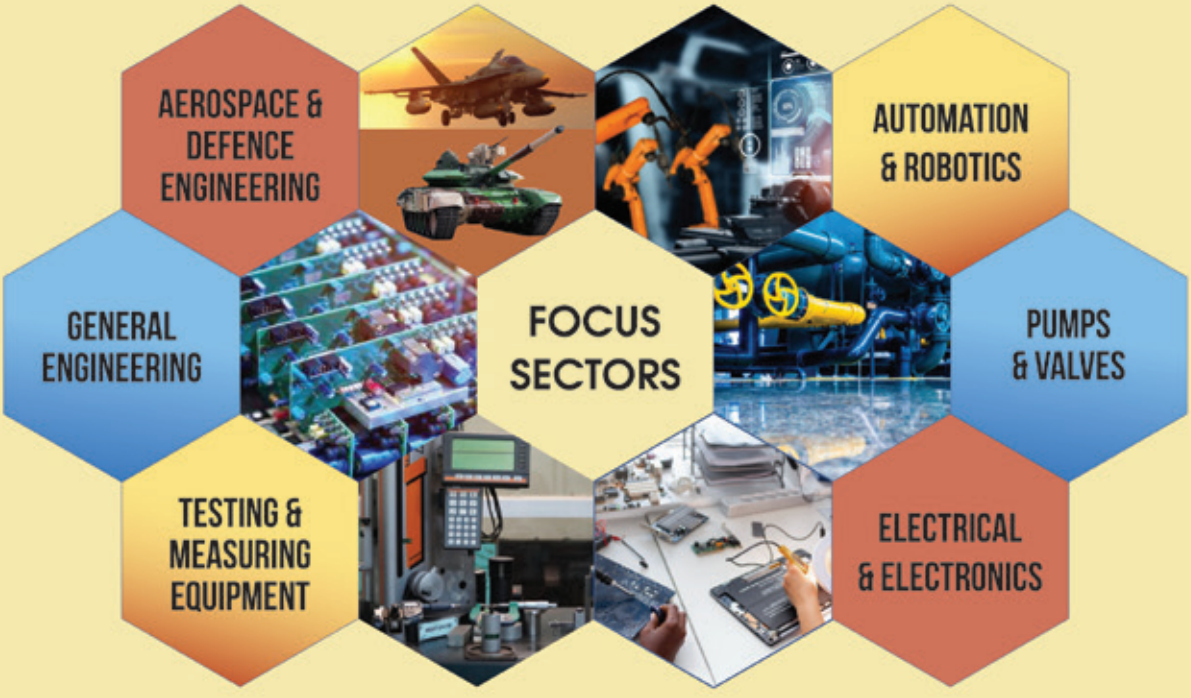

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WHY MANUFACTURING MUST WAKE UP TO EMAIL THREATS

A spike in email-based attacks reveals how the manufacturing sector is becoming cybercriminals' favourite target. The threat is evolving—and it's personal.

By Team ET Now Machinist

There was a time when cybercriminals primarily targeted financial institutions. That era, it seems, is behind us. Today, manufacturing is in the crosshairs—and the threat is only intensifying. According to VIPRE's Q2 2025 Email Threat Trends Report, the manufacturing sector has topped the list of most-targeted industries for six consecutive quarters, with 26% of all email-based attacks directed at it.

That's not just a trend—it's a red flag. And one that manufacturers can't afford to ignore.

MANUFACTURING: THE NEW FAVOURITE PLAYGROUND FOR CYBERCRIMINALS

In Q1 2024, manufacturing overtook finance as the most-attacked industry in a surprising shift. One year later, not only has it retained the top spot, but the volume of attacks has grown significantly. VIPRE's data highlights a staggering 71% increase in attacks on manufacturers in 2024, a pace that shows no sign of slowing in 2025.

This isn't just about volume; it's about impact. The sector is being hit with everything from phishing and Business Email Compromise (BEC) scams to malspam and credential theft. And the repercussions go far beyond spam folders—they threaten intellectual property, production schedules, supply chains, and customer trust.

Why manufacturing? It's a perfect storm: complex supply chains, high-value IP, legacy systems, and a workforce often undertrained in cybersecurity. In essence, it's an industry built for efficiency, not necessarily for digital resilience.

PHISHING: STILL THE BAIT OF CHOICE

One of the report's most concerning insights is how phishing continues to dominate as a mode of attack—especially when it comes to credential theft. While credential theft accounted for 22% of overall breaches (followed by vulnerability exploitation at 20%, and phishing emails at 16%), the report emphasises that phishing is often the gateway through which other attacks—like credential theft—are executed.

The email is no longer a simple inbox annoyance; it's the front line of a sophisticated assault.

And the bait? Financial urgency. Payment alerts, invoice notices, payroll discrepancies—attackers know how to tap into fears and routines, especially during high-pressure periods like end-of-quarter closings. VIPRE reported a sharp global spike in malicious emails between June 9–12 and again on June 16, timed precisely with Q2 financial wrap-ups—periods when manufacturers are busiest and, arguably, most distracted.

BEYOND THE PHISHING KIT: ATTACKS GO BESPOKE

Gone are the days of mass-market phishing kits. A significant 58% of phishing sites analysed in Q2 didn't use identifiable kits, signalling a major shift toward custom-built or

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obfuscated deployments. This means attackers are investing more effort—and using tools like AI—to tailor emails that are indistinguishable from legitimate communication.

It's cheaper, faster, and infinitely more convincing. And it's no longer reserved for "big fish." Thanks to AI-driven automation, personalised spear-phishing campaigns can now be launched at scale—targeting everyone from factory supervisors to procurement heads.

The result? A 4,151% rise in phishing attacks since the launch of ChatGPT, according to figures cited in the report.

PDFS, QR CODES, AND CALLBACK PHISHING: THE NEW WEAPONS OF CHOICE

The anatomy of an email attack has evolved. Instead of relying solely on suspicious links, attackers are embedding malicious QR codes into PDF invoices and DOCX files—formats commonly used in manufacturing workflows. The majority of malicious attachments in Q2 were PDFs (64%), many containing embedded QR codes leading to spoofed Microsoft or payment gateway logins.

Meanwhile, a sneaky new method called callback phishing has quietly climbed the ranks to become the third most common phishing vector. These scams trick users into calling a fake number to resolve a bogus payment issue or subscription thus, removing the need for dangerous links entirely. Once on the line, users are directed to malicious websites or asked to share sensitive credentials.

LUMMA STEALER: THE MALWARE OF THE QUARTER

The most prevalent malware family identified in Q2 was Lumma Stealer, a rapidly evolving info-stealer sold as Malware-as-a-Service (MaaS). It was often distributed via phishing emails with PDF or HTML attachments and designed to exfiltrate browser-stored credentials, crypto wallets, and system information.

> "Manufacturing has now become a prime target for cybercriminals thereby, overtaking finance with a 71% surge in attacks. From phishing to BEC scams, the threats now endanger beyond inboxes, to intellectual property, and customer trust.

Between March 16 and May 16, Microsoft reported over 394,000 Windows systems infected with Lumma Stealer before coordinating a takedown with law enforcement. Still, its affordability and ease of deployment make it a persistent threat for sectors like manufacturing, where older systems and inconsistent patching can leave doors wide open.

FROM HACKERS TO HUMANS: THE SHIFT IS PERSONAL

What makes these attacks especially dangerous is their human-centred design. As the report concludes, "personalisation is public enemy number one". Attackers don't just impersonate IT departments anymore—they emulate internal tone, mirror formatting, and even reference previous email threads. The goal isn't just to trick systems, but to trick people.

In this new reality, traditional email security—firewalls and signature-based filters—just doesn't cut it. That's why organisations are turning to advanced email protection solutions capable of detecting behavioural patterns, language cues, and social engineering tactics that traditional systems often miss."

Manufacturers are making world-class products with cutting-edge precision. But when it comes to cybersecurity, especially email defence, there's still ground to cover.

It starts with awareness. Understanding that email isn't just a communication tool—it's an attack vector. Then comes investment: in smart email security, threat detection, and most importantly, in people. Because in this battle, every employee's inbox is both a frontline and a vulnerability.

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STUDER

WISDOM AT WORK

With over 103,000 seasoned professionals onboard, WisdomCircle is pioneering a new workforce category where wisdom, purpose, and flexibility matter more than age.

By Team ET Now Machinist

In a world where boardrooms often buzz about youth, agility, and the next big disruption, an important voice risks being overlooked—the wisdom of experience. That's the space WisdomCircle has stepped in to reclaim. Founded by Neeraj Sagar, the platform isn't about endings or retirements; it's about giving seasoned professionals a way to continue contributing, learning, and finding purpose long after the traditional career path winds down.

Sagar, who built his career in management consulting and executive search, says the spark for WisdomCircle came from a double realisation: industries were hungry for expertise, while seasoned professionals with decades of experience were struggling to find meaningful opportunities. "This dual observation inspired me to create a platform that values wisdom, purpose, and flexibility over age or stigma," he explains.

At its core, WisdomCircle is pioneering a workforce category that celebrates accumulated experience. For Sagar, wisdom in modern work is a willingness to keep learning. "In an era of volatility and uncertainty, organisations recognise the need for such wisdom," he says.

As of 2025, WisdomCircle has expanded across continents and connected with over 103,000 seasoned professionals. That growth, Sagar notes, is about community. From workshops on generative AI and LinkedIn best practices to mentorship programmes that help members explore their readiness to guide others, WisdomCircle ensures that its network remains current, confident, and collaborative.

The company's human-first approach also extends to how it works with organisations. Instead of offering cookie-cutter hiring, WisdomCircle partners closely with companies to identify unique needs whether interim leadership, project-based expertise, or niche advisory roles. This approach has yielded striking success stories. For instance, when Suzlon needed a leader to head Projects, WisdomCircle matched them with Sujan De, a PMP-certified veteran who had just retired from Vestas Wind Energy. The company secured expertise in record time; De found renewed purpose in contributing post-retirement.

> "I observed a significant talent gap with growing unfulfilled demand for expertise, alongside seasoned professionals with decades of experience seeking work opportunities. This dual observation inspired me to create a platform that values wisdom, purpose, and flexibility.
>
> **Neeraj Sagar,** Founder and CEO of WisdomCircle

WisdomCircle's network has placed leaders like Rajiv Batra (former CFO, Cummins), Ramesh Shankar (former EVP HR, Siemens India), and B.K. Sethuram (former MD, Celanese) into impactful roles. Organisations ranging from Thermax and Hindalco to Mahindra & Mahindra and Blue Star have benefited.

At the heart of this model is a redefinition of retirement. WisdomCircle's Retiree Management Program views retirement as a phased transition rather than an abrupt stop. It enables organisations to retain institutional memory while allowing retirees to stay engaged through mentoring roles.

Global expansion has added another layer of complexity. Different cultures perceive retirement and flexible work differently, but WisdomCircle has leaned on sensitivity and adaptability. Whether in the UK, Africa, or Southeast Asia, the platform aligns with local expectations while encouraging cross-border opportunities.

Technology underpins much of this scale. With AI-driven matching algorithms, smart prompts for hiring managers, and tools to help professionals sharpen their profiles, WisdomCircle ensures efficiency without losing its human touch. "AI for scale, human insight for depth," as Sagar describes it.

Looking ahead, WisdomCircle aims to influence the talent economy by positioning seasoned professionals as strategic assets, bridging skill gaps, driving innovation, and fostering intergenerational collaboration. For Sagar, the philosophy is simple but profound: *"Wisdom is a renewable resource, not a residue of the past."*

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INDIA'S FACTORIES ROAR BACK, U.S. MANUFACTURERS TREAD WATER

India's manufacturing sector leaps to a 17.5-year high in August, while U.S. factories remain subdued—with new orders rising but output still contracting.

By Team ET Now Machinist

August 2025 offered a snapshot of two very different manufacturing realities. In India, factory activity roared ahead to levels not seen in nearly two decades. In the United States, manufacturers continued to struggle, weighed down by tariffs, weak hiring and cautious production.

India's manufacturing Purchasing Managers' Index climbed to 59.3, edging higher from 59.1 in July. It was the strongest improvement in operating conditions in seventeen and a half years. A PMI above 50 signals expansion, and anything close to 60 points to rapid growth. Behind the number was a surge in output, which expanded at its fastest pace since 2020 as supply chains caught up with demand.

New orders remained strong, matching July's levels and marking the best run in nearly five years. Intermediate goods led the way, but producers of capital and consumer goods also enjoyed healthy inflows. Domestic demand has been the real driver. Companies pointed to better advertising and distribution networks as reasons why orders kept flowing despite rising global trade headwinds.

Export demand grew more slowly. The United States' decision to raise tariffs on Indian goods to 50 percent late in August dampened momentum. Overseas orders still came in from Europe, Asia and the Middle East, but the pace of growth slowed to its weakest in five months.

Manufacturers nonetheless showed confidence by hiring for the eighteenth consecutive month. The pace of job creation eased compared with earlier in the year, but the direction was still

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positive. Firms also raised their purchasing activity to a sixteen-month high, restocking warehouses and preparing for further demand. Business confidence, which had hit a three-year low earlier in the summer, ticked back upward.

The picture in the United States was less encouraging. The ISM Manufacturing PMI rose modestly to 48.7 from 48.0 in July, but it remained below the 50 threshold that separates growth from contraction. That made August the sixth straight month of decline for the sector.

There were pockets of improvement. New orders finally crossed into growth territory at 51.4, the first expansion in seven months. But production fell to 47.8, showing factories were not ready to meet that demand. Supplier deliveries slowed to 51.3, inventories stayed below neutral at 49.4, and employment weakened further at 43.8. The backlog of orders also contracted at 44.7.

> "India's factories are finding their rhythm again, reaching a 17-year high in output. At the same time, American plants remain subdued, caught in uncertainty. Two economies, two very different stories, told through the pulse of manufacturing."

Prices remained elevated at 63.7, only slightly lower than July, signalling that cost pressures persist. For many manufacturers, higher prices and trade barriers have made long-term planning difficult. Several executives described the current environment as more draining than the Great Recession, citing the combination of tariffs, unstable policies and unpredictable input costs.

Some relief has come from strong investment in artificial intelligence and intellectual property, which has grown at its fastest pace in four years. That spending has supported sectors tied to technology and advanced manufacturing. Yet the benefits are uneven, leaving many traditional producers still struggling.

Placed side by side, the contrast between India and the United States is striking. India's PMI of 59.3 reflects surging activity, fuelled by domestic demand and steady hiring. The country's manufacturers are not only expanding output but also planning for the future by building inventories and adding capacity. The United States, with a PMI of 48.7, remains stuck in contraction despite signs of recovering demand. Production is falling, jobs are being cut, and cost pressures remain intense.

For India, the surge offers an opportunity to strengthen its position as a global manufacturing hub. With multinational firms pursuing a "China-plus-one" strategy, the country's ability to sustain this momentum could attract more supply chains and investment. For the United States, the lesson is more sobering. Until tariff uncertainty eases and production aligns with demand, the sector risks drifting through a prolonged slowdown.

Numbers on a chart cannot capture the full story, but they do reflect realities on the ground. In India, the PMI mirrors the energy of workers putting in extra shifts and companies hiring to meet production goals. In America, the figures speak to factory floors that remain quiet, with managers wary of restarting lines until conditions improve.

August showed how sharply manufacturing fortunes can diverge. India's factories are accelerating into a new gear, hitting a rhythm not seen in seventeen years. The United States is edging forward cautiously, with demand stirring but output still restrained. As global supply chains shift and policies reshape trade, the hum of Indian factories and the hesitancy of American plants tell us where momentum is building and where it is faltering.

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BUILDING INDIA'S FUTURE IN DEFENCE

From submarine periscopes to India's first MRI magnet, **Munjal Shah of Paras Defence** is steering the company into niche, high-value technologies that strengthen national capabilities and global credibility.

By Amit Shanbaug

For Munjal Shah, Managing Director of Paras Defence and Space Technologies, the story of his company has always been one of deliberately walking the harder path. From its earliest days, Paras chose to operate in highly specialised, high-stakes domains — primarily defence and space — where the customer base is narrow, requirements are unforgiving, and there is no margin for error.

"We have always believed in building cutting-edge technologies that India has limited access to," Shah says. "In such a focused industry, sustainability doesn't come from scale but from depth. You need a broad range of offerings and the capability to develop highly customised solutions."

> From hydrogen-powered drones to counter-drone systems, Paras Defence is redefining readiness with indigenously developed technologies. Built on R&D and precision engineering, Paras successfully thrive in high-stakes domains delivering agility.

That mindset has taken Paras from being a Tier-3 vendor to becoming a Tier-1 partner in multiple areas. The journey has been fuelled by consistent investment in R&D, design-led innovation, and engineering precision, expanding the company's capabilities from mechanical systems to electronics, electro-optics, and integrated defence platforms. Today, Paras is also working in futuristic areas like quantum communication — technologies that Shah believes will shape the company's future.

THE CASE FOR SELF-RELIANCE

Global flashpoints from the Red Sea to Eastern Europe have reinforced one of Shah's core convictions: relying on technology supply chains from unstable regions is a risk India cannot afford. He points to India's evolving policy framework — from the Defence Acquisition Procedure

(DAP) to indigenisation lists and long-term Development-cum-Production Partnership (DCPP) tenders — as a strong base to build on.

But for him, the challenge goes deeper. "We must strengthen the entire ecosystem — from raw materials and components to system integration and testing," he says. Academic partnerships, such as those between IITs, IISc, and DRDO, are key to building technologies from the ground up. This is particularly important in space, which Shah calls the "fourth pillar of modern defence." With Make in India creating momentum, he sees a global gap that Indian companies can fill in niche, mission-critical systems like optical payloads, which are in high demand but short supply worldwide.

MISSIONS BEYOND COMBAT

Shah's perspective on defence readiness is broader than traditional combat scenarios. Operation Sindoor — where Indian forces played a humanitarian and stabilisation role — reinforced his belief that modern defence equipment must be as versatile as the forces that use it.

"At Paras, we focus on Indigenously Designed, Developed, and Manufactured (IDDM) capabilities that give customers agility, scalability, and lower foreign dependence," he says. This includes ruggedised surveillance systems, counter-drone platforms, tactical electronic warfare (EW) solutions, and frontline logistics technologies.

One example is a joint venture with Israel's HevenDrones to develop hydrogen-powered heavy-lift drones capable of transporting critical supplies across challenging terrains. Another is the deployment of counter-unmanned aerial systems (UAS) to detect and neutralise hostile drones during sensitive missions.

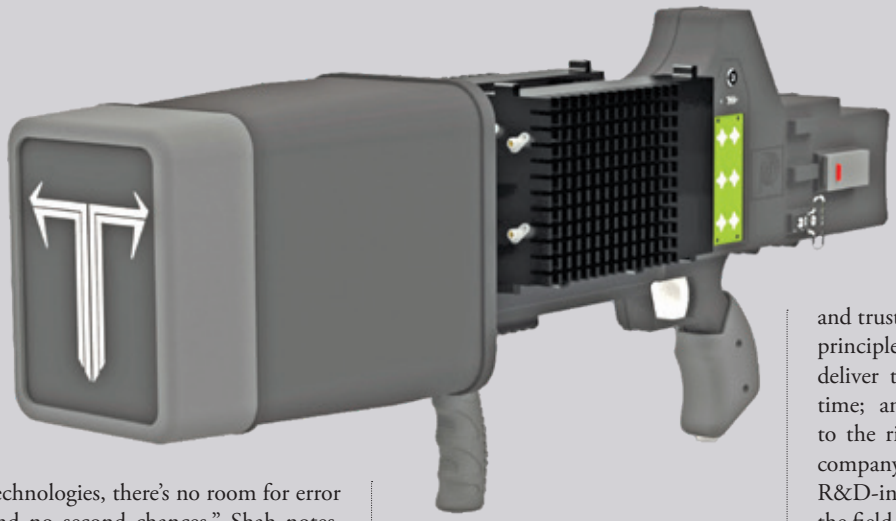
BREAKING NEW FRONTIERS

India's defence manufacturing is steadily moving from being an importer to a systems integrator and exporter. Shah believes the next leap will come when Indian manufacturers ask a different question: not "Why can't we do what others have done?" but "Why not attempt what no one else has done yet?"

At Paras, that philosophy has driven indigenous efforts in areas such as submarine periscopes, advanced drone detection and jamming systems, and specialised optical systems — technologies previously untouched in India. Scaling these ambitions, Shah says, will require stronger test infrastructure, skilled talent, and robust quality frameworks.

ENGINEERING WITH PRECISION AND RESPONSIBILITY

Working in sensitive areas such as EMP protection, drone technologies, and precision optics comes with a unique responsibility. "In mission-critical



technologies, there's no room for error and no second chances," Shah notes. Every test bench at Paras is treated like a live mission rehearsal, with teams trained to flag inconsistencies early, design with redundancy, and maintain strict process discipline.

The company is AS9100D-certified — the highest quality benchmark in aerospace — enabling it to contribute to programmes like the NAL Saras aircraft. "Our systems must reflect the seriousness of the trust placed in us," Shah says. "We honour that trust not just through innovation, but through process, precision, and purpose."

KNOWING WHEN TO BUILD AND WHEN TO PARTNER

Paras has worked with global partners like Controp and HevenDrones, but Shah's approach to collaboration is selective. The guiding principle: if a technology is core to India's long-term strategic capability, it is developed in-house, regardless of the time it takes. For platforms where speed is essential, partnerships enable rapid deployment without sacrificing domestic capability.

Even in collaborations, Shah insists on creating local capacity for maintenance, servicing, and upgrades. This ensures that every system deployed in India remains supportable within the country.

DEFENCE-GRADE ENGINEERING FOR PUBLIC HEALTH

One of Paras Defence's most unexpected projects was the development of magnets for India's first indigenous MRI machine. It came through a long-standing partner under the Ministry of Electronics & IT and aligned with the company's core philosophy: focus on high-impact technologies that are scarce and of high national value.

> "India aims for Rs. 50,000 crore in defence exports by 2029, Paras Defence is leading with first-of-its-kind systems, from missile electronics to hydrogen drones. These developments ensure building a lasting legacy of India's strategic strength.

The MRI magnet technology had never been developed in India before. For the nation, it meant import substitution and potential export opportunities. For Paras, it was a chance to apply defence-grade engineering to public healthcare without significant reinvestment, using existing infrastructure and expertise. "Whether it's national security or public health, the fundamentals remain the same — engineering with rigour, resilience, and responsibility," Shah says.

LEADING WITH DISCIPLINE

Shah credits Paras's longevity and trust in the defence sector to three principles: create–ideate–innovate; deliver the right quality at the right time; and direct the best resources to the right challenges. Much of the company's work is design-led and R&D-intensive, and feedback from the field plays a central role in shaping solutions.

"Defence isn't driven by generic solutions — it's a custom-built industry," he says. This philosophy has made Paras proactive in building deep technical capabilities, from advanced optics to ruggedised systems, while staying adaptable to user needs.

LOOKING TO 2029 AND BEYOND

India has set an ambitious target of Rs. 50,000 crore in defence exports by 2029. Shah sees this not just as a commercial opportunity but as a chance to redefine how the world views Indian engineering. "Many of our systems are India's firsts, and in some cases, globally rare," he says. "If we can export these at scale, we won't just enter new markets — we'll reshape them."

For Shah, the legacy he hopes to leave is simple: that Paras Defence consistently chose the harder, more vital work. From missile electronics to hydrogen-powered drones, from humanitarian missions to healthcare breakthroughs, the company's story is one of persistence in the face of market and policy headwinds.

"We've never chased volume for its own sake," he says. "Our focus has always been on strengthening the backbone of India's strategic capabilities — quietly, reliably, and with intent. If, a decade from now, people say Paras made a difference by staying true to its mission, we would consider that our proudest legacy."

A YEAR OF CHANGE FOR INNOMOTICS INDIA

The motors and drives manufacturer reflects on its first year after separating from Siemens, balancing legacy strengths with new opportunities in emerging industries.

By Team ET Now Machinist

When Siemens Large Drives became Innomotics in 2023, little changed on the factory floor in India. The same products rolled out of the same plants, made by the same people. But behind the familiar routines, the company was quietly learning how to run as an independent business for the first time.

Globally, Innomotics employs about 15,000 people and generates around €3 billion in annual turnover. In India, it operates across high-voltage motors, medium-voltage drives, industrial solutions, and customer services, with low-voltage motors also under its name.

The carve-out brought a leaner organisational structure and a faster decision-making process. Whole-time Director and CEO Alex Nazareth describes it as "greater entrepreneurial freedom" — a chance to focus sharply on the core business while keeping customers at the centre.

BLENDING GLOBAL KNOWLEDGE WITH LOCAL MANUFACTURING

One of the company's main strengths, Alex says, is its ability to draw on a worldwide R&D network while manufacturing locally. The idea is to adapt advanced technologies for India's market, combining global expertise with cost-effective production.

That approach underpins projects like Digi-Suite, an AI-based digital platform designed for the cement industry. Built on a microservices architecture, it uses self-learning modules that can be tailored to individual plants. Digi-Suite allows step-by-step digital upgrades, centralised monitoring, and standardised processes, while enabling knowledge-sharing across sites. The company says the platform can also help lower emissions in cement plants by 3–4 per cent.

SERVING ESTABLISHED INDUSTRIES, TESTING NEW WATERS

In India, metals, mining, cement, and water management remain the company's strongest markets. Alex expects these sectors to keep growing steadily for at least the next five years. But there is also a clear push into new areas — green hydrogen among them.

Innomotics supplies technology for hydrogen production and storage, from power conversion systems and rectifiers to mobile "e-house" electrification units. It also makes hydrogen compression systems, using both turbo and reciprocating

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"As a standalone mid-size organisation with greater entrepreneurial freedom, structurally we are leaner, enabling speed in decision-making; operationally we are faster with a focused approach and culturally we are building upon the inherited culture of treating people as our biggest assets and keeping customers at the centre of everything we do.

Alex Nazareth, Whole-time Director and CEO, Innomotics India Pvt. Ltd.

compressors, powered by its high-speed or high-torque motors.

THE SLOW SHIFT TO HIGHER EFFICIENCY

Regulations from the Bureau of Energy Efficiency (BEE) are nudging industry towards more efficient motor systems. Many plants still run on IE2-rated motors, but the rules encourage upgrades to higher classes. Innomotics already offers IE4-rated motors, which have longer service lives, lower maintenance needs, and smaller carbon footprints.

Alex says the higher upfront cost can be offset by faster returns from reduced energy consumption. The company also has IE5+ technology ready for the market when conditions are right.

POLICY TAILWINDS

Government schemes like Make-in-India and the Production-Linked Incentive (PLI) programme are also shaping the business environment. The initiatives offer performance-based incentives for manufacturers to scale up, adopt newer technologies, and compete globally. For a company producing energy-efficient equipment, the policy focus aligns with its existing product portfolio.

INDIA AS A SOURCING BASE

Innomotics India isn't just supplying its domestic market. It is also part of the group's global supply chain, producing motors and drives locally and sourcing components for overseas operations. Items like castings, machined parts, fabricated components, insulation materials, cooling systems, and sheet metal parts are shipped to other Innomotics plants — particularly in Europe.

Over the past four years, sourcing from India for global use has grown by more than 50 per cent. Exports currently make up a small part of the business, but the company expects that share to increase as global supply chains adjust and more production shifts to India.

LOOKING FORWARD

For Alex, who has spent more than three decades in Siemens and Innomotics in various roles, the past year has been a reminder that change can open new doors. While the brand name on the building may be different, the focus now is on balancing its long-standing industrial markets with newer, fast-developing sectors.

"Our inherited know-how, supported by a strong global R&D and manufacturing network, gives us a base to build for the long term," he says.

CIRCULAR PUSH FOR A CLIMATE-NEUTRAL FUTURE

Covestro is embedding circular practices, renewable energy and inclusive innovation to advance India's sustainable manufacturing journey.

By Team ET Now Machinist

Sustainability is no longer an abstract goal for manufacturers in India; it has become a business imperative. From power-hungry factories to waste-heavy processes, the sector sits at the heart of the country's climate challenge. Anand Srinivasan, Managing Director of Covestro (India) & Head of Polycarbonates – ISC, believes the way forward lies in bold targets combined with everyday action.

Covestro has committed globally to becoming climate-neutral by 2035, and in India the company is translating this ambition into visible milestones. At its Greater Noida facility, a large share of electricity is now being drawn from solar power. This shift, Srinivasan notes, not only reduces emissions but also makes economic sense in the long term. It is one step in a much larger journey that spans the entire supply chain from upstream raw materials to downstream applications.

Circularity forms the backbone of this transformation. Instead of treating plastics as disposable, Covestro is working on ways to return them to the production cycle. Its Makrolon® portfolio illustrates the approach: R-series polycarbonates use post-consumer recycled content; RE-series products are based on renewable feedstocks; and RP-series materials are chemically recycled to match the performance of virgin plastics. These innovations, already certified for quality and traceability, are finding applications in sectors like electronics, automotive and healthcare.

The Greater Noida site recently achieved ISCC PLUS certification, allowing it to produce renewable-attributed polycarbonates for customers in India and beyond. For a country looking to balance rapid industrial growth with environmental responsibility, such certifications carry weight, they signal that greener alternatives can be scaled without compromising on performance.

> "Our goal is for our operations to be climate neutral by 2035, with respect to emissions from our own production and purchased energy sources, while also targeting a 30% reduction of CO_2 emissions along the supply chain.
>
> **Anand Srinivasan,** Managing Director & Head of Polycarbonates ISC at Covestro India Private Limited.

Srinivasan is candid about why these matters for India. The country ranks among the most climate-vulnerable in the world, facing heatwaves, floods and storms with increasing frequency. While the national pledge is to reach net zero by 2070, industry must act much sooner. Policies such as Make in India and Digital India are nudging manufacturers toward sustainable practices, but collaboration across the value chain is essential. Legacy firms, he argues, must reimagine their business models to emphasise resource efficiency, recycling and responsible growth.

Covestro's work extends beyond products and processes. Through its Inclusive Business initiative, the company is tackling post-harvest losses in horticulture and fisheries by providing solar greenhouse dryers, cold storages and portable cold boxes. Partnerships with local agencies in Tamil Nadu and Ladakh have brought measurable impact—farmers and fisherfolk have seen earnings rise by up to 30 percent, while food waste has fallen. The initiative shows how material science can intersect with social transformation, improving lives while reducing emissions.

Research and development also play a key role. Mechanical recycling, chemical recycling, and design-for-recycling are areas where Covestro is investing heavily. The aim is not only to find efficient ways to reuse plastics but also to design products from the start with their end-of-life in mind. Collaboration with research institutions, suppliers and industry bodies underpins this effort, reinforcing the belief that innovation rarely happens in isolation.

Sustainability in manufacturing is not just about cleaner energy or new materials, but about rethinking the entire system. From solar-powered plants to circular design and inclusive business, Covestro's approach in India shows how global commitments can be rooted in local action. And as the clock ticks toward 2035, these steps will decide whether industry can truly deliver on the promise of a climate-neutral future.

CRAFTING PRECISION, DRIVING SUSTAINABILITY

Guided by the philosophy "For People, Society and the Earth", MMC Hardmetal is blending innovation, sustainability, and customer focus to shape the future of manufacturing.

By Team ET Now Machinist

Manufacturing today is not just about machines and tools. It is about creating solutions that are smarter, more sustainable, and built around people. This is what makes MMC Hardmetal's story so inspiring.

A part of Mitsubishi Materials Corporation, MMC Hardmetal began its India journey in 2006, after years of serving the market from Singapore. From its base in Bengaluru and regional offices across the country, the company has steadily grown to serve not only India but also customers in the Gulf, Sri Lanka, Bangladesh, South Africa, and Kazakhstan.

At Sambhajinagar in Maharashtra, the company runs a world-class plant that produces customised tools built to Japanese standards. A third of what is made here is exported to advanced markets, which proves the trust in its quality. The opening of the Mitsubishi Technology Centre (MTEC) in Pune in 2020 gave customers a space to learn, test, and co-create solutions—making MMC Hardmetal a true partner rather than just a manufacturer.

What makes this journey meaningful is the philosophy that drives it: For People, Society and the Earth. Every innovation, whether it is the use of advanced materials, cutting-edge coating technologies, or AI-powered tooling, is guided by the idea of creating value for industries while respecting the environment. Its solutions have helped sectors like automotive and aerospace work with greater precision, efficiency, and sustainability.

Equally important is the way MMC Hardmetal connects with its customers. Through technical training, plant tours in India and Japan, and personalised support, the company has built relationships that go beyond transactions. Many customers have seen cycle times cut dramatically, sometimes by 500 percent, thanks to tailored tools that save costs and resources.

Prashant Sardeshmukh, Managing Director, MMC Hardmetal India

> MMC Hardmetal, part of Mitsubishi Materials, is pioneering smarter manufacturing in India. What backs this smart growth is AI-powered tooling, people-first philosophy, and world-class plants. Interestingly, it also blends Japanese precision with local partnerships to deliver innovation.

Sustainability is woven into everything MMC Hardmetal does. From recycling and waste-to-energy initiatives to responsible sourcing and workforce training, the company is committed to balancing growth with responsibility.

Looking ahead, MMC Hardmetal is investing in next-generation technologies like adaptive tooling and AI-powered machining. These advancements will help customers push the boundaries of productivity while staying aligned with a greener future.

The company's journey in India is one of progress, purpose, and people. It shows that when innovation is guided by responsibility, manufacturing can truly build a better tomorrow.

FRAISA SHARPENS EFFICIENCY WITH ANCA-ZOLLER DATA EXCHANGE

By combining ANCA's grinding technology with ZOLLER's precision measurement, Fraisa has cut idle time by 20% and redefined tool regrinding efficiency in Germany.

By Team ET Now Machinist

In the world of precision tools, every second counts. For Fraisa GmbH, based in Willich, Germany, the challenge was all too familiar: keeping regrinding operations fast, accurate, and waste-free. With 350,000 tools reground at the site every year, even the smallest inefficiency could snowball into significant delays and costs.

"It's the same old story every day," recalls Stefan Schaefers, Head of Technology at Fraisa. "The first tool must be in quality, and scrap must be avoided at all costs. That's true whether we're making new tools or regrinding them."

The solution came from pairing Fraisa's expertise with ANCA's ToolRoom software and WheelEditor—connected seamlessly to ZOLLER's »venturion« measuring machine. The result is a smooth, automated exchange of grinding wheel data between machines. Instead of relying on manual entries and assumptions, operators now measure wheel packages on ZOLLER, send the real data to ANCA's WheelServer, and instantly feed accurate parameters into the grinding machine.

"The transfer of actual data from ZOLLER to the ANCA software is a game changer for us," Schaefers says. "It saves an enormous amount of time and effort."

The numbers speak for themselves: Fraisa has reduced non-productive time by 20% and cut rework rates by 10% since adopting the system in 2018. That's no small feat when you're handling ten wheel packages a day, all dressed by external partners and measured in-house.

> "Fraisa has cut non-productive time by 20% and rework by 10% by linking ZOLLER measurement with ANCA's ToolRoom software. The result: faster, error-free regrinding, and greater sustainability.

What's remarkable is not just the efficiency, but the reliability. Each grinding wheel package is measured before use, ensuring only real, operator-independent data enters the system. As Schaefers explains, "Our motto is simple: first tool = good tool. Thanks to data transfer, the error rate is practically zero. If the wheel pack fits, the tool is as good as in the simulation after the first regrind."

Beyond speed and precision, Fraisa's ReTool® concept underscores the company's commitment to sustainability. Regrinding tools can deliver cost savings of up to 70% compared to new tools while cutting CO_2 emissions in half. "We see reconditioning not just as an economic advantage, but as a responsibility," Schaefers notes. "Our production efficiency, supported by grinding wheel management, plays a big role in that."

From ANCA's side, the benefits are equally clear. Steffen Kluth, Product Manager for Digital Manufacturing at ANCA, highlights how the system empowers operators: "Measuring on ZOLLER and transferring data directly to the machine are value-adding tasks. They reduce errors, increase quality, and give daily work more impact."

Looking ahead, Fraisa is pushing further into automation and digitalisation. With 250 grinding wheel variants in circulation, the company is exploring smarter wheel pack management to ensure duplicate sets are always on hand. Meanwhile, ANCA is helping drive standardisation efforts, embedding XML-based data exchange into future OPC UA specifications for cutting tools.

Fraisa's story is a reminder that even in a high-tech industry, the devil is in the details—and the gains are in the data. By connecting measurement and grinding seamlessly, the company has proven that precision and productivity don't have to be trade-offs. Instead, they can be sharpened together.

BUILDING THE FUTURE OF WAREHOUSING AND MANUFACTURING

From Schneider Electric's green factory in Hosur to e-commerce hubs near cities, Horizon Industrial Parks is building warehouses and manufacturing facilities that are smart, sustainable and people-first.

By Team ET Now Machinist

Step into one of Horizon Industrial Parks' sprawling sites, and you quickly realise this is not the old idea of a warehouse. Gone are the days of concrete boxes tucked away on the edge of towns. What you find instead are bright, green-certified, technology-ready spaces buzzing with possibility, places designed as much for speed and sustainability as they are for storage.

"Warehouses today are no longer just about holding inventory," says Horizon's Head of Marketing, Taruna Mahajan. "Our occupiers want flexibility, scalability, and digital readiness. That's why we're designing parks that can handle everything from high-density racking to AI-driven inventory systems."

This future-ready thinking is what attracted global majors like Schneider Electric, which recently chose Horizon's Hosur park in Tamil Nadu for a state-of-the-art 500,000 sq ft manufacturing facility. Complete with rooftop solar, EV charging bays, landscaped biodiversity zones and integrated building management systems, the park is pre-certified Platinum by the India Green Building Council. "For Schneider, it wasn't just about a building—it was about finding a partner who shared their sustainability ethos," Mahajan explains. The Hosur park has since become a blueprint for Horizon's green field developments in Maharashtra, Karnataka, and beyond.

But Horizon isn't stopping there. With more than 18 MW of rooftop solar already installed across its portfolio—offsetting over 21,000 tCO_2 annually—the company is eyeing an ambitious target: 29 MW by 2026. "Our aim is simple," Mahajan adds, "Every Horizon park should be a climate-positive asset." Alongside renewable energy, water-neutral models and advanced waste management systems ensure the parks leave a lighter footprint on local ecosystems.

> "Horizon Industrial Parks is redefining warehousing and manufacturing with tech-ready spaces. From ready spaces and built-to-suit factories to solar-powered parks nationwide, Horizon blends speed, flexibility, and sustainability, to create climate-positive assets".
>
> **Taruna Mahajan,** Head of Marketing, Horizon Industrial Parks

For businesses, however, green credentials are only part of the story. The real draw is speed and flexibility. Ready-to-move-in spaces help e-commerce players ramp up instantly, while built-to-suit models offer manufacturers customisation for complex production lines. Even short-term leases are on the table—perfect for festive surges that require extra capacity without long-term commitments. And because Horizon deliberately positions its parks closer to consumption hubs, companies can deliver faster while keeping logistics costs lean.

On the policy front, Horizon sees both promise and challenges. States like Maharashtra, Tamil Nadu and Karnataka have been proactive with single-window clearances and infrastructure incentives. National initiatives such as Gati Shakti are further pushing logistics costs down. Yet hurdles remain like land aggregation, patchy utility reliability, and slower-than-expected multimodal integration. "The intent at the policy level is visionary," Mahajan reflects. "But execution is uneven. For occupiers, predictability and speed of implementation matter just as much as ambition."

As India's logistics and industrial sector heats up, with even talk of IPOs among peers, Horizon is careful to keep its focus on occupiers. "Scale is important, but so is trust," Mahajan says, "Our growth must be as responsible as it is rapid."

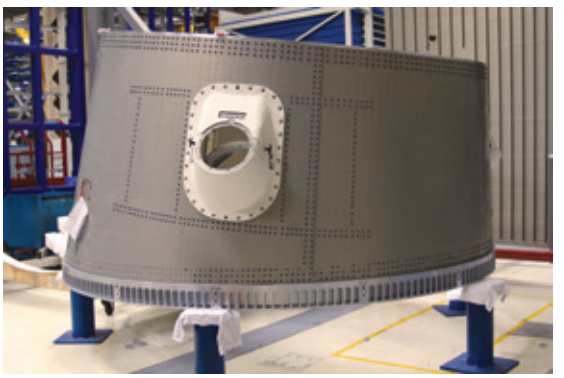
And that, perhaps, is what sets Horizon Industrial Parks apart. In an industry where many players compete on size, Horizon is not only the fastest growing developer in the country, it also competes on experience designing spaces that grow with their tenants, protect the planet, and quietly power the future of Indian industry.

LVD TO BUILD CUSTOM PRESS BRAKE FOR ARIANE 6 ROCKET PROGRAM

Belgium-based LVD wins major contract to supply a heavy-duty Synchro-Form press brake to MT Aerospace AG for Europe's Ariane 6 space program.

By Team ET Now Machinist

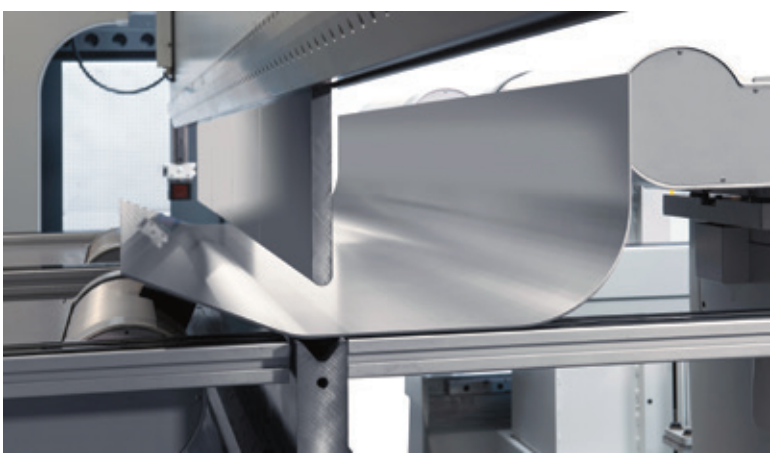
When Europe's Ariane 6 rocket takes to the skies, a vital part of its journey will be shaped on the shop floor. LVD Company nv, the Belgian sheet metalworking specialist, has secured a major contract to design and manufacture a custom Synchro-Form press brake for MT Aerospace AG, Augsburg, Germany, a subsidiary of OHB SE.



The Synchro-Form 800-ton, 7-meter press brake is no ordinary machine. Built to fabricate critical structural components of the Ariane 6 launcher, it brings precision and consistency to the complex job of bending large aerospace parts. Scheduled for installation in spring 2026, the press brake is expected to reduce manufacturing time and handle the forming of complex, high-tolerance components essential to rocket performance.

For LVD, the order is a significant endorsement of its expertise in heavy-duty bending. "This contract represents a strong endorsement of LVD's bending expertise," said Carl Dewulf, CEO of LVD Group. "It reflects the confidence placed in our engineering expertise and proven history in meeting challenging forming applications."

The Synchro-Form technology itself is designed for accuracy when bending workpieces of four meters or more, often in specialized materials. It automatically maintains angular consistency and geometric profiles even as it handles and positions massive parts. LVD's Synchro-Form has already proven itself with Kawasaki Heavy Industries, where it was used to form fuselage sections for Boeing's 777X aircraft.



For MT Aerospace, one of Europe's leading aerospace manufacturers with over 500 employees, the machine will play a crucial role. The company develops and manufactures metallic aerostructures for rockets, satellites, aircraft and more. Its long involvement in the Ariane 6 program has focused on innovations to increase performance while reducing costs. Adding the Synchro-Form capability is a further step in enhancing competitiveness for Europe's space sector.

The Ariane 6, first launched in 2024, represents Europe's drive to secure a stronger foothold in the global commercial space market. By introducing advanced manufacturing methods such as LVD's adaptive bending technology, the program aims to balance cost-efficiency with the high performance required of heavy-lift launchers.

The project is also a reminder of how aerospace manufacturing continues to evolve. What once required painstaking manual effort is increasingly being streamlined by automation, digital controls, and adaptive systems. For companies like LVD and MT Aerospace, it's about bringing innovation from the factory floor all the way to orbit.

As rockets become more frequent symbols of global ambition, the unsung machinery behind them is equally worthy of recognition. With its Synchro-Form press brake, LVD is helping Europe quite literally bend metal to its will—shaping the components that will carry Ariane 6, and Europe's space ambitions, into the future.

MACHINING THE FUTURE

From aerospace to automotive, ISCAR's diamond-tough PCD and CBN inserts are reshaping modern machining with precision, performance, and purpose.

By Team ET Now Machinist

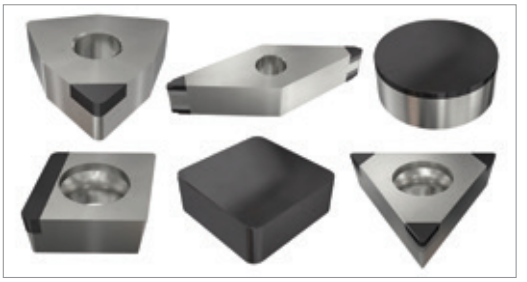


Figure 1

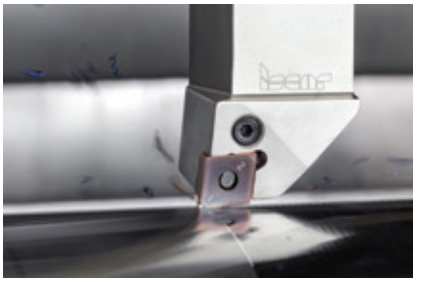


Figure 2

In today's manufacturing world, the demand to work faster, smarter, and with greater precision has never been higher. Whether it is machining an aircraft engine part, a car's braking system, or components for advanced electronics, one truth remains unchanged: the tools are just as important as the machines. This is exactly where ISCAR has been making an impact with its Polycrystalline Diamond (PCD) and Cubic Boron Nitride (CBN) inserts.

For years, cutting tools were treated as simple consumables, swapped out frequently with little thought. ISCAR has challenged that mindset. Its PCD inserts are known for their unmatched hardness and wear resistance, making them a preferred choice for machining non-ferrous metals, composites, and abrasive materials. The benefits are clear: longer tool life, smoother finishes, and the ability to run at higher cutting speeds. In industries like aerospace and automotive, where the smallest imperfection can have major consequences, these qualities are invaluable.

The story does not end with durability or speed. ISCAR's PCD tools are engineered with specialized geometries that improve chip control and manage heat effectively. This means greater consistency, less downtime, and higher productivity, all of which manufacturers are striving for in a competitive environment.

If PCD is the trusted partner for non-ferrous and composite machining, then CBN inserts are the workhorses built for the toughest challenges. These tools excel when working with hardened steels, cast iron, and superalloys. Second only to diamond in hardness, CBN has earned its place as a game changer by replacing slow, expensive grinding operations with efficient hard turning. The automotive sector, in particular, has seen the benefits with faster cycle times, lower costs, and the flexibility to machine complex shapes with accuracy.

Figure 3

CBN is not found in nature. It is created under extreme pressure and temperature, a remarkable example of human ingenuity. ISCAR has taken this even further, designing multi-tipped and full-edge CBN inserts that maximize every usable corner for optimum efficiency. From mini-tipped designs that stretch the value of each insert, to solid inserts crafted for aggressive machining, the focus remains on performance with cost effectiveness.

The versatility of these tools makes them stand out even more. They are used to produce automotive engine parts and brake systems, as well as wind power bearings, gears, and other heavy-duty components. Their ability to resist thermal and chemical wear ensures dependable performance even in the harshest environments, something modern industries simply cannot compromise on.

At its heart, ISCAR's work with PCD and CBN inserts is about foresight and innovation. As industries race to improve efficiency, reduce waste, and deliver flawless precision, ISCAR has positioned its tools as more than products. They are enablers of progress.

The future of manufacturing will be shaped by automation, artificial intelligence, and sustainability. Yet at the foundation, there will always be a need for sharper, stronger, and smarter tools. With its relentless commitment to research, development, and real-world innovation, ISCAR is showing that the future of machining has already arrived, and it is tougher and more precise than ever before.

IGUS LAUNCHES WORLD-FIRST ESD-CERTIFIED DRESS PACK FOR INDUSTRIAL ROBOTS

New triflex TRE ESD system addresses long-standing electrostatic discharge risks in electronics manufacturing, with full certification from Fraunhofer IPA.environments.

By Team ET Now Machinist

igus has introduced a significant innovation for electronics and microelectronics manufacturing environments with the launch of the triflex TRE ESD — the world's first ready-to-connect, fully ESD-certified dress pack for industrial robots, including all connection elements.

Electrostatic discharge (ESD) is a silent threat in precision manufacturing. A single invisible spark can damage or destroy sensitive components, as often seen in sectors like microelectronics, semiconductor production, or battery component manufacturing. While basic ESD-safe systems have existed for over 15 years, they often required custom modifications, increasing the chances of design errors and system failures.

"Until now, no ESD-certified system covered both the energy chain and all connections in the critical area," said Matthias Meyer, Head of Business Unit triflex e-chains and Robotics at igus. "Many users realised their own connections, which repeatedly led to errors and electrostatic discharges."

The new triflex TRE ESD

> igus's new launch offers a complete, ready-to-connect solution that safeguards sensitive manufacturing environments from electrostatic damage while ensuring ease of deployment.

With the triflex TRE ESD, igus is launching the world's first ready-to-connect dress pack that is ESD-capable as a complete system. (Source: igus GmbH)

changes that by offering a complete, tested solution. It includes dissipative materials and coatings on all components — from the chain links to the tension clamp and strain relief — to ensure reliable discharge of static electricity. The system has been certified by the Fraunhofer Institute for Manufacturing Engineering and Automation (IPA) for its discharge capability.

Designed with igus' high-performance plastic igumid ESD, the system accommodates energy and data cables, as well as hydraulic hoses, safely housed in a closed or open-chain structure. It's adaptable to all common robot types and manufacturers and includes standard retraction systems with internal fibreglass rods for retraction control and to avoid physical contact between the chain and the robot.

An added advantage for sensitive production environments: the TRC ESD version also holds dry cleanroom certification (ISO Class 4 and 5) from Fraunhofer IPA.

With this launch, igus closes a long-standing safety gap and delivers a complete, easy-to-deploy solution for one of manufacturing's most persistent problems — offering both convenience for design engineers and added protection for high-value production lines.

The triflex TRE ESD will debut at automatica 2025 in Munich.

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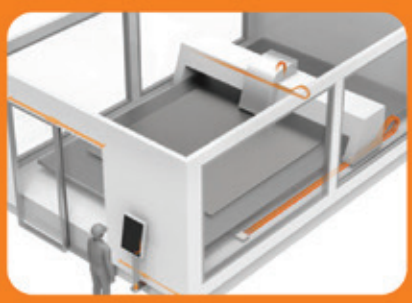

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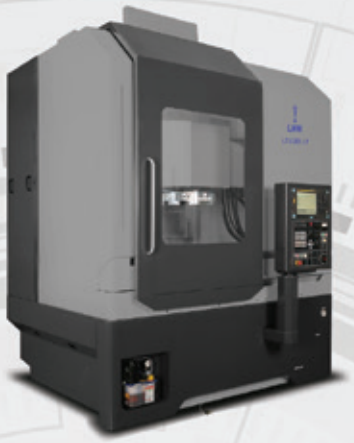

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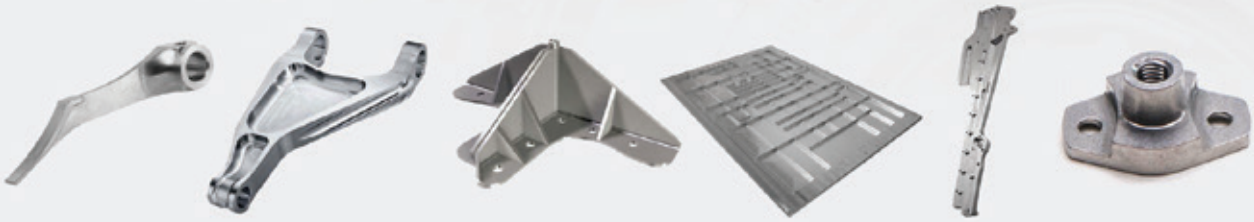

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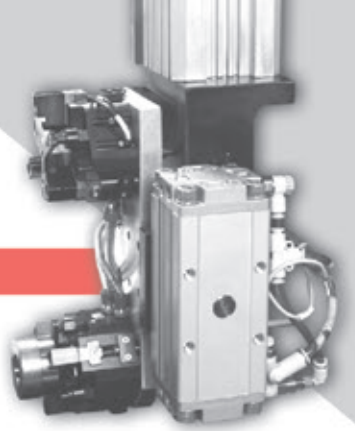

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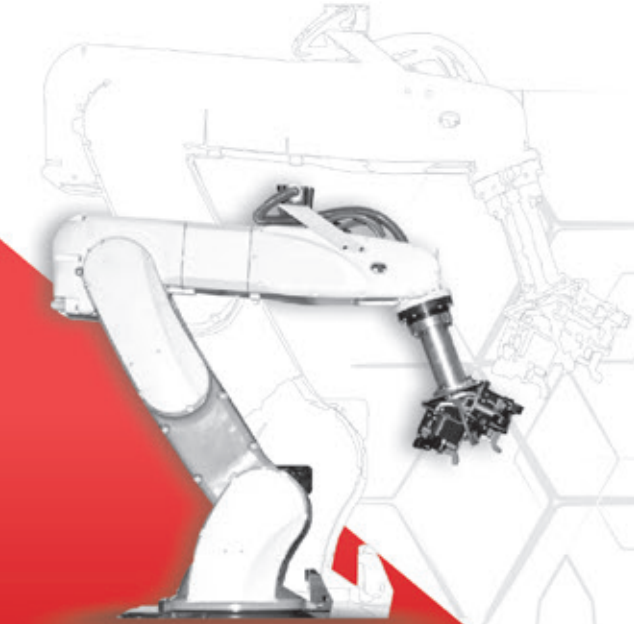

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