

53 YEARS Industrial Products Finder

SME

Smart Manufacturing & Enterprises

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“MSMEs are a backbone of India's economy, contributing significantly to GDP and exports. Exports from MSMEs surged from ₹4 trillion in 2020-21 to ₹12.39 trillion in 2024-25.

Let Small Grow Big

India's export sector continues to shine as a key driver of growth, recording a robust 10.4 per cent increase in Q3 of FY2024-25, a notable improvement from the 3 per cent rise during the same period the previous year. The uptick comes amid growing global uncertainties and trade disruptions, underlining the resilience of Indian exporters. The export momentum is closely tied to India's manufacturing performance. According to the HSBC Flash India Manufacturing PMI, the index rose to 57.6 in March 2025, up from 56.3 in February, indicating strong expansion.

Amid these economic trends, a Reuters report suggests that the government may allow its \$23 billion Production Linked Incentive (PLI) scheme to lapse. Initially launched in 2020 to boost domestic manufacturing and reduce dependence on China, the scheme attracted global players like Apple supplier Foxconn. However, many firms faced delays in meeting production targets, and only \$1.73 billion of the allocated incentives had been disbursed by October 2024. The reported production under the scheme amounted to \$151.93 billion, just 37 per cent of the target. Challenges such as bureaucratic hurdles and delays in incentive disbursement have impacted the scheme's effectiveness. While the government has not made an official statement, industry experts anticipate modifications to the policy rather than a complete rollback, ensuring continued support for the Make in India initiative.

A crucial aspect of India's manufacturing growth strategy is the micro, small, and medium enterprises (MSMEs) sector, which plays a significant role in the economy. From April 1, 2025, the government has revised MSME classification limits, increasing investment and turnover thresholds. Micro-enterprises will now have an investment limit of ₹25 million (up from ₹10 million) and a turnover cap of ₹100 million (₹50 million previously). Similarly, small enterprises will have new limits of ₹250 million in investment and ₹1 billion in turnover, while medium enterprises will have thresholds of ₹1.25 billion in investment and ₹5 billion in turnover. Often, growing enterprises surpass previous thresholds and lose crucial benefits such as simplified credit access, lower interest rates, and targeted incentives. With the enhanced limits, businesses can now expand more confidently without the immediate concern of losing these advantages.

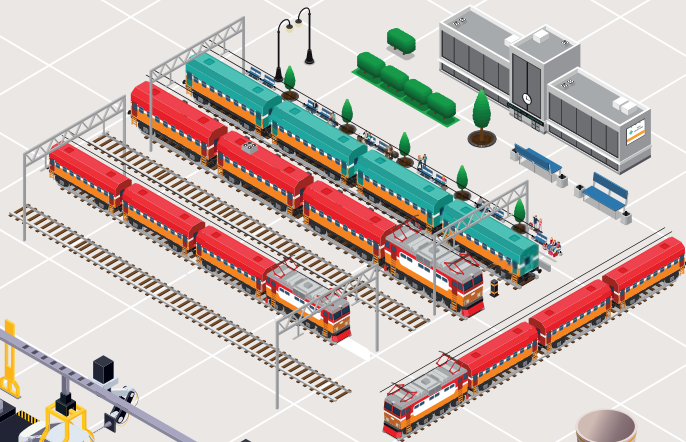
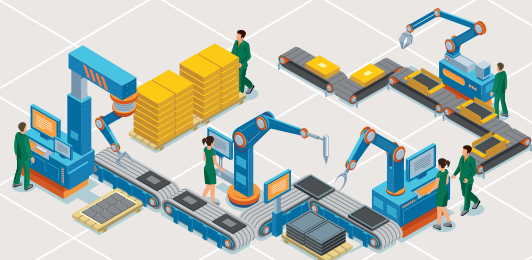
MSMEs are a backbone of India's economy, contributing significantly to GDP and exports. Government data indicates that MSMEs' share of gross value added (GVA) in GDP increased from 27.3 per cent in 2020-21 to 30.1 per cent in 2022-23. Exports from MSMEs surged from ₹4 trillion in 2020-21 to ₹12.39 trillion in 2024-25, underscoring their growing contribution to India's global trade footprint. Given their pivotal role, MSMEs require a conducive policy environment to thrive.

Despite challenges, India has made substantial progress in key industries. Mobile phone production surged to \$49 billion in FY24, a 63 per cent increase from 2020-21, while pharmaceutical exports nearly doubled to \$27.85 billion in FY24 compared to a decade ago. The focus must now shift to localising the production of components and raw materials, which India has been importing majorly from China. MSMEs are expected to play a critical role in this effort, enhancing domestic supply chains and bolstering India's self-reliance in manufacturing. As the government revises policies and MSME classifications, the sector stands to gain significantly, reinforcing its importance in India's economic growth trajectory.



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Supriya Lifescience powers ahead with new 5 MWP solar facility

Supriya Lifescience Ltd, a cGMP-compliant company with a well-established presence in API manufacturing, has reaffirmed its commitment to sustainability with the inauguration of a 5 MWp solar power facility in Nanded District, Maharashtra. The project was inaugurated by Dr Satish Wagh, Chairman, Supriya Lifescience, who emphasised the company's commitment to renewable energy and environmental stewardship.

This initiative is part of the ongoing program in which Supriya Lifesciences is committed to reducing carbon footprint from its operations. Apart from this new addition of a solar facility in Nanded, the total installed solar capacity now reads at 9.85 MWp against the existing 4.85 MWp of installed solar projects in Solapur District, Maharashtra. These projects further



reduce reliance on fossil fuels, thus aiding India's larger climate change objectives by developing a cleaner and more sustainable energy system.

"Embracing renewable energy is not just a strategic business decision but also a commitment to a greener future," said Dr Satish Wagh, Chairman and Whole Time Director, Supriya Lifescience Ltd "Our solar power

investments are integral to our vision of sustainable growth and reducing environmental impact."

The latest solar project was executed bilaterally with Enrich Energy Pvt. Ltd., a leader in renewable energy solutions. The integration of solar energy at Supriya Lifescience reflects the company's green commitment and proactive energy efficiency in pharmaceutical manufacturing.

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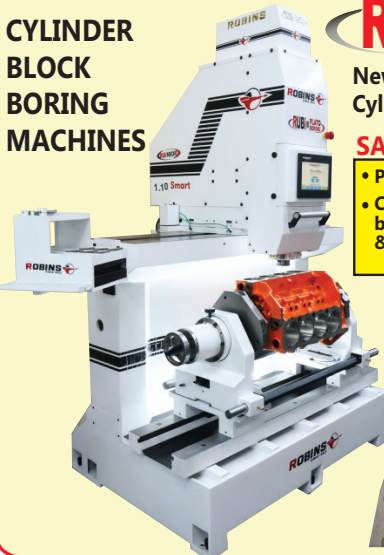
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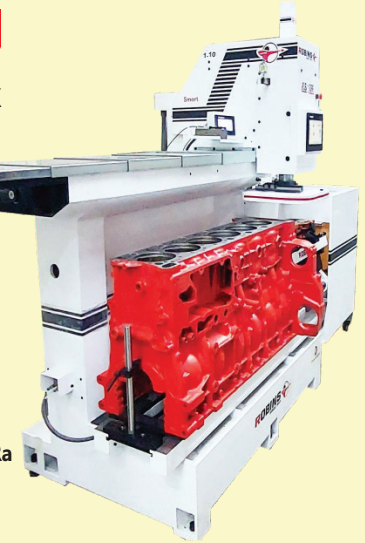
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Atlas Copco Group launches new Pune facility

Atlas Copco Group has launched a new manufacturing facility in Talegaon, Pune. Spanning approximately 270,000 sq. ft., the new plant will manufacture air and gas compressors and systems including CNG (compressed natural gas), biogas, hydrogen compressors, air dryers, N₂ and O₂ generators and medical filters and accessories. The launch, communicated in 2023, reinforces the Group's commitment to advancing innovative solutions while delivering high-quality products tailored to the local market.

The manufacturing facility is built on Industry 4.0 principles, integrating smart manufacturing technologies and sustainability. Approximately 80 per cent of the energy required for plant operations will be sourced from a 1.3 MW rooftop solar system and grid supply. The facility also includes rainwater harvesting and advanced cooling systems. With a strong focus on support for



research and development by Atlas Copco Group, the facility is equipped with multiple testing capabilities to meet both current and future production and product development needs. The company is certified with ISO 9001, ISO 45001, ISO 14001 and ISO 50001 certifications, ensuring the highest quality, safety, environmental

and energy standards, supported by a robust internal audit system, quality management systems and Six Sigma methodologies that help improve business processes by reducing errors and increasing efficiency.

Philippe Ernens, President- Compressor Technique Business, commented on the announcement of the new facility, "This new facility is equipped with cutting-edge technology to cater to local demand, ensuring shorter lead times and greater capacity. This enables us to offer a wider range of products, meet market expectations, and provide better lifecycle support."

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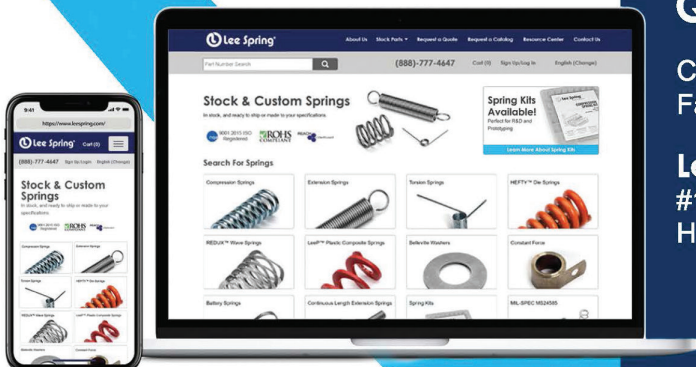
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HVAC

Copeland inaugurates engineering and technology center in Pune

Copeland, a global provider of sustainable climate solutions, inaugurated a new Engineering and Technology Center in Pune, Maharashtra, as part of its broader ₹5 billion India investment plan. Leveraging India's STEM talent pool and aligned with India's ambition to become a global innovation hub, the Copeland Engineering and Technology Center will strengthen the company's innovation ecosystem with engineering labs spanning 9 countries in order to advance its engineering, research and development (R&D) efforts locally and globally.

The new facility spans over 15,000 square meters and is the hub for over 320 engineers specialising in engineering, research and development, as well as software and firmware development. Copeland's Pune Engineering and Technology Center will help Copeland accelerate in-country innovation and product development, allowing the team in India to leverage their proximity to the company's customer base and anticipate and respond to evolving market requirements to develop future-forward sustainable solutions.

"Copeland's presence in India spans over three decades. Our current investment plan, including this



investment in our new state-of-the-art Pune Engineering and Technology Center, as well as the in-progress expansion of our manufacturing operations in Atit,

underscore our commitment to the India market," said Ross B. Shuster, CEO, Copeland.

"With more than 15 per cent of our global engineering team located in India, the local team plays a vital role in developing sustainability-focused technologies and products for both local and global customers. As global demand for sustainable solutions continues to rise, this new Engineering and Technology Center will focus on advancing energy-efficient and low-GWP and natural refrigerant technologies for global deployments across the HVAC and Refrigeration industry."

The Copeland Engineering and Technology Center will also support India's demand for innovative and sustainable heating, cooling, cold chain and industrial solutions that will enable sustainability. Globally, Copeland's engineering, research and development talent is focused on technology and new product development in the areas of compression, sound and vibration, electronics, power electronics, software and controls.

Auto Components

Ashok Leyland inaugurates bus manufacturing plant near Vijayawada

Ashok Leyland, the Indian flagship of the Hinduja Group and a leading commercial vehicle manufacturer, inaugurated its new bus manufacturing facility near Vijayawada, Andhra Pradesh. The plant was inaugurated by Shri Nara Lokesh, Hon'ble Minister of Information Technology, Electronics and Communications and Human Resource Development, Government of Andhra Pradesh.

As part of the ceremony, Ashok Leyland and the Hinduja Group also handed over the keys of the Switch electric double-decker bus to the Government of Andhra Pradesh, which was received by Minister Shri Nara Lokesh.

Situated at Malavalli, 40 km from Vijayawada, this



modern plant spans 75 acres and integrates advanced manufacturing technologies to uphold the world-class quality standards. The plant is designed to manufacture the complete range of Ashok Leyland diesel buses and Switch

Mobility's electric buses. The facility with an annual production capacity of 4,800 buses, features Nalanda, a modern Learning Center, and an advanced Service Training Center. The newly inaugurated plant will contribute significantly to the skill development and employment of the local workforce. To foster sustainability, this will be a green facility with rooftop solar panels, LED lighting, battery-operated vehicles for in-plant logistics, positive water balance measures, and a zero-discharge system.



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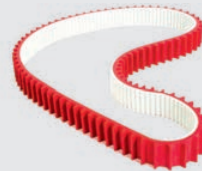
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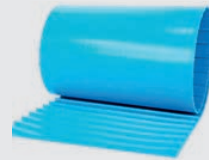
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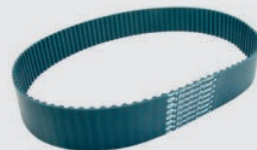
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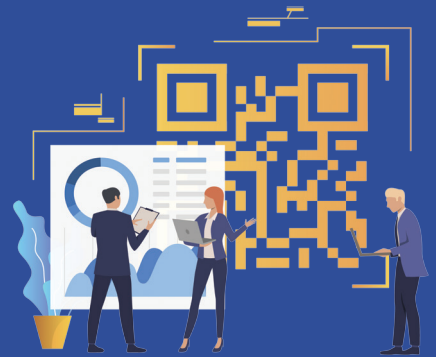
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Renewable Energy

JIRE bags LoA for 300 MW solar-BESS order from NHPC

BC Jindal Group's renewable energy arm, Jindal India Renewable Energy (JIRE) has received the Letter of Acceptance (LoA) for 300 MW solar plus storage project from state-owned, NHPC. The project is part of NHPC's 1200 MW inter-state transmission system-connected solar power projects tender with 600 MW/1200 MW energy storage systems.

JIRE has bagged 300 MW of solar power capacity from NHPC at a tariff of ₹3.09/kWh. As per the stated terms, the company will be executing a solar project on a build-own-operate basis. In addition, the green-field project will have to be completed within 24 months from signing of the power purchase agreement (PPA). Initially, JIRE had won 180 MW capacity of the Solar-BESS project from NHPC. As per the 'Greenshoe Option' of the tender, the company was awarded an additional capacity of 120 MW, taking JIRE's total project capacity to 300 MW.

NHPC will enter into an agreement with JIRE for a period of 25 years. The Navratna Company will purchase solar power from JIRE and sell it to state utilities and



others. As part of the contract, JIRE will have to deploy an ESS of at least 0.5 MW/ 1MWh capacity for 1 MW contracted capacity.

The BC Jindal Group had recently floated its dedicated entity, JIRE, to hold the renewable venture of the group. This company will oversee the renewable power generation, solar cells and module manufacturing businesses.

In 2025-2026, JIRE is looking to strategically expand its capacity portfolio by acquiring key operational assets within the country and across geographies. The company has set sight on augmenting its presence and is actively pursuing aggressive acquisitions of operational assets both domestically and abroad. These acquisitions are anticipated to be finalised in 1-2 years and will be funded through a mix of internal accruals and debt.

Jindal India Renewable Energy operates under the BC Jindal Group, founded in 1952 by Shri B C Jindal. Originally a steel pipe and fittings manufacturer, the group has grown into one of India's leading conglomerates with a significant presence in the power sector.

Railways

Alstom delivers the 500th electric locomotive for Indian Railways

Alstom, a global leader in smart and sustainable mobility, has successfully delivered 500 electric locomotives to Indian Railways. This milestone underscores Alstom's commitment to supporting the modernisation of India's rail infrastructure and its contribution to the nation's ambitious freight transportation goals.

The 500th fully India-made Prima T8 WAG12B e-locomotive was flagged off from Alstom's world-class manufacturing facility in Madhepura, Bihar, in the presence of key dignitaries from Indian Railways Manish Kumar, Chief Administrative Officer and senior officials from Alstom at an event marking this project milestone. As part of its contract worth €3.5 billion, Alstom is



supplying 800 high-powered double-section Prima T8 locomotives of 12,000 HP (9 MW) for freight service. Designated by Indian Railways as WAG-12B, these locomotives are capable of hauling ~6,000 tonne rakes at a top speed of 120 kph. To ensure high availability of India's most advanced freight locomotives and reduce maintenance cost, Alstom has

also built two ultramodern state-of-the-art maintenance depots at Saharanpur and Nagpur, using predictive technologies.

The WAG-12B locomotives are being built at one of India's largest integrated greenfield manufacturing facilities at Madhepura (Bihar), under a Joint Venture between Alstom and Indian Railways.



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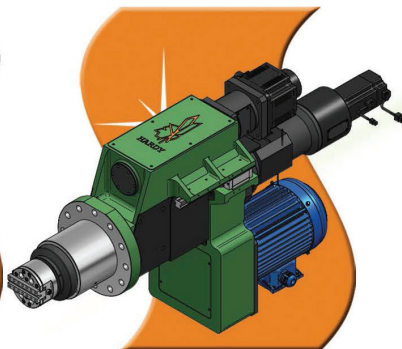
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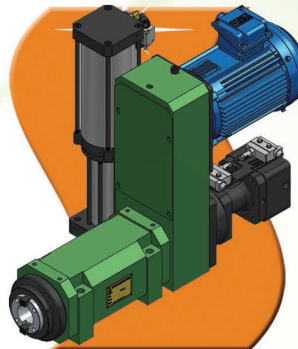
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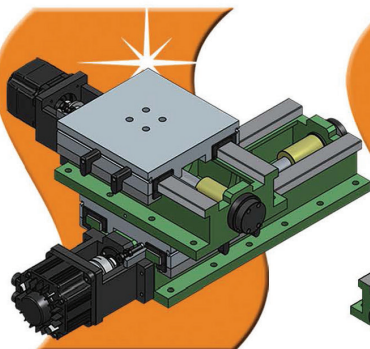
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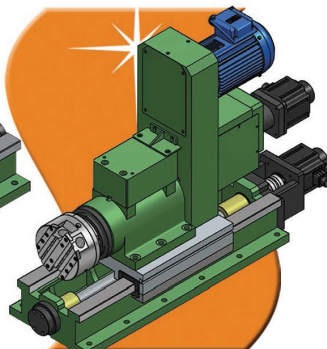
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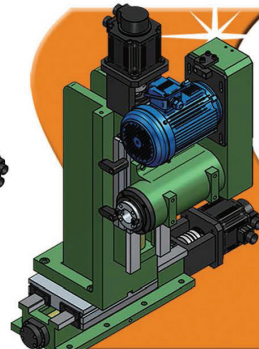
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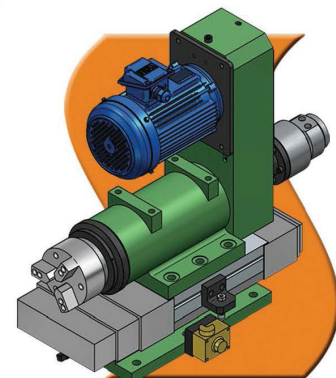
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Auto Components

IIT Kanpur inks MoU with Mars Antennas & RF Systems for EV chargers and ESS

The Indian Institute of Technology Kanpur (IITK) has signed a Memorandum of Understanding (MoU) with Mars Antennas & RF Systems Pvt Ltd to collaborate on the design, development, fabrication, and testing of Smart Electric Vehicle (EV) Chargers and Smart Hybrid Inverters for Energy Storage System (ESS) applications.

The MoU facilitates knowledge exchange, joint research efforts, and industrial collaboration to develop highly efficient, commercially viable, and production-ready solutions that comply with both Indian and international standards. Under this agreement, Mars Antennas & RF Systems Pvt Ltd will provide the necessary funding, industry insights, and access to its manufacturing and testing facilities. IIT Kanpur, led by



Principal Investigator Dr Amarendra Edpuganti from the Department of Sustainable Energy Engineering, will bring in its research expertise, advanced facilities, and technical know-how to execute the project.

Prof Manindra Agrawal, Director, IIT Kanpur, said, “The recent National Manufacturing Mission announced in the Union Budget

emphasises the government’s commitment to clean tech manufacturing. It aims to enhance domestic value addition and strengthen the ecosystem for solar PV cells, EV batteries, motors and controllers, electrolysis, wind turbines, high-voltage transmission equipment, and grid-scale batteries. This collaboration aligns with the government’s vision of advancing cutting-edge research and clean technology innovation.”

Technology

TRUMPF uses AI to improve laser cutting edges

At its in-house INTECH trade fair, TRUMPF is showcasing its Cutting Assistant, an application which uses artificial intelligence to improve the quality of laser-cut edges. To use it, production employees take a picture of their components cut edge with a hand scanner. The solution then assesses edge quality by evaluating for objective criteria such as burr formation. With this information, the Cutting Assistant’s optimisation algorithm suggests improved parameters for the cutting process. The machine then cuts the sheet metal once more. If the quality still does not meet expectations, the user has the option to repeat the process.

“With the Cutting Assistant, TRUMPF is once again demonstrating that we are a pioneer in the use of AI in industrial manufacturing. Users aren’t just empowered to combat the skilled worker shortage, they’re also able to save time and money. This gives them a competitive edge when it comes to productivity,” says Louisa Peters, Product Manager, TRUMPF.

The high-tech company offers this solution for all



TruLaser series featuring a power output of 6 kW or more. Most owners who are already in possession of TRUMPF machines should be able to simply download the Cutting Assistant.

During laser cutting, users often have difficulty determining the correct parameters for their material grades. Materials which are not optimised for

laser cutting often produce edges with wide variations in cut quality, forcing production employees to constantly change the technology parameters. This entails adjusting each individual parameter one by one, a process which demands a lot of time and employee experience. This presents challenges for many companies, especially those with inexperienced workers in production positions. By integrating the Cutting Assistant into the machine software, optimised parameters can be transferred seamlessly into the software without the need for programming. This saves time and reduces errors.

TRUMPF experts have cut thousands of parts and drawn upon their years of expertise while developing the Cutting Assistant, using their extensive knowledge to train the software’s algorithm.

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Batteries

India's li-ion battery sector to see investments over ₹750 billion by 2030: ICRA

Over 150 GWh of lithium-ion (Li-ion) battery cell capacity is committed to be operational in India by 2030, with investments exceeding ₹750 billion for these committed capacities, according to a recent report by ICRA.

The Indian electric vehicle (EV) industry is witnessing rapid growth, with EV penetration expected to increase exponentially over the next five years, driven by government support, enhanced awareness, and increasing product launches. As the most critical and costly component of an EV, accounting for 35-40 per cent of total cost, battery cell manufacturing has garnered significant attention, as developing a domestic cell manufacturing ecosystem is critical for reducing dependence on imports.

The global Li-ion battery market is currently dominated by China, which leads in raw material processing and manufacturing capacity. Battery prices

have been declining, with a 20 per cent YoY drop in CY2024, due to increased supply. Over the medium term, global Li-ion battery supply is expected to outpace demand, which could impact pricing trends in India.

At present, India relies on imports for Li-ion battery cells, with local capabilities primarily limited to battery pack assembly. By FY2025, demand for Li-ion battery cells in India is expected to reach 11-13 GWh, and is projected to grow significantly to 60-65 GWh by FY2030. Apart from EVs, the demand for Li-ion batteries is also expected to rise for stationary applications.

Despite the promising outlook, several challenges remain in establishing a robust battery cell manufacturing industry in India. While India's push for localised battery production is gaining momentum, the industry remains in the high-risk category due to uncertainties related to investment returns, technology reliability, and raw material sourcing.

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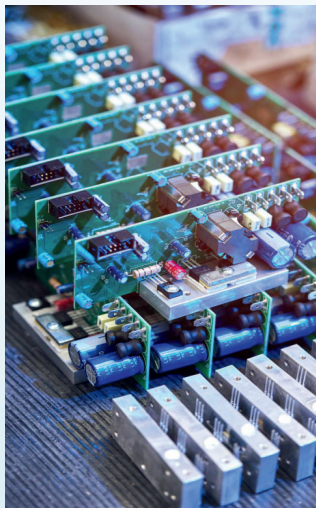
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Technology

Honeywell India hosts 'LeadHERS IN TECH' event, for women to lead in tech

Honeywell hosted its flagship event, 'LeadHERS in Tech', in its Bengaluru campus, bringing together over 200 inspiring women professionals from across the technology industry. This landmark event brought together innovators, thought leaders, and changemakers, highlighting the power of women-led breakthroughs in technology, and fostering a future where women lead the charge in innovation. The full-day event fostered industry-wide discussions on breaking barriers, creating opportunities for women to not just participate but take the lead in driving transformation shaping the future of technology.

The event included a fireside chat with Ashish Modi, President, Honeywell India, and Niranjan Kalyandurg, President, Honeywell Technology Solutions. They shed spotlight on the role of male allyship in fostering an inclusive workplace and the importance of sponsorship in advancing women's careers. The leaders also



addressed gender biases and highlighted the need for training to mitigate unconscious blind spots, concluding with a call for women to be bold, vocal, and actively shape the future of technology.

The highlight of the day was a high-profile panel discussion titled 'Breaking Barriers in Tech: Stories

of Resilience and Innovation', featuring industry leaders including Latha Chemrakalam, Vice President, Continental; Sidharth Balachandran, Head, Airbus Innovation Centre; Ashwini Siddhi, AI Head, GoDaddy; and Sumedha Limaye, VP, Engineering at Quest Global. The discussion highlighted how women are challenging the status quo in tech and reshaping the tech landscape with bold, forward-thinking approaches. Inspirational talks were delivered by Vandana Suri, Founder, TAXSHE, India's women-only taxi service, and Nisha Millet, Former Olympic swimmer, who shared their journeys of perseverance and success.

Auto Components

Kinetic Green appoints Sudhanshu Agrawal as President -Mobility and International Business

Kinetic Green Energy and Power Solutions Limited, the leading manufacturer of electric two and three wheelers in India is pleased to announce the appointment of Sudhanshu Agrawal as President, Mobility and International Business. With over two decades of rich experience in the automotive sector, both in domestic and international business Agrawal brings a wealth of expertise in strategic leadership, business development, expansion, and mobility solutions. His appointment marks a significant milestone as he is set to drive the company's next phase of growth in two new high potential verticals, namely exports and deployment of EV's for the last mile solutions, where India is witnessing rapid growth due to exponential growth in India's ecommerce and quick commerce led home delivery segment in the rapidly evolving mobility sector.

Agrawal joins Kinetic Green at a pivotal juncture, as

the company embarks on a dynamic phase of growth. The division headed by Agarwal is primed to transform last-mile logistics and quick-commerce delivery, catering to leading e-commerce, quick commerce and institutional giants Building on a strong domestic foundation under the 'Make in India' initiative, Kinetic Green is now propelling its global ambitions forward. The company is expanding into key international markets, including South Asia, Southeast Asia, Africa, and Latin America.

Welcoming him to the team, Sulajja Firodia Motwani, Founder & CEO, Kinetic Green, said, "We are thrilled to have Sudhanshu Agrawal join Kinetic Green at this transformative phase of our journey. As we accelerate our leadership in sustainable mobility, his extensive experience in global business expansion and strategic growth will be invaluable."

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Electrical & Electronics

Make in India's leap in electronics manufacturing & exports

India has emerged as the world's second-largest mobile phone producer, witnessing remarkable growth in domestic manufacturing. In 2014-15, only 26 per cent of mobile phones sold in India were locally made, a figure that surged to 99.2 per cent by December 2024. From just two mobile manufacturing units in 2014, the country now has over 300, and projections indicate that India's electronics production will reach \$300 billion by 2026. Mobile phone exports have also skyrocketed, increasing from ₹15.66 billion in 2014-15 to ₹1.2 trillion in 2023-24, marking a 77-fold surge. The semiconductor ecosystem is also gaining momentum, with five major projects approved, totalling nearly ₹1.52 trillion in investment.

Previously dependent on imports, India is rapidly becoming self-reliant in electronics manufacturing, fuelled by the Make in India initiative. This transformation is driven by strategic government policies, such as the Phased Manufacturing Programme (PMP) and the Production Linked Incentive (PLI) scheme. The PMP has enhanced domestic value addition, shifting production from Semi Knocked Down (SKD) to

Completely Knocked Down (CKD) levels. Meanwhile, the PLI scheme, launched in 2020, has attracted significant investment, with cumulative production reaching ₹7,158.23 billion and exports totalling ₹3,903.87 billion as of February 2025.

The government's push for semiconductor manufacturing has also gained traction. The Semicon India Program, launched in 2021 with an outlay of ₹760 billion, aims to establish a robust semiconductor ecosystem. Key projects include Tata Electronics' semiconductor fab facility with a ₹915.26 billion investment and Micron's project worth ₹220 billion. The India Semiconductor Mission has further strengthened the sector, with Tata Electronics and Tata Semiconductor Manufacturing signing a Fiscal Support Agreement for India's first commercial semiconductor fab in Dholera, Gujarat.

With a \$300 billion electronics production target by 2026, a growing skilled workforce, and strong policy support, India is well-positioned to become a leader in global electronics and semiconductor manufacturing.

Auto Components

Force Motors to supply over 2,900 vehicles to the Indian Defence Forces

Force Motors Limited, a leading manufacturer of rugged and reliable vehicles, receives a landmark order of 2,978 vehicles from the Indian Defence Forces. This order underscores Force Motors' enduring commitment to supporting India's defence capabilities through its robust range of General Service Vehicles. This association is a matter of pride for the organisation, reinforcing the longstanding partnership with the Indian Defence Sector.

These vehicles are tailored to meet the diverse operational requirements of both the Indian Army and the Indian Air Force, showcasing Force Motors' capability to deliver mission-ready vehicles designed to perform in demanding defence environments.

Force Motors has been catering to the defence sector for many years through its Gurkha LSV (Light Strike Vehicle) a vehicle renowned for its durability, off-road

prowess, and adaptability. The Force Gurkha, in particular, has been engineered to excel in the most extreme environments, offering unparalleled performance, superior ground clearance, the highest water wading capacity in its class, and exceptional manoeuvrability.

Its robust build, reliable drivetrain, and advanced 4x4 capabilities make it the ideal choice for the armed forces, ensuring mission readiness in diverse terrains ranging from deserts to mountainous regions.

"We are honoured to continue our association with the Indian Defence Forces through this substantial order," said Prasan Firodia, Managing Director, Force Motors. "Our vehicles are designed with focus on quality, reliability, ruggedness, and performance, aligning perfectly with the operational needs of our defence personnel."

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Industrial Automation

Hindalco unveils new identity in push to disrupt Indian manufacturing

Hindalco Industries Ltd., the metals flagship of the Aditya Birla Group, has unveiled a bold new brand identity, marking its transformation from a materials supplier to an engineered solutions provider. The refreshed identity underscores its role as a co-creator and problem solver, shaping the future of industries such as electric mobility, renewable energy, energy storage, semiconductors, and high-end electronics.

The brand identity was unveiled by Aditya Birla Group, Chairman, Kumar Mangalam Birla in the presence of industry leaders, policymakers, and business partners.

Kumar Mangalam Birla, Chairman, Aditya Birla Group, said, "Today, Hindalco is a mini conglomerate in itself, with 52 plants across 10 countries producing a diverse portfolio of high-quality products that contribute to the global economy. We are committing Rs 450 billion across aluminium, copper, and specialty alumina



businesses to deliver both upstream and next-generation high-precision engineered products". He added, "Hindalco's new identity reflects our role as a catalyst for change, a problem solver, and a co-creator of new solutions that power progress across industries. And above all, it embodies our commitment to always being a force for good."

The new Hindalco brand logo, featuring a bold and dynamic 'H,' represents forward momentum and reinforces the company's role in shaping India's industrial and sustainable future.

This transformation is not just about advanced materials, it is about cultivating innovation, attracting top talent, and fostering a high-performance culture that drives continuous progress.

Satish Pai, Managing Director, Hindalco Industries Ltd, added, "This marks a pivotal moment in Hindalco's journey as we transition from a metals manufacturer to an innovation-driven solutions provider."

Plastic Processing

Bhilwara Energy to invest ₹7.5 billion in rPET resin manufacturing plant

Bhilwara Energy Limited launches LNJ GREENPET, a ₹7.5 billion B2B food-grade PET resin manufacturing plant that will be spread across 95 acres in Rajasthan, creating 700+ job opportunities.

- LNJ GREENPET is set to be India's largest single-premises bottle-to-bottle (B2B) recycled PET resin-manufacturing project in Tonk district, Rajasthan.
- It is slated for operational commencement by September 2026 with a capacity to recycle 20 million PET bottles per day and to produce 100 kilotons Food Grade B2B rPET resin annually.
- This marks the group's second initiative in PET bottle recycling, following the successful establishment of Recycled Polyester Fibre (RCPF) facility in 2014, which currently recycles 6 million PET bottles daily



and produces 43000+ MT FibreGreen annually.

- LNJ GREENPET will gain strategic advantage in low-cost bottle procurement with access to advanced technical expertise, building on its existing bottle-to-fiber unit, which processes 140 MT of PET bottles daily.

Riju Jhunjhunwala, Managing Director, Bhilwara Energy Limited, shared, "Our endeavour is to create a world-class rPET resin facility that meets the evolving needs of the industry and aligns with India's net-zero vision. The first successful benchmark was the RCPF unit by the group in 2014 and we believe Indian industries must lead the way in circularity. LNJ GREENPET is another major step towards sustainability by recognising the importance of plastic recycling as a real solution for effective plastic waste management."

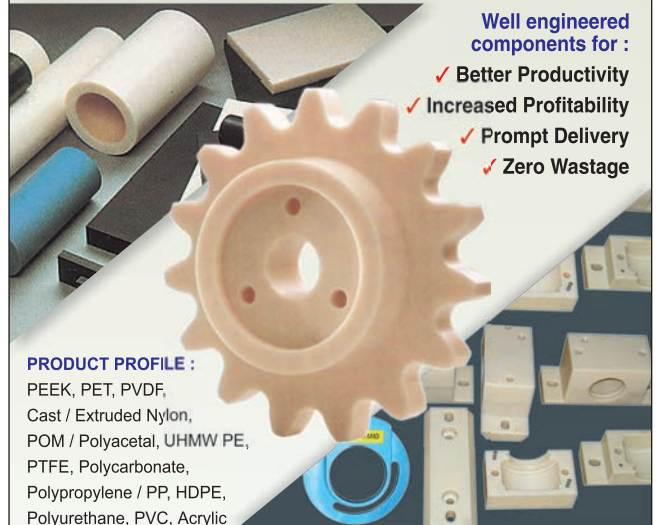
Policy & Economy

Govt notifies revised MSME criteria

The government has revised the criteria for classifying Micro, Small, and Medium Enterprises (MSMEs), which will come into effect from April 1. The changes include an increase in both investment and turnover thresholds across all categories. Micro-enterprises will now be classified as those with investments up to ₹25 million, up from the previous ₹10 million, while the turnover limit has been raised to ₹100 million from ₹50 million. Similarly, small enterprises will now include units with investments up to ₹250 million instead of the earlier ₹100 million, and their turnover limit has been doubled to ₹1 billion from ₹500 million. Medium enterprises will now be defined as those with investments up to ₹1.25 billion, an increase from ₹500 million, with the turnover threshold raised to ₹5 billion from ₹2.5 billion.

These revisions were announced by FM Sitharaman during the Union Budget, where she proposed increasing investment limits by 2.5 times.

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Industrial Safety

Hindustan Zinc pioneers AI solution for Workplace Safety

Hindustan Zinc Limited, India's largest and the world's second-largest integrated zinc producer, has implemented Detect AI an advanced Artificial Intelligence (AI) - powered camera surveillance system, across its operations. This innovative solution ensures workplace safety, operational efficiency and compliance monitoring. By leveraging the advanced AI-powered system Hindustan Zinc is enhancing workplace safety, eliminating manual intervention and augmenting operational efficiency.

This computer vision and machine learning-based safety monitoring system seamlessly integrates with existing IoT (Internet of Things) - enabled surveillance infrastructure thereby reducing the need for manual intervention. Utilising real-time image and video analytics, deep learning models, and edge computing, it autonomously detects unsafe industrial practices such as non-adherence to protective equipment guidelines,



unauthorised personnel access, and work-at-height protocols. The system categorises these non-compliances using predictive analytics and triggers automated alerts via cloud-based AI inference engines thereby generating comprehensive data-driven insights. With seamless API integrations, real-time KPI tracking, and intelligent automation, Detect AI

transforms industrial safety by reducing incidents, enhancing compliance, and enabling proactive risk mitigation.

Hindustan Zinc has unlocked high-potential opportunities by leveraging technologies such as Artificial Intelligence (AI), Machine Learning (ML), computer vision, drone technology, the Internet of Things (IoT), and Augmented Reality/Virtual Reality (AR/VR). These projects cover diverse areas, including process optimisation, enhanced metal recovery, asset reliability, productivity, and sustainability.

Industrial Automation

Lauritz Knudsen Electrical and Automation Unveils Smart Energy Solutions

Lauritz Knudsen Electrical and Automation (formerly L&T Switchgear), a leader in the Indian electrical and automation industry, unveiled its next-generation smart energy and automation solutions to drive energy efficiency and cost optimisation upto 30 per cent.

These solutions align with India's decarbonization goals by optimising industrial processes and cater to the nation's energy infrastructure future readiness. With the integration of automation, energy management, and software-driven intelligence, the product innovations empower industries, OEMs, utilities, and infrastructure to reduce energy consumption.

"Our commitment to 'Viksit Bharat' is reflected in



our drive for industrial transformation and energy resilience. By merging Nordic design excellence with India's energy transition, we deliver scalable solutions that enhance operational efficiency, drive productivity, and support the nation's vision for a sustainable future. Through strategic investments in technology, partnerships, and R&D, we are strengthening India's global competitiveness while building a

future-proof industrial ecosystem", said Naresh Kumar, COO, Lauritz Knudsen Electrical and Automation.

With decades of expertise, the company powers 200,000 TCD of sugar mills, automates 8,000+ tons of rice mills, and drives 60 million textile spindles with its innovative solutions.

Electrical & Electronics

CG Power gets nod for Renesas RF acquisition

CG Power and Industrial Solutions has received approval from the Committee on Foreign Investment in the United States (CFIUS) for its \$36 million acquisition of the Radio Frequency (RF) components business from Japan-based Renesas Electronics Corporation.

The acquisition agreement, originally signed in October 2024, includes the transfer of intellectual property (IP), tangible assets, and key employees across semiconductor design, marketing, and applications. Under the deal, CG Power's subsidiary, CG Semi Private Ltd, will oversee the Outsourced Semiconductor Assembly and Test (OSAT) business in collaboration with Renesas Electronics America Inc.

This acquisition marks CG Power's entry into the semiconductor design sector, strengthening its presence in high-tech electronics. The transaction is expected to be finalised within six months, subject to remaining regulatory approvals.

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Breaking the Glass Ceiling

As India advances toward becoming a \$5 trillion economy, increasing women's participation in the labour force is crucial, especially with the manufacturing sector emerging as a significant driver of workforce inclusivity, writes Rakesh Rao.



In 1972, Sudha Murthy—now an acclaimed author, philanthropist, and wife of N R Narayana Murthy (Co-founder of Infosys)—came across a job notice from TELCO (now Tata Motors) in Pune. The advertisement invited young engineers to apply but ended with a discouraging remark: “Lady students need not apply.” This blatant discrimination angered Sudha Murthy. Determined to challenge the bias against female engineering students, she wrote a letter to J R D Tata. Her efforts paid off, leading Tata to revoke its “no-women” policy.

Today, Tata Group continues to champion women's empowerment through initiatives like Tata Motors' all-women assembly line and Tata Steel's all-women mining shifts,

fostering a more diverse and inclusive workforce within the company and the Indian industry. At present, one can see many women in the manufacturing sector who are redefining norms by demonstrating their excellence in the male-dominated arena.

For example, on February 12, 2025, VE Commercial Vehicles Ltd (VECV), a joint venture between Volvo Group and Eicher Motors, delivered the first batch of Eicher Pro X trucks built on the all-women final assembly line from its new manufacturing facility. This is one of the many examples showcasing measures taken by companies in India to promote inclusivity on their factory shop floors. “As the logistics and commercial vehicle industry

transforms, we are encouraged to see more women take on pivotal roles. At VECV, we are committed to driving relevant modernisation through the Eicher and Volvo brands. This includes innovation in products, services, and also in how we work. I am proud to note that our latest small truck—the Eicher Pro X—is built on an all-women assembly line, showcasing innovative approaches that enhance inclusiveness on the manufacturing shop floor. By creating opportunities across the commercial vehicle value chain, we are building a stronger, more resilient future,” said Vinod Aggarwal, MD & CEO, VECV.

Women in manufacturing

Over 27 million people are employed in this sector, with women accounting for about 25–30 per cent of the workforce. “Women workers are predominantly employed in specific manufacturing industries. Approximately 50 per cent of female manufacturing workers are concentrated in apparel, textile, and leather industries, while another 22 per cent are in the food and tobacco sectors. The electronics manufacturing sector also stands out, with women constituting about 80 per cent of its workforce. Factors contributing to higher female employment in these industries include the nature of tasks that align with skills traditionally associated with women, such as precision and attention to detail, as well as the availability of flexible working arrangements. Relaxed night shift regulations allow for more flexible work arrangements, accommodating diverse personal needs and



“Actions to change society’s mindset and outlook are needed at all levels. We cannot leave it only to the government.”

A lot needs to be done for women empowerment.

Mohini Kelkar, Director, Grind Master Machines Pvt Ltd

schedules. Improved workplace amenities enhance job satisfaction and retention by providing a more comfortable and supportive environment for all employees. Companies are also recognising the benefits of a diverse workforce,” states **Neeti Sharma, CEO, TeamLease Digital.**

According to **Sachin Alug, CEO, NLB Services**, the factors that contribute to their inclusivity are government incentives, skill training, hiring initiatives, diversity policies, adoption of niche technologies, etc.

Mohini Kelkar, Director, Grind Master Machines Pvt Ltd, was one of the first women entrepreneurs in the male-dominated machine tools sector. Sharing her experience in the industry, she says, “When I entered this field, there were very few women in the manufacturing arena. Now, we see many more women across multiple functions from the shop floor to the CEO level in the manufacturing as well as the machine tools sector. The manufacturing industry today offers opportunities like never before. Digitalisation and automation in manufacturing have transformed it completely, thereby creating a level playing field. The China Plus One sentiment and the Russia-Ukraine war have created big opportunities in manufacturing. The shortage of trained manpower in manufacturing is, in fact, a situation that can be leveraged by women engineers.”

Speaking about hurdles faced by women working in production facilities, she observes, “The biggest challenge is the mindset of co-workers and the mindset of the top management of the company. There are always challenges of acceptability, particularly for technical knowledge and senior-level management abilities. So, women have to take extra efforts in proving their point and proving themselves. But apart from this, business challenges are more or less the same for men and women, and there are pros and cons of being a woman. I have experienced this during my career. Gender issues have never come in the way of my growth or forward journey.”



“Metals & mining has historically seen very low representation by women, and we need to bridge the skill gap in this sector by leveraging the high-quality talent pool presented by women.”

Arun Misra, CEO & Whole Time Director, Hindustan Zinc Ltd

According to Mohini Kelkar, the situation is changing very fast and women in manufacturing are increasing in numbers every day. “The change is also due to the increasing number of women directors or owners. Sometimes next-gen daughters are stepping into their father’s business and running it well. Women are also getting more and more ambitious and finding jobs at higher levels in the manufacturing industry. At the same time, the manufacturing industry is also accepting them very well,” she says.

Mining diversity

With the metals & mining sector

emerging as a key driver of India’s economic transformation, many companies are fostering an inclusive workplace empowering women. “With the mining industry taking its rightful place as one of the transformative areas driving India’s growth, we, at Hindustan Zinc, stand firm in our belief that diversity and inclusion are fundamental to drive the growth aspirations of the industry. Hindustan Zinc embraced diversity, equity & inclusion much before they became buzzwords and staunchly stands by them when many countries and companies are rolling back their DEI (Diversity, Equity, and Inclusion) policies, because we firmly believe these are integral to running our businesses well. With a gender diversity ratio of approximately 25 per cent, Hindustan Zinc employs over 700 women, out of which around 500 are in core operations, significantly surpassing many peers in India’s core manufacturing, metals, and mining sectors. It is pivotal for companies to invest in women professionals to accelerate the industry’s evolution with diverse capabilities and perspectives that are critical for India’s rapid development,” observes **Arun Misra, CEO & Whole Time Director, Hindustan Zinc Ltd.**

He adds, “Metals & mining is going to be intrinsic to a low-carbon future. It has historically seen very low representation by women, and we need to bridge the skill gap in this sector by leveraging the high-quality talent pool presented by women. We are continually increasing the representation of women across all levels to make these sectors the most preferred choice for women. Towards this end, we are committed to achieving 30 per cent female representation in our talent pool by 2030.”

In fact, Hindustan Zinc has the distinction of establishing India’s first and second all-women underground mine rescue teams that

have won global accolades. “As we move forward, our focus will remain on providing compelling opportunities for women to shape the future of metals, engineering, and beyond,” states Arun Misra.

Chemistry of success

With 7 per cent contribution to India’s GDP, the chemical industry plays a big role in the manufacturing sector’s growth. In spite of this, women’s participation in the Indian chemical industry remains relatively low, with overall workforce representation at around 15.2 per cent—a figure that has remained largely unchanged for over two decades. In contrast, sectors like textiles and garments have seen significantly higher female participation, with women comprising nearly 60 per cent of the workforce. **Aarti Jhunjhunwala, Executive Director, Fineotex Chemical Ltd**, observes, “Historically, factory-based roles in the chemical industry have had even lower female representation due to various challenges, including workplace safety and operational conditions. However, the landscape is gradually evolving. There has been a noticeable increase in women entering technical and operational roles, areas traditionally dominated by men. At Fineotex, we have observed that greater access to



Several factors will contribute to this positive trend. The growing number of women pursuing education in chemical engineering, manufacturing, and related STEM fields is creating a robust talent pipeline.

Aarti Jhunjhunwala, Executive Director, Fineotex Chemical Ltd

STEM education has played a pivotal role in expanding the talent pool of women in specialised chemical manufacturing and research.”

She adds, “While factory-based roles still pose challenges, modern facilities and improved workplace practices are making these environments more accessible to women professionals. The shift has been gradual rather than transformative, but pioneering women in the industry continue to break barriers, paving the way for future generations of female professionals in chemical manufacturing.”

Need to empower women

While progress has been made in tech-driven industries, non-tech sectors such as automotive, energy, and manufacturing continue to be overwhelmingly male-dominated. “In recent years, there has been a clarion call for a transformative shift in the male-dominated automotive and manufacturing sectors. With Electric Vehicles (EVs) taking center stage, the industry is set to revolutionise through increased electrical, electronic, and software-led innovation, all within an ‘asset-light’ manufacturing ecosystem. This evolution creates a demand for fresh skills and opens a unique opportunity for women to lead in core areas like R&D and manufacturing, promising a dramatic rise in female participation in the auto industry,” said **Sulajja Firodia Motwani, Founder and CEO, Kinetic Green**, in her Women’s Day message.

She added, “Women are increasingly sought after in India’s manufacturing and EV sectors for their precision, attention to detail, and ability to enhance product quality and operational efficiency. Their inclusion not only cultivates a diverse and dynamic workplace but also drives innovation and strengthens overall organisational performance. As initiatives like ‘Make



Companies are increasingly recognising the benefits of a diverse workforce, leading to higher recruitment of women in factory-based and technical positions.

Neeti Sharma, CEO, TeamLease Digital

in India’ create new technical and leadership pathways, women’s contributions are playing a pivotal role in bridging the gender gap and accelerating the green mobility revolution. Their creativity, adaptability, and collaborative approach are essential in navigating the evolving complexities of modern manufacturing. Recognising and embracing female talent is proving to be a strategic advantage, fuelling both economic advancement and social transformation across India.”

In the emerging semiconductor sector, men still dominate key roles. For instance, workforce participation in chip fabrication stands at 60:40 (men to women), chip design at 70:30, and Assembly, Testing, Marking, and Packaging (ATMP) at 80:20. India’s semiconductor sector is on a rapid growth trajectory, projected to reach \$79.2 billion by FY2031 and expected to generate one million jobs by 2026. However, achieving this scale requires a more inclusive workforce for fostering a sustainable and diverse semiconductor ecosystem in India. According to an NLB Services report, women currently make up only 25 per cent of India’s 220,000-strong chip design and engineering workforce, though this share is expected to exceed 30 per cent by 2027.

Affirmative policy action

The Indian government has introduced various initiatives to boost women’s participation in the

Table 1: Some job profiles in semiconductor sector

Job profiles	Skill set required	Potential job creation by 2026	By 2026, percentage of:	
			Male talent	Female talent
Chip semiconductor fabrication	Fabrication process, equipment maintenance, cleanroom protocols	3,00,000	60%	40%
Chip design	Semiconductor design, electronics engineering, CAD tools	2,00,000	70%	30%
ATMP	Process engineering, quality assurance, operational knowledge	2,00,000	80%	20%
Software development	Embedded systems, firmware development, circuit analysis	1,20,000	75%	25%
System circuit	Circuit design, integration, testing, troubleshooting	80,000	80%	20%
Manufacturing supply chain management	Problem-solving, data analytics, project management	100000	70%	30%

Source: NLB Services

manufacturing sector. “The Public Procurement Policy mandates that all central ministries, departments, and public sector enterprises procure at least 3 per cent of their annual purchases from women-owned Micro and Small Enterprises (MSEs), encouraging female entrepreneurship. Additionally, the Skill India Mission provides skill development programs to enhance women’s employability by offering industry-relevant training. Further support is available through entrepreneurship support initiatives like the Prime Minister’s Employment Generation Programme (PMEGP), which offers financial assistance to women entrepreneurs looking to establish or expand their businesses in manufacturing,” states Neeti Sharma.

According to Aarti Jhunjhunwala, current regulatory frameworks provide a foundation for gender equality in the workplace, but there’s significant room for improvement specifically tailored to the chemical industry. “The Maternity Benefit Amendment Act and workplace safety regulations have been positive steps, but more specialised policies addressing the unique challenges of chemical manufacturing environments would be beneficial.

The government could introduce targeted initiatives such as subsidies for companies implementing women-friendly infrastructure in chemical facilities, specialised safety training programs, and incentives for hiring and retaining women in technical roles. Industry-specific skill development programs focused on women would also help bridge the existing gap,” she elaborates.

At the same time, there has been a significant rise in the number of women enrolling in technical education and vocational training programs in India compared to a decade ago. This growing enrollment directly impacts women’s employability in manufacturing by equipping them with industry-relevant skills, reducing the gender gap in technical roles, and increasing their access to better-paying jobs. She elaborates, “As manufacturing evolves with automation and digitalisation, a skilled workforce is essential, and women’s participation in vocational training ensures they are prepared for these new-age roles. Moreover, companies are increasingly recognising the benefits of a diverse workforce, leading to higher recruitment of women in factory-based and technical positions. This trend not only boosts

women’s career prospects but also strengthens India’s manufacturing sector by creating a more inclusive and skilled workforce.”

While gaining technical education increases their chances of employment in manufacturing, the government and industry still need to do a lot for inclusivity. Sachin Alug observes, “There is a direct impact of increased enrolment of women in technical education on their employability. That said, there’s still a long way for us to go in order to grow in the right direction. We need proactive steps from the government and businesses to enhance skills, break stereotypes, and increase women’s representation through a targeted approach. Skill development programs, incentives for inclusive employers, infrastructure support, policy reforms, etc., are some of the key steps expected from the government. Industries can offer impetus to the initiatives through mentorship, apprenticeship, gender-agnostic hiring, and building women’s leadership.”

Mohini Kelkar strongly feels that actions to change society’s mindset and outlook are needed at all levels. “We cannot leave it only to the government. A lot needs to be done for women empowerment. In a



Automation and modern manufacturing technologies can significantly increase women's participation in the workforce. AI can significantly reduce physical strain and make jobs more accessible for different people.

Sachin Alug, CEO, NLB Services

male-dominated society, the female child is brought up with lots of restrictions and more don'ts than do's. So, it negatively impacts the decision-making ability of females and this becomes a hurdle in their lives forever," she stresses.

Promoting gender equality

To further increase women's employment in the sector, both industries and the government will have to implement additional measures. Neeti Sharma states, "Enforcing supportive policies such as mandatory representation of women in leadership roles and ensuring equal pay can drive greater inclusivity. Improving workplace safety is also essential, as creating secure and inclusive environments can address concerns that often discourage women from factory-based roles. Additionally, introducing flexible work arrangements, including adjustable working hours and childcare facilities, can help women better balance their professional and personal responsibilities. Strengthening these initiatives will enable more women to enter and thrive in the manufacturing industry."

Avanthi Rao, Business Leader, Components & Software, Cummins India, adds, "To encourage more women to join the manufacturing workforce, industries and policymakers must unite in action.

This can be achieved by promoting gender equality laws, championing family-friendly policies, and igniting a passion for STEM among women."

For example, Cummins has set a goal to achieve gender parity by 2027, with DEI&C (Diversity, Equity, Inclusion & Culture) as one of its core values. "We recognise that diversity alone is insufficient without equitable policies, an inclusive environment, and a cultural mindset that embraces diversity. Through structured rotations and mentorship, we empower women with cross-functional expertise and career growth. Our initiatives, such as the WILL (Women in Learning & Leadership) program and the College Hire Development Program, focus on skill development and increasing diversity in technical roles. Together, we can create a more inclusive and equitable future," says Avanthi Rao.

Similarly, Fineotex has implemented several measures to increase women's participation. Aarti Jhunjhunwala comments, "We offer comprehensive diversity training and professional development initiatives that cultivate an inclusive workplace culture supporting the advancement of women. We maintain merit-based promotion systems, ensuring equal access to opportunities and leadership roles regardless of gender. We have invested in training programs specifically designed to support women's career advancement and implemented strict policies against harassment and discrimination. We believe the industry as a whole should focus on creating safer working environments, flexible work arrangements, and mentorship programs specifically designed for women in chemical manufacturing."

Women power on the rise

The rise of women in India's manufacturing sector will be driven by technological advancements, making roles less labour-intensive

and more accessible. "Government initiatives like the PLI scheme, Skill India Mission, and Make in India will expand opportunities, while shifting societal norms and corporate diversity policies will further encourage female participation. Increased enrollment in technical education and vocational training will equip women with industry-relevant skills, enhancing employability. Companies are also prioritising safer workplaces, flexible work arrangements, and childcare support, making manufacturing more inclusive," states Neeti Sharma.

Sachin Alug believes that factors such as government policies, inclusivity initiatives from corporations, skill enhancement programs, cultural shifts, etc., will play an instrumental role in bringing gender parity to the manufacturing workforce.



The adoption of modern technologies often goes hand in hand with progressive corporate cultures that value diversity and inclusion, encouraging more women to join and thrive in the industry.

Avanthi Rao, Business Leader, Components & Software, Cummins India

Infrastructure improvements, such as dedicated industrial zones, better transportation, and enhanced safety measures, will facilitate more women joining the workforce. "As industries recognise the benefits of gender diversity, these factors will collectively bridge the gender gap, ensuring a stronger, more inclusive manufacturing sector in India," comments Neeti Sharma.

According to Avanthi Rao, the rise of women in the Indian manufacturing sector will be driven by cultural shifts, supportive policies,

and technological advancements at the workplace. “Educational institutions also play a key role in building a pipeline of women workforce by equipping women with technical skills relevant to manufacturing and bridging the skill gap through STEM-focused education,” she says.

Aarti Jhunjunwala anticipates a significant increase in women’s participation in the Indian chemical industry in the coming years. “Several factors will contribute to this positive trend. The growing number of women pursuing education in chemical engineering, manufacturing, and related STEM fields is creating a robust talent pipeline. This educational shift is foundational to increasing representation in technical and leadership roles. The industry itself is evolving, with greater automation and technological integration reducing physical demands that were traditionally seen as barriers. Modern chemical manufacturing facilities are increasingly designed with ergonomic considerations that make them more accessible to all employees,” she explains.

She adds, “I am sure there are other companies like us who are recognising that diversity drives innovation and business success. Their diverse perspectives contribute to better outcomes and improved organisational performance. Changing societal attitudes and expectations are creating more supportive environments for women pursuing careers in manufacturing sectors. The recognition that women bring unique problem-solving skills, multidimensional approaches to strategic decision-making, and fresh insights is driving this change. Our company’s commitment to diversity and inclusion has already earned us the ‘Great Place to Work’ certification. We believe that by continuing to prioritise inclusive practices and equal opportunities,

Automation aiding women’s participation

With industries modernising rapidly, the use of automation and other modern manufacturing technologies is helping to increase women’s workforce participation. Agrees Sachin Alug and states, “Automation and modern manufacturing technologies can significantly increase women’s participation in the workforce. AI can significantly reduce physical strain and make jobs more accessible for different people. By automating mundane tasks, a better work-life balance can be introduced, enabling women to juggle the various responsibilities that are placed on them. Automation can also drive inclusive hiring by eliminating human biases and offering new career paths to qualified women.”

Mohini Kelkar feels that digital manufacturing and automation have certainly made a difference in including women in manufacturing. “The jobs which were done manually in manufacturing earlier are no longer required to be done manually. Most of the manufacturing industries have adopted automation in handling and other labour-intensive jobs in a very big way. So, the challenge of manual job handling on the shop floor does not exist now. On the other hand, IoT and AI have also created new opportunities. Also, possibilities of working from home have opened new avenues for women leaders,” she observes.

For example, Hindustan Zinc’s digital mines, featuring tele-remote underground mining (where underground mining equipment is operated remotely from the surface) and real-time analytics, are providing inclusive career pathways for all. This has resulted in more than 34 per cent women joining Hindustan Zinc through campus recruitment drives in FY24, making Hindustan Zinc a leading choice for women in metals.

Avanthi Rao adds, “The adoption of modern technologies often goes hand in hand with progressive corporate cultures that value diversity and inclusion, encouraging more women to join and thrive in the industry. These advancements not only make the manufacturing sector more inclusive but also drive innovation and productivity by leveraging a diverse workforce.”

For example, automation and modern technologies make manufacturing roles more accessible to women by reducing physically demanding tasks and ensuring ergonomically safe work environments for all. “Robotics, AI, and machine learning are enabling women to take on high-skill roles requiring technical expertise rather than physical strength. Digital tools and smart manufacturing systems also support flexible work arrangements, benefiting those balancing work and family. As industries invest in these advancements and upskilling initiatives, women will have greater opportunities to lead and innovate across manufacturing, supply chain, engineering, and data analysis, driving transformation in the sector,” informs Avanthi Rao.

not only our company but the entire Indian chemical industry will benefit from increased women’s participation across all levels.”

According to Mohini Kelkar, there is currently a gap in the market between demand and available skills in the manufacturing sector. There is a large demand, and there are not enough men in the manufacturing industry. Therefore, there is a very good possibility of women getting into manufacturing and rising to leadership positions. “I believe in the

India story. India is growing very fast, and the world is looking at us, presenting lots of opportunities for collaboration, cooperation, exports, technology development, and start-ups. So, you take whatever field you are in, and there is definitely scope. It is like ‘now or never’ for everyone, and more so for women. Never think that being a woman is a barrier. The hurdles and challenges faced in a career or while running a business are much more than the gender issues.”

SME



Roadmap for Achieving Industrial Energy Efficiency

Industrial companies are prioritising energy efficiency to enhance sustainability and business performance. Given the scale and complexity of their operations, small improvements can yield significant benefits. These advancements drive operational resilience in the market, remarks **Dr Paige Morse, Enterprise Sustainability Director, AspenTech Technology**.



Source: Freepik

“A penny saved is a penny earned” – an often-heard proverb is analogous to industrial energy usage. By reducing energy consumption, industries can achieve greater efficiency.

Lowering greenhouse gas emissions is crucial to keep global temperatures from rising, yet global effort has been inconsistent. Just over one year ago at the UN climate event known as COP28, the global community set a goal to triple renewable energy capacity and double energy efficiency by 2030 to limit warming to 1.5°C.

Since then, the rapid scaling of solar, wind and hydro has helped, and much progress has been in renewable energy capacity. However, despite its effectiveness, energy efficiency progress has been slow. We have only seen a 1 per cent improvement in 2023 and 2024 and a 2 per cent improvement per year between 2010 and 2019 (refer Figure 1), according to the International Energy Agency (IEA). This misses the new target of greater-than 4 per cent improvements per year.

India has shown higher efficiency gains than the global average, with energy intensity improving from 1.5 per cent in 2023 to an expected 2.5 per cent for 2024, according to IEA data.

Fatih Birol, Executive Director, IEA said, “Energy

efficiency is a key pillar of secure, affordable and inclusive energy transitions.” By shining a spotlight on the industrial sector, one can see the significant impact that energy efficiency improvements could have on global sustainability progress. This important sector accounts for 39 per cent of global energy consumption, growing at 1.5 per cent per year from 2010 to 2023, according to the IEA. Industrial emissions grew at a slightly slower pace, 1 per cent, indicating some improvement in energy intensity.

Progress in this sector has been met with challenges, particularly in hard-to-abate sectors such as chemicals, cement, and steel. This is largely due to the long life of assets and the challenge of developing new technologies and processes, but there are clear paths for improvement.

To take a critical first step, industrial companies are prioritising energy improvements to current operations. This works because their operations are so large and complex, even small efficiency improvements can yield significant benefits both for the environment and business performance. There are many strategies, often powered by digital technologies, companies can pursue to quickly see a positive impact.

The key lies in having the right strategy, data, and digital tools to succeed. Three key areas crucial to improving energy efficiency across operations include emissions management, AI-driven hybrid models, as well

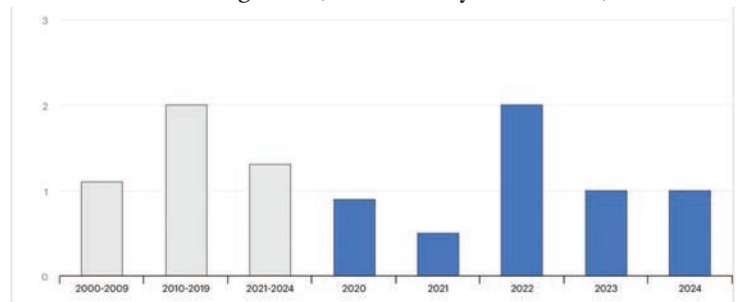
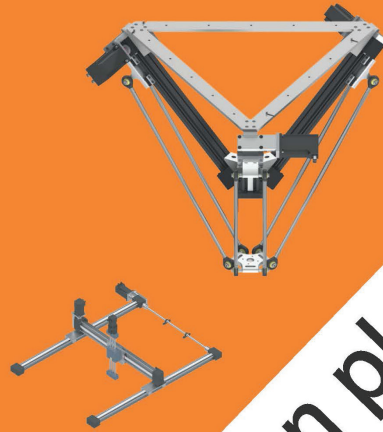


Figure 1: Global annual improvement in primary energy intensity, 2000-2024 (Source: IEA; Licence: CC BY 4.0)



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Emissions management

Energy efficiency and emission reduction are inextricably linked. While major emitters have pledged to become more transparent about emission management, many admit they do not know how much they are emitting in real-time and cannot track how operational decisions impact emissions. Fixing a problem that is not adequately measured is difficult, at best.

There are emission management tools available to industrial companies today that can better correlate, analyse, and visualise operational data from across the organisation so emission reduction decisions can be made faster, and with more accuracy. By leveling internal silos and revealing real-time data holistically, companies gain better insights into their carbon emissions and abatement, even gaining the ability to create auditable reports that show progress.

A European energy company found success applying an emissions management tool at its refinery in Italy. By combining modeling tools with Industrial AI-based techniques and detailed calculations, the system optimises economics with total emissions toward achieving more sustainable and profitable operations. With new and increased visibility into its operating and financial data, the company has become more proactive with asset and operating strategies to meet emissions limits. It has also been able to improve its carbon credit management process and assess opportunities to drive sustainability and reduce emissions through feedstock selection and production planning.

AI-driven hybrid models

Industrial processes are inherently complex, making them exceedingly difficult to model for use in AI processes. To augment the process, hybrid models backed by AI can be built using data collected from real assets. They can close the simulation-to-reality gap, resulting in more accurate models that cover more aspects of the operation. Industrial companies can then employ these models to drive increased efficiencies across many of their processes.

For instance, Central Asia producer SOCAR used AI capabilities to boost the efficiency of their acrylonitrile operations, developing a reactor model from operational data and incorporating first principles constraints. The model predicted the percentage of acrylonitrile in reactor flue gases and the optimal pressure required to boost conversion. SOCAR reviewed scenarios to maximise steam generation in the reactor, which helped them improve waste heat recovery by 36 per cent and save 5 per cent in fuel gas across the complex.

In another example, global chemical company BASF

applied an Industrial AI application to help implement process control capabilities designed to rapidly improve operations at a Gulf Coast site. The AI guidance captured the most difficult and time-consuming elements of implementation, providing guidance for less experienced technical workers to implement a more capable system. A full ROI on this system was achieved in less than six months.

Prescriptive & predictive maintenance

By predicting and preventing equipment failures with early warnings, AI-based asset performance management tools can have a significant impact on reducing energy and emissions. For example, unplanned plant shutdowns often force flaring that can emit as much carbon in a single event as months of normal operations. A proactive and prescriptive approach to asset maintenance with AI-based tools helps avoid these types of failures, and often yields operational efficiencies in other ways too, such as optimising spare part inventory, reducing waste, and eliminating time spent on unnecessary, schedule-based maintenance.

Midstream operator OCP Ecuador cut its maintenance costs by 25 per cent by employing machine learning capabilities that predict equipment failure and prescribe operational solutions. By analysing engine and pump performance, the company's operations teams predicted degradation in advance which enabled them to conduct earlier intervention and resolution. This work also helped the maintenance team improve equipment uptime by 20 per cent, while allowing them to significantly improve their spare part management and further reduce their operational costs.

Path forward

As macro-environments evolve and countries' net zero priorities change, industrial companies are mission-critical in improving energy efficiencies that directly impact global warming. Steady gains toward decarbonisation goals can be made by building greater efficiencies into existing operations, which can have a positive impact on the environment, as well as contribute to cost savings and business performance. **SME**



About the author:

Dr Paige Morse is the Enterprise Sustainability Director at AspenTech Technology, Inc. Morse helps companies progress toward their sustainability targets providing strategic guidance and targeted digitalisation solutions to the process industry. Prior to AspenTech, she worked for leading operating companies, including Shell, Dow and Clariant, in

R&D, marketing, commercial and strategy roles in the US and Europe. Paige holds a BA from Kenyon College and a PhD in chemistry from the University of Illinois.



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Enhancing Metal Cutting with IoT Connectivity

IoT-enabled metal-cutting machines can dynamically adjust spindle speeds, coolant flow rates, and feed rates based on real-time feedback. This level of automation minimises human error and enhances consistency in machining quality, says **Yuvraj Shidhaye, Founder and Director, TreadBinary**.



Source: Freepik

Manufacturing has entered an era of digital transformation, where precision, efficiency, and automation define success. Traditional metal cutting, once reliant on manual monitoring and periodic maintenance, is now evolving with the integration of the Internet of Things (IoT). This shift is not just about improving operational efficiency but also about redefining how industries approach metalworking. IoT-enabled metal-cutting solutions are driving significant advancements in production quality, cost reduction, and predictive maintenance, making them indispensable in modern smart manufacturing.

Role of IoT in metal cutting operations

IoT connectivity is transforming metal cutting by integrating intelligence into machines, tools, and production lines. Sensors and connected devices track key parameters like temperature, pressure, vibration, and tool wear, delivering real-time insights. These data points are processed via cloud platforms or edge computing, where advanced analytics optimise machining operations.

A major benefit is real-time process monitoring. Traditionally, manufacturers relied on scheduled maintenance or manual checks to detect tool wear and

inefficiencies. IoT eliminates this guesswork by providing instant feedback, allowing precise adjustments. This enhances cutting accuracy, reduces material waste, and minimises downtime. CNC machines, prone to misalignment, vibration, and overheating, benefit from IoT-based maintenance, improving quality control by 25 per cent.

IoT also enables remote monitoring, allowing engineers to track machine performance from anywhere. This oversight ensures optimal machine operation, preventing costly breakdowns. Studies indicate that IoT-enabled CNC systems can boost efficiency by 30 per cent, maintaining precision and uptime. By embedding intelligence into machining, IoT enhances productivity, quality, and cost-effectiveness across manufacturing operations.

Preventing downtime and extending tool life

IoT-driven predictive maintenance is revolutionising metal cutting by preventing unplanned failures that can disrupt production and lead to costly repairs. Traditional preventive maintenance often results in either excessive servicing or delayed interventions, both of which are inefficient. IoT overcomes these challenges by using real-time sensor data and AI-driven analytics to predict failures before they occur. By monitoring vibration patterns, temperature fluctuations, and operational loads, predictive models help manufacturers perform maintenance only when necessary, reducing downtime and extending tool life by up to 40 per cent.

Beyond efficiency, predictive maintenance also enhances worker safety. Faulty tools and unstable machine conditions can pose significant risks to operators. IoT-enabled systems proactively detect potential failures, ensuring a safer work environment.

Optimising production

Beyond predictive maintenance, IoT empowers manufacturers with data-driven decision-making capabilities. By aggregating data from multiple machines,

production managers gain a holistic view of the manufacturing process. Advanced analytics tools process this information to identify bottlenecks, optimise cutting parameters, and reduce energy consumption.

For instance, IoT-enabled metal-cutting machines can dynamically adjust spindle speeds, coolant flow rates, and feed rates based on real-time feedback. This level of automation minimises human error and enhances consistency in machining quality. Additionally, historical data can be analysed to identify trends and refine production strategies, ensuring continuous improvement in manufacturing operations. The impact is evident, with machine utilisation improving by 20 per cent, effectively boosting production capacity.

Enhancing sustainability and reducing waste

Sustainability is becoming a key focus in manufacturing, and IoT-driven metal cutting plays a crucial role in reducing industrial waste and energy consumption. Traditional machining processes often lead to material wastage due to inefficient cutting patterns and excessive tool wear. However, IoT-driven analytics optimise machining paths, ensuring maximum material utilisation with minimal scrap generation.

Energy efficiency is another area where IoT is making a significant impact. Smart sensors monitor power usage and identify areas where energy consumption can be reduced. Machines can be programmed to enter low-power modes when idle or adjust their operations based on real-time demand, leading to substantial energy savings. By optimising cutting fluid usage and reducing emissions, IoT-driven metal cutting also contributes to a more sustainable manufacturing ecosystem.

Conclusion

The integration of IoT in metal cutting is transforming traditional manufacturing into a highly efficient, data-driven process. With real-time monitoring, predictive maintenance, and AI-powered analytics, manufacturers can achieve unprecedented levels of precision, productivity, and cost savings. Moreover, IoT's role in sustainability ensures that metal-cutting operations align with global environmental goals. As IoT continues to evolve, its applications in metal cutting will only become more sophisticated. 



About the author:

Yuvraj Shidhaye, the Founder and Director of TreadBinary, a techcon, is a dynamic professional whose leadership is shaping the future of the company. Yuvraj's life is punctuated by noteworthy achievements, including the issuance of his first patent, the first sale of a HAC License, and the formation of a USA-based company.



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Robotic Technology Revolutionising Logistics

The global logistics automation market is valued at \$34.56 billion as of 2023 and is projected to grow at a 15 per cent annual rate, reaching nearly \$90 billion by 2030, comments **Alan Lancy Barboza, Executive Director, Flomic Global Logistics Ltd.**



Source: Freepik

The logistics industry is changing faster than ever. With increasing global trade, rising e-commerce demand, and supply chains growing more complex, businesses are looking for smarter, faster, and more efficient ways to move goods. Enter robotics.

Robotics and automation are reshaping logistics, improving speed, reducing costs, and minimising errors. From robotic warehouses and autonomous delivery systems to AI-powered sorting centres, technology is transforming the way businesses handle logistics.

Why is robotics becoming essential in logistics?

The demand for faster and more reliable deliveries has skyrocketed, especially with the rise of e-commerce and digital retail. Companies can no longer rely only on manual labour and traditional supply chain models, they need speed, precision, and cost efficiency.

This is where robotics plays a major role. Warehouse automation, last-mile robotic deliveries, AI-driven supply chain tracking, and robotic process automation (RPA) are now mainstream solutions helping businesses scale up.

Global growth of logistics automation

The global logistics automation market is valued at \$34.56 billion as of 2023 and is projected to grow at a 15

per cent annual rate, reaching nearly \$90 billion by 2030. This rapid expansion is due to:

- Increased reliance on e-commerce: More online shopping means more deliveries.
- Growing demand for efficiency: Reducing errors and speeding up processes is crucial.
- Labour shortages: Companies are facing difficulties in hiring warehouse and delivery workers.
- Technology advancements: AI, sensors, and machine learning are making automation more effective and accessible.

Robotics is transforming logistics in various ways:

1. Smarter warehouses: Warehousing is one of the biggest areas where robotics is making an impact. Autonomous Mobile Robots (AMRs) and Automated Storage and Retrieval Systems (AS/RS) are replacing traditional manual processes. For example:

- AMRs navigate warehouse floors independently, moving items from storage to packing stations. They cut down walking time for workers, improving efficiency.
- AI-powered robotic arms can sort and pick items much faster than humans, processing up to 600 picks per hour compared to 100–150 manually.
- Automated storage systems reduce warehouse space requirements by up to 40 per cent, maximising efficiency.

2. Last-mile delivery: The last mile, the final step of delivery from a warehouse to a customer, is often the most expensive and time-consuming part of logistics. Companies are now experimenting with drones and self-driving delivery robots to speed up this process.

- Drone deliveries are being tested in remote and urban areas, reducing delivery time and fuel costs. Zipline, a leading drone delivery company, has already completed 1.3 million deliveries globally.

- Autonomous delivery robots are being deployed in controlled environments such as university campuses and corporate parks, bringing down costs.
- In India, drone deliveries are gaining traction, especially for urgent shipments such as medical supplies in rural areas.

3. AI and robotics in supply chain management:

Beyond physical automation, Robotic Process Automation (RPA) is streamlining back-end supply chain processes.

- Automated order tracking and inventory management reduce delays and improve forecasting.
- AI-powered route optimisation helps trucking companies reduce fuel consumption and delivery times.
- Smart sensors and IoT (Internet of Things) improve real-time shipment tracking, helping businesses prevent losses.

These systems cut administrative costs by up to 30 per cent while improving accuracy and efficiency.

What's next?

Looking ahead, robotics in logistics will only grow more advanced and widespread. Key trends to watch include:

- Widespread adoption of AI-powered robotics in every stage of supply chain management.
- Autonomous trucking solutions gaining traction in large-scale freight transport.
- Expanded use of drones for deliveries, especially in developing regions.
- Blockchain and robotics integration for enhanced security and transparency in logistics.

Robotics is a necessity

The days of manual logistics processes are fading fast. In a world driven by speed, accuracy, and efficiency, robotics is not just an upgrade; it's a survival strategy for businesses. For India, embracing robotics will be the key to becoming a global logistics powerhouse. 



About the author:

Alan Lancy Barboza is the Executive Director of Flomic Global Logistics Ltd. His expertise in freight forwarding and logistics operations, combined with a deep understanding of market trends, has enabled him to identify growth opportunities and penetrate new markets effectively. Barboza's leadership style is rooted in fostering a culture of accountability and

innovation within his team. He also has demonstrated a sharp acumen for contract negotiation and profit optimisation. Barboza's strategic approach to managing supplier and client agreements has led to increase in profit margins. By collaborating with operations, finance, and customer service teams, he has streamlined workflows and enhanced cross-functional efficiency, contributing to the overall scalability of the business.



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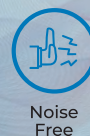
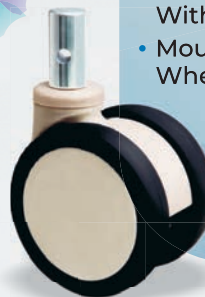
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“Industrial Atmanirbharta in India is a work in progress.”

India during this period has emerged as one of the fastest-growing major economies, consistently achieving a GDP growth rate hovering around 6–7 per cent annually. Fueled by public infrastructure investments, a thriving manufacturing sector, and a robust services industry, India has shown strong economic resilience, says **Vishal Dahiya, Associate Director, Panasonic Smart Factory Solutions India.**

How has the world transformed in the last decade? And how has India progressed during this period?

The IMF (International Monetary Fund) projects global growth at 3.3 per cent for 2025 and 2026, broadly consistent with past projections, with advanced economies anticipated to expand at a moderate 1.7–1.8 per cent and developing nations especially in Asia, to see greater momentum at a 4.2 per cent rate. Technological advancements have been a significant driver of change. Rapid development in artificial intelligence, machine learning, and digital transformation as well as Industry 4.0's increasing acceptance have reshaped industries, with emerging markets in Asia benefiting from investments and innovations in electronics and semiconductors industries. However, the geopolitical standoff has brought uncertainty, affecting global trade and economic stability. At the same time, sustainability has emerged as a priority, with increasing investments in renewable energy.

India during this period has emerged as one of the fastest-growing major economies, consistently achieving a GDP growth rate hovering around 6–7 per cent annually. Fueled by public infrastructure investments, a thriving manufacturing sector, and a robust services industry, particularly IT and business services, India has demonstrated strong economic resilience. Key reforms such as the introduction of the Goods and Services Tax (GST) and the Digital India initiative have streamlined taxation and expanded digital access, fostering ease of doing business, and nurturing the MSME and startup ecosystem. Despite challenges, including the economic contraction during the COVID-19 pandemic, India rebounded strongly with record growth in subsequent years. With a focus on infrastructure, manufacturing, foreign direct investment, and digital transformation,



Vishal Dahiya,
Associate Director, Panasonic
Smart Factory Solutions India

India continues to strengthen its position as a key global economic player.

The Make in India initiative has completed 10 years. What are key achievements of the Indian manufacturing sector since 2014-15?

The Make in India initiative has transformed India into a global manufacturing hub by driving investment, innovation, and job creation. One of the most notable achievements of this is the substantial increase in FDI inflows to approximately \$720 billion (April 2014–December 2024), a 119 per cent increase over the previous decade. As per the RBI's

latest KLEMS database, the manufacturing sector generated 28 million fresh employments, while exports reached \$778.21 billion in 2023-24, up 67 per cent from 2013-14. Regulatory reforms also improved India's ease of doing business ranking, rising from 142nd in 2014 to 63rd in 2020.

Looking ahead, the focus on PLI schemes, digital initiatives like the Udyam Registration Portal, and infrastructure development under PM Gati Shakti aims to further boost manufacturing. The success of these initiatives in attracting global value chains and fostering self-reliance aligns with the Atma Nirbhar Bharat vision, positioning India for long-term economic growth.

In spite of many efforts, India is still very much dependent on imported components/parts and raw materials for key sectors. What are the reasons for it? How can we ensure ecosystem-led development of the manufacturing sector?

India's journey toward self-reliance in manufacturing is a work in progress. Factors such as the need for specialised technology, historical supply chain dynamics,

resource constraints, and cost competitiveness have driven reliance on imports, particularly in sectors like semiconductors, electronics, and advanced materials. However, developments have been positively taking shape much faster and the country is actively addressing the gaps through initiatives like the Production-Linked Incentive (PLI) scheme, industrial clusters, and infrastructure projects such as PM Gati Shakti.

For instance, the PLI Scheme for white goods (especially AC) has reduced import dependency, increased local value addition from 20 per cent to 62 per cent in just three years (targeting 80 per cent by 2029), and improved lead times making the industry more resilient. The AC market has doubled to 14 million units, with local compressor capacity rising from one million to nearly eight million units.

With the need to reduce carbon footprint growing, what would be your advice to Indian manufacturers and the government?

As per industry estimates, manufacturing/industries contribute 25 per cent of India's energy-related CO₂ emissions. Adopting smart factory solutions by the OEMs can significantly reduce carbon footprints by leveraging digital technologies such as IoT, AI, and data analytics. Smart facilities can drive energy efficiency, minimise waste, integrate renewable energy, and optimise supply chains. Indian OEMs can accelerate decarbonisation by investing in digital solutions, setting clear carbon reduction goals, collaborating with technology providers, and upskilling workers. Additionally, it helps them meet compliance obligations with environmental regulations through accurate tracking and reporting. By fostering public-private partnerships and promoting sustainability-driven initiatives, India can align its manufacturing sector with global best practices.

What challenges do you foresee for the Indian manufacturing sector in the next few years? What would be your suggestions to the industry as well as the government to propel the growth of the sector?

As a provider of smart factory solutions, the major challenge here is legacy system compatibility, outdated systems struggle to communicate effectively with new technologies due to differing communication protocols and data formats. Ensuring interoperability between legacy systems and modern technologies remains a challenge. This leads to difficulties in data integration and standardisation with newer processes. Additionally, there are cybersecurity risks accompanying this

integration, as legacy systems may lack updated security protocols, exposing them to vulnerabilities.

The financial aspect cannot be overlooked; integrating these systems can be both costly and resource-intensive, necessitating substantial investments in hardware, software, and skilled personnel. Furthermore, change management poses a strain, as employees may find it challenging to adapt to the substantial changes in processes and workflows introduced by new technologies.

To address these challenges, industry must adopt digital transformation and embrace new-age technologies like IoT, robotics, AI/ML etc. Meanwhile, the government must continue to provide a conducive business environment, favorable policies such as PLI, enhance incentives, and foster R&D hubs to encourage innovation. These steps can help pave the way for accelerated growth and global competitiveness for India making it a manufacturing powerhouse for the world.



Cobots are anticipated to see wider adoption, working alongside humans to boost productivity and safety on shop floors.

What is your outlook for India's manufacturing sector for the next 5 years?

According to industry estimates, India's industrial automation market, valued at \$15 billion in 2024, is likely to grow to \$29 billion by 2029, with transformative trends expected to pick up steam in 2025. Artificial Intelligence (AI) and Machine Learning (ML) will be integrated to further improve predictive maintenance, optimise operations, enhance decision-making, and create new use cases across industries as the industry adopts the Industry 5.0 concept, which aims to create a technology-based, human-centered society. With the help of connected devices and sensors, the Industrial Internet of Things (IIoT) will enable intelligent automation through real-time data collection and analytics. Collaborative robots (cobots) are anticipated to see wider adoption, working alongside humans to boost productivity and safety on shop floors. Furthermore, with 5G, 6G, and Satcom connectivity, edge computing will speed up, lowering latency and facilitating quicker data processing at the source for increased effectiveness.

SME



Embracing Digital Transformation in SME Sector

India's SME manufacturing sector is at a crossroads, poised to embrace digital transformation, sustainable practices, and innovation. However, challenges like legacy systems and skilled labour shortages remain as barriers to growth.



Source: Freepik

In a rapidly transforming global economy, India's SME manufacturing sector stands at a critical juncture. The convergence of digital transformation, cloud-based ERP systems, and sustainable manufacturing practices has opened new doors for innovation and scalability. But with this promise also comes a unique set of challenges—ranging from legacy systems and cost constraints to a shortage of skilled manpower and resistance to change.

At a recent webinar—hosted by *Construction World and Smart Manufacturing and Enterprises* magazines—moderated by **Aiyappa Muthanna, Senior Solutions Consultant, MEAI, Epicor**, industry leaders shared their experiences and insights on overcoming these barriers and harnessing technology to unlock growth. The panel featured **Dr Umesh Mhatre, Managing Director, Surface Modification Technologies; Sameer Kelkar, CEO, Grind Master Machines; and Amit Pradhan, Vice President – IT & CIO, Dixon Technologies**. Together, they painted a compelling blueprint for the future of SME manufacturing in India.

Enhancing performance through material innovation

Dr Mhatre provided a powerful insight into the

transformative role of surface modification technologies. These include coatings and chemical treatments that enable materials to function better in hostile environments—whether that's high temperature, corrosion, or mechanical wear.

"Surface modification technologies allow us to make components perform under specific environmental conditions. From aerospace to pharmaceuticals to imitation jewellery, these coatings are becoming essential," said Dr Mhatre. He added, "While India is still catching up, the Western world has long embraced these innovations.

Our focus now is on making these solutions indigenous, sustainable, and scalable."

"We couldn't just import technology—we had to innovate. Now, we have our own R&D centre, our own equipment, and we're exporting technology back to Germany."

Surface finishing

Kelkar shed light on how micro and nano finishing have evolved to meet increasingly stringent industrial requirements. "Back in 2010, car warranties barely lasted two years. Today, they go up to 10 or 15, and surface finishing is a big reason why," Kelkar explained.

As components rotate at high speeds—whether in vehicles, agricultural machinery, or industrial bearings—the precision of their finish becomes crucial. "We now see components moving from finish level one to level three. That's a significant jump and an opportunity for manufacturers like us to deliver machines that meet these exacting standards."

Kelkar emphasised that quality expectations have risen worldwide, and only manufacturers with strong internal systems and research can keep up. "We need to be known for our technology, not just our pricing."

Building sustainable manufacturing

Sustainability, once a buzzword, is now central to manufacturing strategies. Kelkar said: “Manufacturing is inherently unsustainable. But it’s our moral responsibility to aim for net-zero.” Grind Master has committed to achieving net-zero emissions by 2030 and is taking a two-pronged approach—mass afforestation and remanufacturing.

“We’ve planted over 200,000 trees and are adding 100,000 every year. By 2030, we’ll reach 800,000, covering 50 to 60 per cent of our carbon footprint,” he said. Remanufacturing, too, has been a game changer. “We take 15-year-old machines, tear them down, and rebuild them better. Companies like Maruti Suzuki and Cummins support this model – it reduces costs and carbon impact.”

Dr Mhatre said, “By extending the life of tools and components, we reduce waste and material usage. We’re also working on hydrogen fuel cell components, where coatings can make parts lighter and more corrosion-resistant. This is where material science meets climate action.”

Digital transformation in action

On how digital transformation is being implemented at scale, Pradhan from Dixon, one of India’s leading electronics manufacturers, said, “Digital transformation is not a luxury, it’s a necessity. We’ve moved from measuring rejections to proactively preventing them using AI-based quality inspection systems. These vision-based tools check for defects in real-time, helping reduce customer returns and improve product consistency.”

He explained how Dixon’s layered approach combines cloud ERP systems with startup partnerships and global platforms. “Traceability, MES systems, and custom analytics help our production teams take real-time decisions. This makes a huge difference when you’re manufacturing at scale.”

Global journey of Indian manufacturing

Grind Master’s global expansion journey is a testament to how technology and process excellence can open international markets. “Breaking into Japan, China, and the US wasn’t easy,” said Kelkar. “It took better product reliability, stronger branding, and cloud ERP systems that gave our clients transparency into every stage of the project.”

A cloud-based project management system enabled Grind Master to provide real-time visibility to customers in different time zones. “If a Japanese client wants to track the progress of their machine, they don’t have to wait for emails. Everything is available on their portal—that’s the kind of trust and professionalism cloud ERP brings,” Kelkar emphasised.

Embracing change

Change management remains a crucial factor in successful digital adoption. Kelkar highlighted the importance of empowering young engineers: “We need to stop relying on low-cost labour and start positioning ourselves as a globally competitive tech hub. That means giving responsibility to younger teams and encouraging innovation.”

Dr Mhatre agreed: “Our first step was infrastructure. We built a modern factory in Bengaluru. Then came ERP implementation, TQM systems, and automation. Precision matters, especially when dealing with micron-level coatings, so reducing human error through automation is key.”

Pradhan added, “Adoption is a challenge across both SMEs and large enterprises. Most people use only 13 per cent of a software’s features—just like how we use only a fraction of our smartphones. The government should consider incentivising ERP implementation costs for SMEs. This would help democratise digital transformation.”

He further emphasised the importance of creating internal ecosystems. “At Dixon, we’ve built hybrid models involving SI partners, startup incubators, and even partners from China, Korea, and Taiwan. This diversity of thought and expertise helps us overcome roadblocks swiftly.”

Looking ahead

India’s manufacturing sector is at an inflection point. But there’s a long road ahead. “We still lack the deep material understanding that the Germans or Americans have,” said Dr Mhatre. “Indian engineering can achieve micron-level precision, but the metallurgy often lacks the treatment required for durability. That’s where our R&D focus lies.”

Pradhan echoed the sentiment: “PLI schemes are a great start, but we need 360-degree transformation—from policy and infrastructure to skills and systems. Electronics manufacturing is still nascent in India. We need to ramp up not just production, but also component-level innovation.”

From blueprint to reality

While challenges remain—be it in change management, sustainability, or global competition—solutions are within reach. From adopting cloud ERPs and AI-driven quality control to building in-house R&D and remanufacturing practices, the SME sector is carving out its own success story.

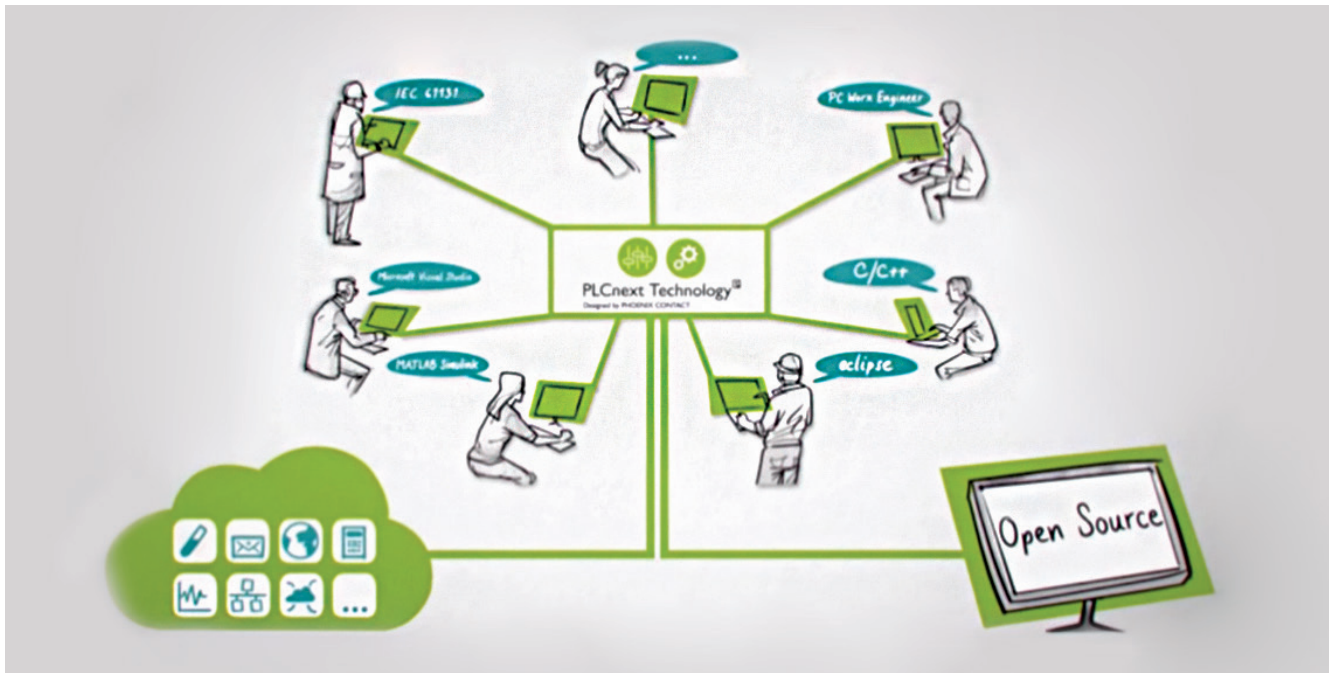
As Muthanna summed it up, “Digital transformation isn’t just about software or machines. It’s about mindsets, systems, and a vision for the future. The blueprint is here—now it’s time to build.”

SME



Revolutionising Auto Manufacturing with Open Automation Ecosystems

The adoption of open automation ecosystems and technologies, such as Phoenix Contact's PLCnext, is revolutionising the automotive industry by addressing key challenges related to obsolescence, cybersecurity, and integration.



The automotive industry is undergoing a transformative era driven by digitalization and automation. Central to this evolution is the integration of open automation ecosystems and advanced robotics solutions. Among the groundbreaking technologies reshaping the landscape is PLCnext Technology, developed by Phoenix Contact. This innovative platform is not only enhancing the efficiency of automotive production lines but also addressing critical challenges related to obsolescence, proprietary toolkits, and cybersecurity threats.

Role of open automation ecosystems in auto manufacturing

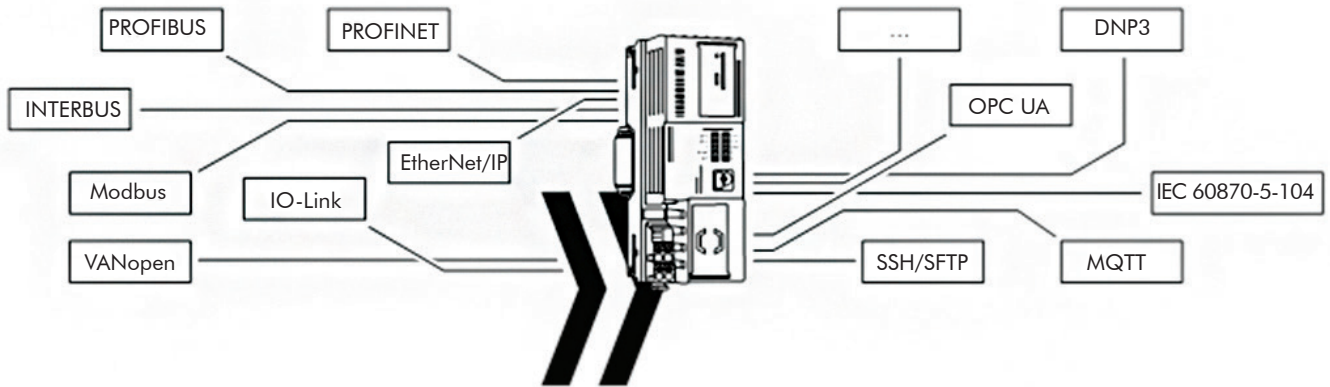
Open automation ecosystems represent a paradigm shift from traditional, closed systems to more flexible, interoperable solutions. These ecosystems are characterized by their use of open standards and protocols, enabling seamless integration and communication between diverse automation

components. This openness facilitates a more adaptable and scalable approach to industrial automation, crucial for the rapidly evolving automotive sector.

PLCnext Technology epitomizes this shift. By leveraging open standards and providing robust support for various programming languages, PLCnext allows manufacturers to integrate and control diverse automation components through a unified platform. This capability is especially beneficial in automotive production lines, where the need for synchronization between robotics, sensors, and other machinery is paramount. With PLCnext, automotive manufacturers can implement more sophisticated and adaptable automation solutions, enhancing overall production efficiency and flexibility.

Addressing challenges in automotive automation

Despite the advantages of automation, the automotive industry faces several challenges that hinder the efficiency and security of production lines:



- 1. Obsolescence of PLC technologies:** Traditional PLC systems often become obsolete as technology advances, leading to high costs for upgrades and replacements. Proprietary toolkits and fieldbus communication protocols further complicate integration with newer technologies, creating compatibility issues and limiting the lifespan of existing systems.
- 2. Cybersecurity threats:** The rise of Industry 4.0 and the increased connectivity of industrial control systems (ICS) have introduced significant cybersecurity risks. Automotive production lines are particularly vulnerable to cyber-attacks due to the critical nature of their operations and the extensive network of connected devices.
- 3. Complexity and integration issues:** The diverse range of proprietary technologies used in traditional PLC systems can lead to integration difficulties. This complexity often results in inefficient communication between components and higher costs for system maintenance and upgrades.

How PLCnext technology addresses these challenges

PLCnext technology provides a comprehensive solution to the challenges faced by the automotive industry through its open and secure ecosystem:

- 1. Mitigating Obsolescence:** PLCnext is designed with future-proofing in mind. Its support for open standards and interoperability ensures that it can integrate seamlessly with existing systems and new technologies. This flexibility minimizes the impact of obsolescence by allowing manufacturers to upgrade components without overhauling their entire system. The platform's open architecture also facilitates the use of modern programming languages and development tools, reducing the dependency on proprietary solutions.
- 2. Enhancing Cybersecurity:** Security is a critical focus of PLCnext Technology. The platform incorporates advanced cybersecurity features such as secure communication protocols, access controls, and

regular updates to address vulnerabilities. By adhering to international security standards and best practices, PLCnext helps protect automotive production lines from cyber threats. Its open nature also allows for continuous improvements and updates to its security features, ensuring that manufacturers can respond to emerging threats effectively.

- 3. Simplifying Integration:** PLCnext's support for open standards and protocols simplifies the integration of various automation components. By enabling interoperability between different systems and devices, PLCnext reduces the complexity of automation solutions and lowers the costs associated with system maintenance. This streamlined integration process facilitates smoother communication between robotics, sensors, and other components, leading to more efficient and reliable production lines.

Conclusion

The adoption of open automation ecosystems and technologies like PLCnext is revolutionising the automotive industry by addressing key challenges related to obsolescence, cybersecurity, and integration. PLCnext's open architecture and advanced security features empower manufacturers to create more adaptable, secure, and efficient production lines. As the automotive industry continues to embrace digitalization, technologies like PLCnext will play a crucial role in driving innovation and ensuring the resilience of automated manufacturing systems. By leveraging these advancements, automotive manufacturers can not only enhance their production capabilities but also safeguard their operations against evolving threats, paving the way for a more advanced and secure future in automotive manufacturing.

For details, Phoenix Contact India Pvt Ltd, New Delhi, on Email: adverts@phoenixcontact.co.in

(Communication provided by the management of the company)



Avian's Innovative Safety Solution: Fire-Rated Sliding Doors

Crafted from advanced, high-performance materials, Avian's fire-rated sliding doors incorporate custom-designed insulation panels.



As the industrial and commercial sector continues its rapid expansion, with new warehouses, office buildings, and industrial spaces emerging at a swift pace, fire-related incidents are escalating proportionally. This alarming trend highlights an urgent demand for full proof advanced fire protection solutions that not only safeguard lives but also preserve valuable assets and infrastructure.

At the forefront of this evolving market, Avians Fire-Rated Sliding Doors are setting new benchmarks for fire safety. As pioneers in the field, we have combined cutting-edge engineering with decades of industry expertise to develop a solution that is not just innovative but also practical and reliable. Our fire-rated sliding doors offer unmatched performance and functionality, ensuring optimal fire containment and preventing the spread of fire and smoke. With a proven track record, we continue to lead the market by delivering products that set the standard for quality, safety, and efficiency.

Designed with engineering excellence for ultimate reliability, the Avians fire-rated sliding door operates autonomously, without requiring electrical power. This critical feature ensures that the door continues to function effectively in the event of a power failure, which is common occurrence during fires. Our system's fail-safe design guarantees that the door remains

operational, providing consistent fire protection even in the most severe conditions. This autonomy, combined with our advanced engineering solutions, places Avians at the cutting edge of fire

As market pioneers, we have meticulously engineered our fire-rated sliding doors to offer minimal maintenance and almost null operational costs, ensuring that premises experience long-term safety benefits without the burden of expensive maintenance. In our commitment to delivering superior safety, we subjected our fire-rated sliding door to rigorous testing at the Fire Research Laboratory, CSIR – Central Building

Research Institute (CBRI) in Roorkee. It is a premier research institute under the Council of Scientific and Industrial Research (CSIR). It focuses on the development of advanced technologies and solutions for building construction, structural safety, and fire protection. The testing was conducted in accordance with BS 476 (Part 20 & 22) – 1987 standards for up to 120 minutes.

Crafted from advanced, high-performance materials, our fire-rated sliding doors incorporate custom-designed insulation panels. These panels are reinforced with mild steel (MS) tubular construction, offering exceptional strength, durability, and fire resistance. The steel sheets are precisely tailored to the required thickness for maximum performance. The inclusion of a sleek vision window adds to the door's visual appeal without compromising its fire-resistant properties. This fusion of functional safety and aesthetic elegance shows our pioneering approach to fire safety design.

The advanced manual counterbalance weight mechanism integrated into our sliding doors represents a key feature of the system's simplicity and reliability. The fusible link, a critical heat-sensitive component, melts at a precise temperature, typically 165°F (74°C), allowing the counterbalance system to engage automatically. Upon activation, the door

closes seamlessly, isolating the affected area and preventing the spread of fire. The inclusion of the fusible link mechanism underscores Avians' commitment to creating efficient, low-maintenance, and economical fire protection systems that exceed industry standards.

Our innovative use of Rockwool insulation with higher density further enhances the door's fire resistance. This non-combustible material withstands extreme temperatures and prevents the spread of fire. Rockwool's high thermal insulation capabilities reduce heat transfer, ensuring that the structural integrity of the door is maintained during a fire emergency. Rockwool is produced from volcanic rock and spun into fibers, offering superior fire protection properties that are integral to the performance of our fire-rated doors. By incorporating this advanced insulation technology, we continue to push the boundaries of fire safety innovation.

Recognising that aesthetics play a significant role in modern design, we have also integrated customisable paint finishes into our fire-rated sliding doors. Customers can choose from a variety of options, including our standard powder coat, as well as premium finishes such as PU (polyurethane), enamel paint and epoxy paints. These coatings offer enhanced durability, resistance to wear, and a refined, polished appearance.

As part of our technological advancement, we have incorporated provisions in our fire-rated sliding doors to seamlessly integrate with Fire alarm system, smoke/heat detectors and Building Management Systems (BMS). Upon receiving a fire signal, the door can automatically close, enhancing safety by preventing the spread of fire. This integration ensures that our doors work in unison with your existing safety infrastructure, providing a more efficient and responsive fire protection solution.

As industry pioneers, we have set new standards for fire-rated sliding doors that exceed conventional performance metrics. With a blend of innovative engineering, high-performance materials, and unparalleled attention to detail, we have designed a product that meets but consistently surpasses the highest global fire safety standards. Our fire-rated sliding doors offer a comprehensive solution for modern commercial and industrial environments, providing superior fire protection, minimal maintenance, and aesthetic versatility, all at an affordable cost. We continue to lead the market by driving innovation and setting new benchmarks in the fire safety industry, empowering businesses to operate with the utmost confidence in their fire protection systems.

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Efficient Solution for Coating Brake Discs

EMAG's solution is economical, suitable for large-scale production, reliable and variable, as a variety of material combinations can be used for coating.



Structure of the laser tool: The coating material is fed in as a powder and fused to the component surface using a laser process.

The EURO 7 standard will immensely change the automotive industry: for the first time, not only emissions from combustion engines will be regulated, but also the abrasion of brakes, among other things. The initial conclusion is that the particulate matter produced by many models must be significantly reduced. As a result, OEMs and suppliers are looking for a new solution for the braking system, with coated brake discs currently proving to be the ideal solution for the task.

But how can the various coating systems be applied reliably and efficiently in the context of high-volume production? EMAG offers the right answer to this question: a complete solution ready for series production for the coating of brake discs by laser deposition welding, which has already proven itself in production. But what distinguishes it in detail?

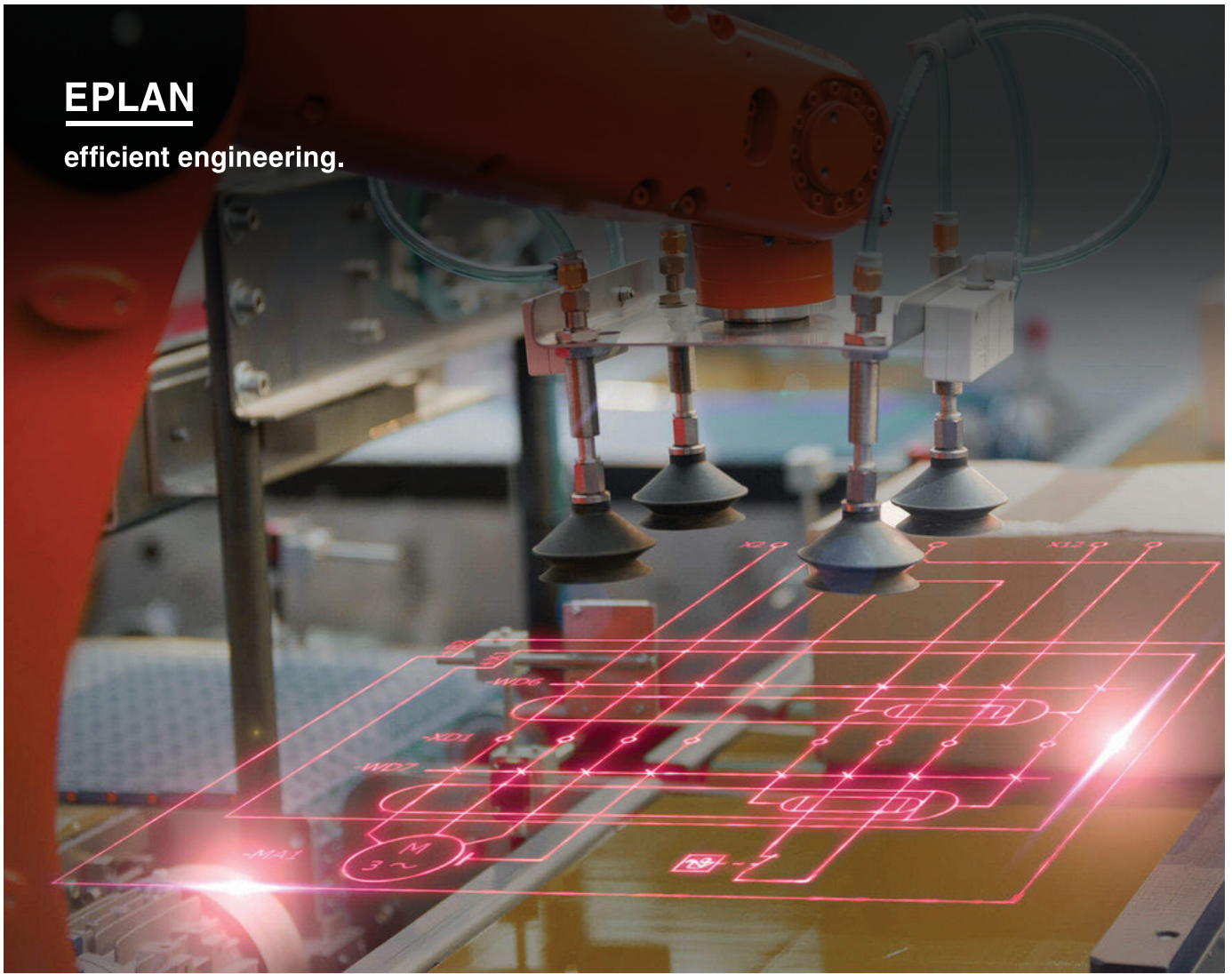
The problem is as simple as it is quickly explained. From the EU's point of view, conventional braking systems produce too much particulate matter, with the new limit values of the EURO 7 standard leading to a very large technological 'gap' between the particulate matter emissions of current and future models. The upper limit for all new vehicles is now only 7 milligrams of particulate matter per kilometre. Today, however, a car emits up to 40 milligrams, depending on the model. For manufacturers of larger models (with higher particulate emissions), this change is associated with a development task, especially as the brakes are a safety-critical component whose design is very complex in detail. The focus here is primarily on the two 'friction partners' brake disc and brake pad, as their interaction generates the particulate matter.

A technical challenge

So what options are there for reducing particulate matter? This question has been on the minds of developers for some time, and extraction systems near the brakes, for example, have proven to be a problematic approach. On the one hand, only part of the emissions is extracted in this way, and on the other, manufacturers

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Laser metal deposition from EMAG: The perfect solution for large-scale production.



The ELC 450 DUO LMD with two process modules enables increased productivity in the hard coating of brake discs.



Laser deposition welding is used to apply a hard coating that protects brake discs from corrosion and wear.

would have to plan for additional installation space and accept higher unsprung masses. The use of so-called NAO brake pads (Non-Asbestos Organic) is also not a

satisfactory solution, as particulate emissions only decrease with brand-new brake discs. After a short time in use, they rise again to the current level. In this context, hard coating of brake discs is emerging as the ideal solution. The conventional brake disc is simply given a new layer that offers protection against corrosion, wear and fine dust.

Hard coatings of brake discs are nothing new in principle, but they have so far only been used in a niche market due to high production costs. One reason for this is that thermal spraying and electroplating do not create a metallurgical bond to the base material. As a result, complex pre-processing is required to bond the coating. In addition, the layers are (too) thick and the heat input is high. In this context, a new development from EMAG in the field of laser cladding of brake discs represents a quantum leap for this task. The new production solution is economical, suitable for large-scale production, reliable and variable, as a variety of material combinations can be used for coating.

ELC 450 LMD - modular machine solution for laser metal deposition

The ELC 450 LMD is an innovative machine solution from EMAG that is characterised by its modularity and flexibility. The basic idea behind the ELC 450 LMD is the use of process modules that can be combined and expanded according to customer requirements. The machine is available in various configurations depending on the number of process modules. The basic version, the ELC 450 LMD, has one process module. The ELC 450 DUO LMD is equipped with two process modules, while the ELC 450 TRIO LMD, as the name suggests, uses three process modules. These modular machine concepts make it possible to optimally meet customer requirements in terms of shift structure and productivity. This then determines the choice of machine configuration. The ELC 450 LMD can realise both 1-shift and 2-shift systems. The combination of laser power and application rate determines the most suitable machine concept for the respective application.

The longer service life of coated brake discs also has a positive effect and helps to reduce the environmental impact. In contrast to conventional brake discs, coated brake discs have a significantly longer service life, which means that they need to be replaced less often. This reduces the need for new brake discs and helps to reduce the environmental impact of their manufacture, transportation and disposal. In addition, the new generation of brake discs reduces vehicle maintenance, saving time and money. Overall, the coating of brake discs offers a sustainable solution for extending the service life of brake discs and reducing the environmental impact.



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“Wika will increase local production capacity in India.”

The Wika Group offers technologies for measurement of pressure, temperature, force, level and flow measurement, calibration and SF6 gas solutions. In this interview, **Stefan von Westberg, Director Field Marketing EMEA, WIKA Alexander Wiegand SE & Co Kg**, highlights trends in measurement technologies and importance of India for the group.

Can you provide a brief overview of Wika?

Wika is a German-based, family-owned company with a workforce of over 11,000 employees and a presence in more than 40 countries. Our annual order intake exceeds €1.3 billion. Wika specialises in measurement solutions for temperature, pressure, level, force, and flow, and we also provide a comprehensive range of calibration products and services. Our solutions are widely used across industries such as oil and gas, chemicals, petrochemicals, food and beverages, and pharmaceuticals. Additionally, we serve industrial segments like mobile working machines, semiconductors, and energy sectors.



Stefan von Westberg,
Director Field Marketing
EMEA, WIKA Alexander
Wiegand SE & Co Kg

How has Wika’s presence in India evolved over the last few years?

India is a key market for Wika, and we have established a strong footprint here. We invested early in local production, which has allowed us to expand significantly. Today, we operate four major manufacturing facilities in India, producing not only for the domestic market but also for neighbouring regions. Our Indian force has grown to over 1,200 employees, and the market continues to show strong growth potential. Over the years, our Indian teams have implemented Kaizen workshops and aligned production standards with German quality benchmarks.

What solutions does Wika offer for the energy sector?

Wika has been actively involved in the energy industry for over 20 years. At Elecrama, we are showcasing our power generation solutions, with a strong focus on renewable energy.

For power generation, we offer flow measurement products for nuclear power plants. We are also launching a new product called the Pyranometer, which measures solar radiation and is used in large-scale solar farms. This is a major step forward in solar energy monitoring.

For wind energy, we provide temperature and pressure measurement solutions for wind turbines, both on the rotor and inside the turbine itself.

In power distribution, we support high-voltage and medium-voltage grids. Our offerings include gas handling and monitoring solutions, such as gas carts for SF6 gas purification and mobile leak detectors to ensure efficient operation of power systems. Additionally, we provide solutions for partial discharge and temperature monitoring in medium-voltage switchgear cabinets.

What are Wika’s future plans for the Indian market?

Over the past two years, we have significantly expanded our product range in India. In the near term, our focus is on stabilising operations and optimising processes. Over the next five years, we plan to strategically introduce new products, both for the Indian market and for export. Additionally, we will increase local production capacity to meet growing demand. India is an important growth market for Wika, and we are committed to further investment and expansion.

Does Wika India contribute to the company’s global R&D efforts?

While Wika’s main R&D centre is in Germany, we have multiple Centres of Excellence across Europe, depending on the product segment. Recently, we established an R&D department in India, which will play a more significant role in the coming years. A great example is the Pyranometer, which was developed and produced in India and we expect to see similar product developments in the future.

SME



“HARTING strongly believes in India’s economic growth.”

The Germany-based HARTING Technology Group is a leading global supplier of industrial connection technology in numerous industrial sectors. In this interaction during Elecrama 2025, **Frank Quast, Head of Product Management Connectors Han, HARTING Electric Stiftung & Co KG**, elaborates on emerging opportunities for his company in India.

How is your company catering to the requirements of the industry?

HARTING Electric is a global business unit within the HARTING Technology Group, focusing on industrial connectors. Our most well-known product is the Han Connector, a widely recognised brand in the industry. This global recognition has been a cornerstone of our success. Beyond this, we continuously expand our portfolio to cater to specific market segments.

We prioritise core markets rather than chasing every opportunity. Our major focus areas include machinery and energy. Machinery has been a stronghold for us since the company’s inception, and energy plays an increasingly critical role in our vision. Our commitment to the all-electric society emphasises the need for efficient energy transmission and sustainable practices. At HARTING, we aim to minimise the carbon footprint of our connectors by incorporating sustainable production practices, including the use of renewable energy sources. We have been working on this for over a decade and are now offering CO₂-reduced product variants. Customers can choose between standard components or more eco-friendly alternatives, ensuring transparency in sustainability efforts.

How is HARTING integrating digitalisation into its products?

We are heavily invested in digitalisation, offering digital twins of our products. These digital representations provide comprehensive data, including 3D drawings, technical specifications, dimensions, weight, and CO₂ footprint. Engineers can access this data directly from our platform, allowing seamless integration into their systems. This automation improves efficiency and reduces manual efforts, saving time and resources.



Frank Quast,
Head of Product Management
Connectors Han, HARTING
Electric Stiftung & Co KG

Additionally, our digital twins support enhanced communication and data sharing, enabling real-time updates and accurate product configurations. The true cost of ownership is not just about product price; it is about the entire ecosystem, including digital support, supply chain efficiency, and reduced operational costs.

How does HARTING support industries like electric vehicles (EVs) and renewable energy?

The EV and renewable energy sectors are rapidly evolving, requiring advanced connectivity solutions. A key challenge in EV charging infrastructure is energy storage. Peak energy loads need buffering, which demands specialised connectors. HARTING provides high-power, high-voltage connectors, capable of handling up to 1400A and 4000V, ideal for transformers and energy storage systems. These plug-and-play solutions simplify installation and maintenance, significantly reducing downtime and operational costs.

How does HARTING view the Indian market?

We strongly believe in India’s economic growth and are committed to expanding our presence in the region. Our strategy includes increasing local production, following the Make in India, for India approach. This helps us better serve local customers with tailored solutions. As India transitions from fossil fuels to renewable energy, the demand for electrical interfaces will rise exponentially. We see potential in India’s evolving infrastructure, especially in sectors like EVs, renewable energy, and industrial automation. We aim to be at the forefront of this transformation, offering innovative and reliable connectivity solutions that provide maximum benefits to our Indian customers.

SME



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Igus Hits €1 Billion in Sales and Increases Customer Base

With sales of €1.105 billion, Igus recorded a comparatively moderate decline in turnover of 2.5 per cent.



produce, test and research, now covers around 218,000m². With the new 20,000m² production hall, our test laboratory, which is the largest in the industry, has also grown to almost 5,500m².

Global investments for even greater customer proximity

For example, igus is expanding its branch in Shanghai from around 25,000 to 70,000m² with a new building. In Bangalore, the production area has even been tripled thanks to a new 16,000m² igus campus. After introducing injection moulding in the USA, they are now also setting up on-site lead screw production and have opened our own RBTX customer testing area for low-cost robotics. This means that ten

With 277 motion plastics innovations in 2025, igus is presenting a record number of new lubrication-free plastic products in line with the motto "GO ZERO Lubrication", from PTFE-free materials and a complete energy chain series made of recycled materials to a new type of dry cleanroom certificate and a humanoid robot. This is the result of continuous investment in research and development to offer customers state-of-the-art solutions. Despite the challenging geopolitical and economic situation in 2024, the motion plastics specialist was able to increase the number of active customers by 5 per cent and maintain its billion-euro turnover. With sales of €1.105 billion, the company recorded a comparatively moderate decline in turnover of 2.5 per cent.

This year, igus is presenting a record number of innovations with 277 new motion plastics products - and is continuing to invest in the research, development and production of new, innovative technical solutions.

The entire igus campus in Cologne, where they

countries now have their own customer test areas so that users can quickly and easily find their individual low cost automation solution on site. Three of these locations (USA, China, Brazil) will be expanded into regional hubs, so that production and development will also be increasingly localised. They are also investing in the expansion of branches in other countries such as Japan, Spain, Taiwan and Poland.

However, igus is clearly focusing on customer proximity in Germany. With the takeover of elko Verbindungstechnik, igus is building up targeted assembly capacities in southern Germany. elko specialises in assembling cables and plug-in connectors into customer-specific systems that are used primarily in machine tools and the automotive industry. At the Cologne site, igus is also continuing to invest in new automation solutions to streamline processes and increase throughput times - be it with specifically developed and patented crimp towers or the use of AGVs in the factory buildings.

SME



Schmalz Enhances Material Handling with Automation

Automation is not just about robots replacing manual tasks, it is about enhancing collaboration between humans and machines.



Lightweight Layer Grippers ZLW

The global manufacturing landscape is undergoing a transformative shift, driven by automation and smart technologies. Industries are increasingly adopting robotic solutions to enhance efficiency, precision, and scalability. Automated systems streamline production, reduce dependency on manual labor, and ensure consistency in quality. With the rise of Industry 4.0, manufacturing units are integrating robotics, IoT, and AI-driven technologies to create connected and intelligent workflows.

India, as one of the fastest-growing industrial economies, is witnessing a rapid adoption of automation. The push for smart factories and digital transformation is being fueled by factors such as increasing labour costs, demand for higher productivity, and the need for error-free production. Sectors like automotive, pharmaceuticals, food and beverage, electronics, and logistics are actively investing in robotic automation to stay competitive. Palletising, depalletising, material handling, and packaging are among the key processes being automated to improve operational efficiency.

How automation transforms manufacturing

Integrating automation into manufacturing workflows brings multiple advantages. Increased production speed allows companies to meet growing market demands without compromising quality. Reduced

labour dependency helps mitigate workforce shortages and minimises fatigue-related inefficiencies. Enhanced workplace safety ensures that employees are not exposed to hazardous lifting tasks, preventing workplace injuries. Moreover, automation contributes to cost savings by reducing material waste, optimising energy consumption, and lowering operational expenses.

However, automation is not just about robots replacing manual tasks, it is about enhancing collaboration between humans and machines. Human-Robot Collaboration is becoming a critical aspect of modern manufacturing, where lightweight robots and collaborative automation tools assist workers

in repetitive and physically demanding tasks. This is where advanced gripping solutions play a crucial role in optimising material movement across production lines.

Introducing the Lightweight Layer Gripper ZLW

To fully leverage the benefits of automation, manufacturers require adaptable and efficient material handling tools. The Lightweight Layer Gripper ZLW from Schmalz is designed to optimise palletising, depalletising, and various intra-logistics processes with high precision and minimal effort. Its modular and lightweight design makes it ideal for cobots and smaller robotic systems, ensuring seamless integration into automated workflows.

This innovative gripper extends beyond palletising to multiple production and packaging applications. It plays a critical role in logistics and warehousing, where it automates depalletising and goods movement between different stages of packaging and distribution. In the food and beverage sector, it efficiently handles packaged goods such as cartons, jars, cans, and plastic-wrapped products while ensuring hygienic and damage-free transportation. The pharmaceutical industry benefits from its precision when handling medicine boxes, vials, and sterile packaged goods, meeting strict hygiene and safety standards. Additionally, it enhances consumer goods packaging through pick-and-place applications,

transitioning items between production lines and final packaging. For automotive and manufacturing, the gripper facilitates line changeovers, transferring components between workstations, and moving finished products into storage or final packaging.

It is designed to accommodate a variety of handling requirements and is available in different sizes, ensuring suitability for diverse applications. Its lightweight aluminum construction minimises the load on robots, maximising efficiency. The gripper handles varying load capacities, making it suitable for both small and medium-sized workpieces while maintaining a secure grip on different materials. Customisation options allow for adaptation to specific industry needs. The sealing elements come in two configurations, plug-in suction cups, ideal for uniform and stable surfaces, and sealing foam, which offers a secure grip on irregular or delicate items. An optional floating flange compensates for height variations within a layer, ensuring consistent performance. The vacuum system can be tailored to specific operational requirements, with options for external vacuum connection for high-power applications or an integrated vacuum generator for a compact, self-contained setup. Additionally, an optional rounded safety frame enhances protection in human-robot collaboration environments.

Handling capabilities and workpiece variability

One of the key advantages of this solution is its ability to manage a broad spectrum of workpieces. It efficiently grips cardboard boxes, shrink-wrapped packages, plastic containers, metal cans, glass jars, and irregularly shaped products. The adaptable sealing options ensure a firm hold on both smooth and uneven surfaces, making it suitable for delicate as well as robust materials. This flexibility eliminates the need for frequent tool changes, optimising workflow and productivity.

How it works

Equipped with advanced vacuum technology, the gripper secures and transports workpieces with precision. Once mounted onto a robot or gantry system, it positions itself over the target layer. The vacuum system activates, generating negative pressure to ensure a strong grip. If a floating flange is included, it automatically adjusts to height variations for even gripping force. Once secured, the system smoothly transfers the workpieces to the desired location, whether for palletising, line transitions, packaging, or production movement. The vacuum is then released efficiently, enabling seamless integration into automated workflows.

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KinematicsPerfect Detecting and optimising kinematic errors



KinematicsPerfect



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KinematicsPerfect gives you a fully-developed software solution for measuring the kinematics of 4-axis and 5-axis machine tools. The NC-based measuring cycles enable precise checks, documentation and corrections of rotary axes on rotary and

Features:

- Quickly checks alignment and positioning accuracy based on measurements using a calibration sphere
- Detects mechanical geometrical deviations of the rotary axes as well as bearing damage
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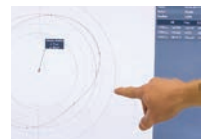
Preparation of the machine including installation of the calibration sphere



Measurement procedure on the calibration sphere



Automatic correction of the machine kinematics or analysis of values on the PC



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Attiguppe, Bengaluru, Karnataka 560040
Mobile: +91 9845214650 / +91 9353025005
Email: info@blumnovotestindia.in
Website: www.blum-novotest.com



Siemens, U-M Create Course on 3D Metal Production

The course provides essential information about methods of printing using metals, how they work, their advantages and limitations, and most importantly, their practical applications



said Aaron Frankel, Vice President- Part Manufacturing New Solutions Introduction and Additive Manufacturing, Siemens Digital Industries Software.

“Our work with U-M brings together their team’s research knowledge with our industrial expertise to deliver an accessible and open educational resource that will help provide the next generation of engineers with the

Siemens Digital Industries Software is collaborating with the University of Michigan (U-M) Center for Academic Innovation to increase industrial adoption of additive manufacturing and prepare the next-generation workforce by creating ‘Introduction to 3D Printing with Metals,’ a new Massive Open Online Course (MOOC) that provides an open, accessible resource to professionals, hobbyists and students alike.

Siemens worked with **Chinedum Okwudire, Professor- Mechanical Engineering, U-M**, and **Dr Nathaniel Wood** to design the course. It provides essential information about methods of printing using metals, how they work, their advantages and limitations, and most importantly, their practical applications.

“Metals additive manufacturing has huge potential to revolutionise how products are delivered, enabling freedom of form and mass customisation at an industrial scale. To realise that potential, industry needs a workforce that is knowledgeable about all aspects of the processes, how best to implement them to solve real engineering challenges and avoid the common pitfalls,”

skills they need to change the world.”

“The goal of this course is to broaden the knowledge and engagement in metal additive manufacturing across a diverse and global audience that can help advance society through this game-changing technology,” said Okwudire. “Siemens’ support, both from a financial and knowledge point of view has been instrumental in the development of this course and we look forward to building a more diverse, equitable, and inclusive workforce trained in metal additive manufacturing.”

Available on Coursera, the ‘Introduction to 3D Printing with Metals’ course covers basic, desktop forms of 3D printing with metals to more complex processes, such as powder bed fusion, jetting-based and direct energy deposition processes – from pre-processing and design for additive manufacturing to post-processing and part-finishing. Participants learn about 3D printing and additive manufacturing with metals through examples and interviews with industry experts and gain hands-on experience with 3D printing within a smartphone or desktop-accessible augmented reality experience.





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BILZ Launches ThermoGrip TMG Shrink Chuck

The new Bilz TMG clamping system combines the strengths of shrink-fit clamping technology with the flexibility of collet chuck solutions.

Bilz has launched new ThermoGrip TMG Shrink Chuck, which has exceptional flexibility, high rigidity and optimised vibration damping. It is used in general mechanical engineering, medical and dental technology, mold & dye, and renewable energy.

Some its features include:

- Constant maximum clamping forces
- Process-safe clamping of all shank tolerances from h4 to h9
- Anti pull-out system for Weldon shanks
- Concentricity $\leq 3 \mu\text{m}$

ThermoGrip TMG Shrink Chuck offers benefits like:

- Increase of the metal removal rate
- Excellent damping properties, therefore better surfaces and better maintenance of tolerances
- One basic holder for all diameters

M stands for constant maximum clamping forces

Due to the consistent maximum overlap of tool and chuck, the design ensures constant high clamping forces. The sleeve is also available with pull-out protection (Weldon).



M stands for added value

For the first time, TMG clamps tool shanks of almost any diameter with one and the same shrink chuck. In this way, the entire production requirement can be covered cost-effectively. The flexibility of basic holders can be used to cover the entire production

requirement. For the first time, TMG clamps tool shanks of almost any diameter with one and the same shrink chuck. In this way, the entire production requirement can be covered cost-effectively. The flexibility of basic holders can be used to cover the entire production requirement.

The new Bilz TMG clamping system combines the strengths of shrink-fit clamping technology with the flexibility of collet chuck solutions. The system consists of basic holders and specially coated collets.

Bilz tool clamping systems are used worldwide in many different areas of application and on almost all types of machines. Bilz's success is due to a continual process of new product development and enhancement of existing ranges.

SME

(Communication provided by the management of the company)

News Snippet

Adani Group, Indo-German Chamber of Commerce launch 'Skill and Employ' program

The Adani Group has launched India's largest 'Skill and Employ' program in collaboration with the Indo-German Chamber of Commerce (IGCC) to enhance industry-ready talent for sectors such as green energy, manufacturing, high-tech industries, project excellence, and industrial design. This initiative supports the 'Make in India' campaign and aims to bridge the gap between education and employment.

To realise this vision, the Adani family has

committed over ₹20 billion to establish an internationally benchmarked institution and finishing school at Mundra.

The program will focus on selecting students from technical and vocational education backgrounds, aligning their training with industry requirements. Upon certification, graduates will have opportunities for employment within the Adani Group or other relevant industries.

SME

MAINTENANCE-FREE IGLIDUR® PLAIN BEARINGS

igus® (India) Pvt Ltd offers a wide range of maintenance-free iglidur® plain bearings.



Features:

- Plain bearings are used to minimise direct contact e.g. between the shaft and the mount to prevent wear. Most bearings must be lubricated regularly to ensure fault-free operation.
- iglidur plain bearings do not require additional lubricants. They are therefore maintenance-free and represent a cost-effective alternative to metal plain bearings.
- The iglidur materials specially developed by igus enable a wide range of applications for our bearings in a wide variety of industries. For example, for use at high temperatures, contact with food or chemicals and under high loads.

About the Company: igus is a manufacturer of high-performance polymers for movement based in Cologne, Germany.

Contact:

igus® (India) Pvt Ltd, Bangalore
Tel: 080-69116900, 68127801
Email: info-in@igus.net

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MAGNET-SCHULTZ AC VIBRATORS

Magnets India offers a wide range of Magnet-Schultz AC vibrators.



Features:

- Offered open and encapsulated designs, devices for direct connection to the AC network or devices for connection to the AC network via one-way rectifier.
- Vibrators are components consisting of solenoid body and armature which are installed as electromagnetic drives in vibratory drives of the customer.
- The armature is kept by means of a suitable spring-mass-system so that there is always a nominal air gap.
- As drive unit for vibratory systems in the materials-handling technology, e. g. mining, sieving and compressing.

About the Company: Established in the year, 1997, we 'Magnets India', are one of the leading trader, distributor & suppliers of an extensive range of Electromagnetic Actuators and Electromagnetic Products.

Contact:

Magnets India, Chennai
Tel: 044-42833346 Mobile: 09840091969
Email: info@magnetsindia.net

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ROTARY GRIPPING MODULE WITH PARALLEL GRIPPER

Schunk Intec India Pvt Ltd offers a wide range of rotary gripping module with parallel gripper-GSM-P.



Features:

- Offered gripper swivel modules by default as compact, modular designed parallel, centric, and angular gripper swivel modules. It can be used in a wide range of applications, from loading and unloading workpiece carriers to insertion operations in assembly processes and picking of finished goods in covering boxes.
- Furthermore, innovative design tweaks, such as the powerful rotor drive, as angle of rotation up to 180° and end-position and cushioning adjustment are combined with state-of-the-art production technology to give the grippers robust reliability and precision, therefore making them safe investments with a long service life.
- Compact gripper swivel combination, consisting of a powerful rotor drive, an end position and damping device as well as a 2-finger parallel gripper.

About the Company: Schunk Intec India is engaged in products distribution and supply of industrial automation systems, automation work holding, tool holding, heat shrink tool holder, etc.

Contact:

Schunk Intec India Pvt Ltd, Bangalore
Tel: 080-40538999
Email: rakhi.singh@in.schunk.com

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DRESSING BLOCKS

Wendt (India) Limited offers a wide range of dressing blocks.

Features:

- Dressing blocks are ideal alternatives to rotary dressing wheels in applications where mechanical dressing is considered as un-economical.
- These can be mounted by using simple attachments to machines. It also offers dressing solutions customer specific applications.



About the Company: Wendt India known for its diversified and impressive Product Portfolio, Innovation strategy, strong Product Development, Personalized technical services and providing Technology Solutions in Grinding to its 750+ direct customers in the domestic market.

Contact:

Wendt (India) Limited, Hosur
Tel: 04344-276851, 276852
Email: Srikanthc@wendtindia.com

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MEASURING CYCLE PACKAGES FOR BLUM TOUCH PROBES

Blum-Novotest Measuring & Testing Technology Pvt Ltd offers a wide range of measuring cycle packages for blum touch probes.



Features:

- User-friendly software for workpiece measurement and temperature compensation with BLUM touch probes.
- User-friendly subroutines for machine control. It can be used both for workpiece referencing as well as for measuring during the production process.
- Optimum exploitation of potential of the BLUM touch probes. Optionally available software components.

About the Company: Blum Novotest Measuring & Testing Technology Pvt Ltd has made a name for itself in the list of top suppliers of bore gauge, radio receiver in India.

Contact:

Blum-Novotest Measuring & Testing Technology Pvt Ltd, Bangalore
Tel: 080-23185468 Mobile: 09075004435
Email: info@blumnovotestindia.in,
shyambv@blumnovotestindia.in

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HARAX® TOOLLESS RAPID TERMINATION

HARTING India Pvt Ltd offers a wide range of HARAX® toolless rapid termination.



Features:

- HARAX® is a toolless rapid termination technique from HARTING. The contact is established via insulation displacement contacts. M8 / M12 circular connectors with HARAX® connection can be easily assembled by hand on-site.
- Its features include: termination technique for M8 and M12; toolless rapid termination; very quick; IP 65/67 standard for use in outdoor and humid areas.

About the Company: HARTING India seeks to enhance the country's Industrial capability and competitiveness to become a Global Player in terms of Technology and Markets, by providing the latest technology.

HARTING will be the most preferred partner for Interconnection solutions in India.

Contact:

HARTING India Pvt Ltd, Chennai
Tel: 044-43560415, 43456262
Email: Indira.C@harting.com

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ELECTROMAGNETIC PRODUCTS AND TRANSDUCERS

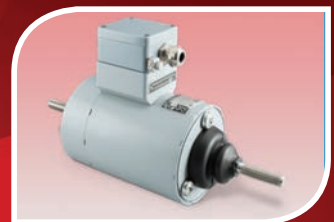
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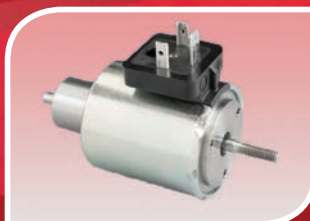
AC Vibrators



Rotary Solenoids



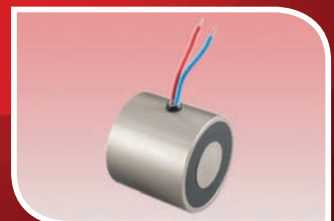
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Infrastructure Push Thrusts Hydraulics Market Upward

Infrastructure development remains one of the most significant growth drivers for the hydraulics market. Governments and private sectors worldwide are investing heavily in urbanisation, smart cities, and transportation networks, increasing the demand for heavy-duty hydraulic machinery.



The hydraulics manufacturing industry is the silent force powering some of the world's most critical sectors, from construction sites and agricultural fields to aerospace engineering and automation. Behind every towering skyscraper, high-speed train, and deep-sea oil rig, hydraulic systems play an essential role, converting mechanical energy into controlled motion with unmatched precision. As industries push the limits of efficiency, durability, and sustainability, hydraulic manufacturers are at the forefront, innovating with smart technologies, eco-friendly fluids, and advanced materials.

The global hydraulics market has shown consistent growth, expanding from \$42.59 billion in 2024 to \$44.75 billion in 2025 at a CAGR of 5.1 per cent. This upward trend is driven by increased industrialisation, infrastructure investments, and the rising adoption of hydraulic systems in key industries. Projections indicate that the market will reach \$53.73 billion by 2029, growing at a CAGR of 4.7 per cent. Government investments in infrastructure development, the need for energy-efficient solutions, and advancements in hydraulic technology continue to fuel this expansion.

Hydraulic systems play a vital role in modern

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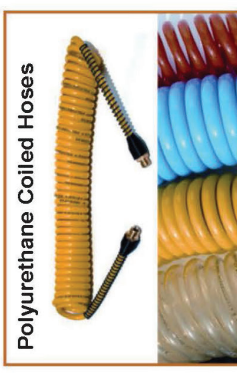
FRL



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Polyurethane Coiled Hoses



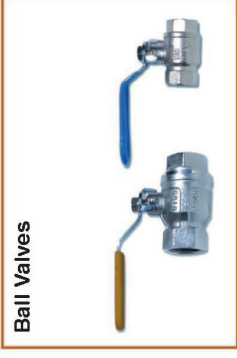
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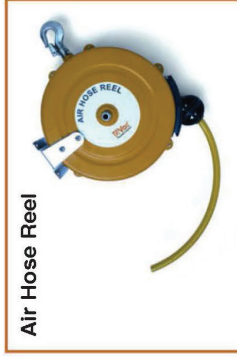
Air Silencers



Air Gun & Coolant Gun



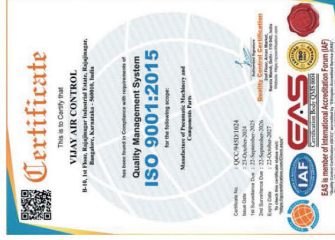
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Pune Office:- No. c-34 & 35, 1st Floor, 128/3, Sanghavi Complex, Mohan Nagar, Chinchwad, Pune 411019

Tel: +912027464860 / 32507458 Contact Person: **Jay Mehta**, Mob: +919011096668 email: saivacblr@vacpneumatic.co.in

machinery due to their ability to generate high power while maintaining precise control. They convert mechanical energy into hydraulic energy through pumps, which then power motors, cylinders, and valves. The main product types include hydraulic pumps, motors, cylinders, valves, and filters. Each of these components serves a distinct function in various applications. Hydraulic pumps, for instance, are categorised into gear pumps, piston pumps, vane pumps, and screw pumps, each offering different levels of efficiency and power output. Motors, on the other hand, can be gear, vane, piston, or radial piston motors, catering to various industrial needs. Hydraulic cylinders, crucial for linear motion applications, are available as single-acting, double-acting, telescopic, and rodless cylinders.

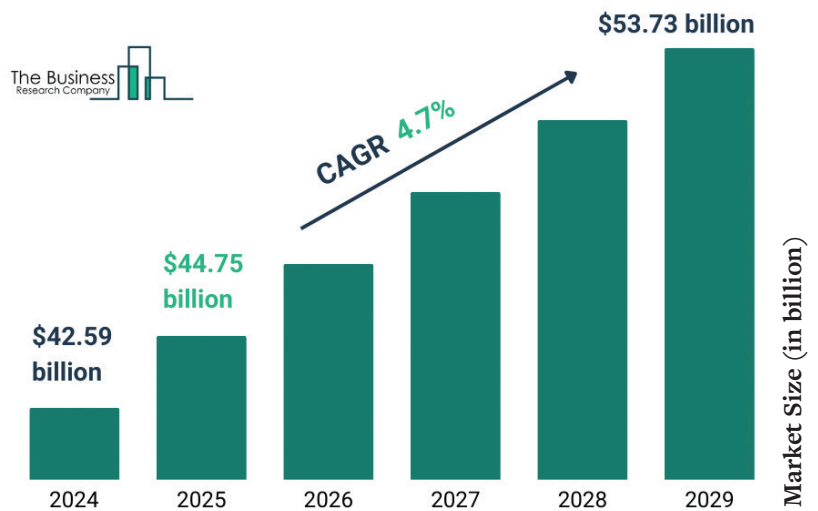
Infrastructure boom

Infrastructure development remains one of the most significant growth drivers for the hydraulics market. Governments and private sectors worldwide are investing heavily in urbanisation, smart cities, and transportation networks, increasing the demand for heavy-duty hydraulic machinery. The UK government, for instance, increased its infrastructure investment by 9.6 per cent in 2022, reaching approximately \$32.4 billion. Such projects necessitate advanced hydraulic equipment for large-scale construction activities, reinforcing market growth. Countries such as China and India are also seeing a surge in hydraulic equipment demand due to large-scale road, rail, and urban development projects.

Hydraulics across industries

Technological advancements are playing a transformative role in the evolution of the hydraulics industry. The integration of hydraulic and electric systems has led to the development of hybrid solutions that enhance energy efficiency and reduce fuel consumption. Advanced simulation tools powered by AI optimise hydraulic system design and testing, while high-pressure hydraulic systems improve performance in aerospace and industrial applications. The introduction of digital hydraulics and smart sensors enables real-time monitoring, ensuring predictive maintenance and reducing downtime. Additionally, research into environmentally friendly hydraulic fluids is gaining traction, with bio-based and low-viscosity options

Hydraulics Global Market Report 2025



replacing traditional petroleum-based fluids.

The demand for hydraulic systems varies across industries, each requiring tailored solutions to enhance efficiency and productivity. In the construction sector, hydraulic excavators, cranes, and loaders are indispensable for infrastructure projects. In agriculture, hydraulic tractors, sprayers, and irrigation systems are crucial for improving farming efficiency. The automotive industry relies on hydraulic components for power steering and braking systems, while aerospace applications depend on hydraulic actuators and landing gear systems for safety and precision. The oil and gas sector, mining, and marine industries also rely heavily on hydraulic systems for high-pressure applications and operational stability. Hydraulics are also critical in industrial manufacturing, where they power robotic arms, presses, and conveyor systems.

Key players

The competitive landscape of the hydraulics market is characterised by key players investing in innovation and expansion. Major companies such as Caterpillar Inc., Komatsu Ltd., Eaton Corporation, Parker Hannifin Corporation, Kawasaki Heavy Industries Ltd., Moog Inc., KYB Corporation, HYDAC International GmbH, and Bucher Hydraulics are at the forefront of the industry. Strategic mergers and acquisitions further strengthen market positioning. In February 2023, Bosch Rexroth acquired HydraForce to expand its compact hydraulics segment, demonstrating the market's dynamic nature and continuous evolution. Similarly, Eaton Corporation has been investing heavily in R&D to enhance hydraulic system efficiency, reduce emissions, and improve



PNEUMEC KONTROLLS

Quick Release Couplers



Hi Cupla



SP Cupla Type A



HSP Cupla



Mold Cupla

delvo Torque Controlled Electric Screwdrivers (AC/DC)



Torque Checker



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TIGON



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Available Shank Type: 5mm & 6.35mm hex shank, 4mm half moon shank, 4mm & 5mm wing shank and more.

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Hex (H)	H			

Torx / Torx Tamper Proof	NT/JT NT XXH / JT XXH			
Socket	A/F			

Pneumatic Tools



Pencil & Die Grinders



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Belt Sanders



Chipper



Lightweight Filer

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TONE

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Torque Multiplier



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Wrenches

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Cell: +91 98451 69807, +91 98451 22462, +91 81050 81051, Email: customer.support@pneumec.in | sales@pneumec.in

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sustainability.

Product innovation remains a crucial factor driving market competition. In November 2023, Danfoss introduced the H1F fixed displacement bent axis hydraulic motor, boasting up to 95 per cent efficiency. Such developments highlight the industry's commitment to enhancing performance and sustainability. Companies are focusing on energy-efficient hydraulic solutions to meet stringent environmental regulations and cater to the growing demand for eco-friendly alternatives. Hybrid hydraulic systems, which integrate traditional hydraulics with electric drives, are also gaining popularity due to their ability to reduce fuel consumption and emissions.

Regional insights

The regional outlook of the hydraulics market indicates strong growth prospects across multiple geographies. The Asia-Pacific region dominates the market, driven by rapid industrialisation, construction booms, and infrastructure projects in China, India, and Japan. North America is expected to be the fastest-growing region due to robust demand in aerospace, automotive, and oil and gas industries. Investments in automation and smart manufacturing further accelerate market expansion. In Europe, stringent regulations promoting eco-friendly hydraulic systems and a strong presence of leading manufacturers support market growth. South America, the Middle East, and Africa are also experiencing steady growth, particularly in the mining and energy sectors.

Trends

The future of the hydraulics market will be shaped by digitalisation, electrification, and sustainability initiatives. Companies investing in smart hydraulic systems, eco-friendly fluids, and AI-based predictive maintenance will gain a competitive

edge. The expansion of AI and IoT in hydraulics will optimise system performance through real-time monitoring and predictive analytics. Hydraulic-electric hybrid systems will enhance energy efficiency, reducing environmental impact. The adoption of 3D printing for hydraulic components will accelerate production while lowering manufacturing costs. Additionally, the development of sustainable hydraulic fluids, including bio-based and low-viscosity options, will replace conventional oils, aligning with global environmental goals.

Another significant trend is the increasing demand for automation in hydraulic systems. Automated hydraulic machinery enhances precision, reduces labour costs, and improves safety, making it an attractive option for industries looking to optimise operations. Robotics and automated assembly lines in manufacturing rely heavily on hydraulic power, further driving market demand. The implementation of Industry 4.0 technologies in hydraulics is also expected to revolutionise the sector by integrating digital twins, remote diagnostics, and machine learning algorithms to improve system efficiency and longevity.

Hydraulics is more than just a technology; it is the backbone of global industrial progress. From construction giants to aerospace marvels, hydraulic systems drive innovation, efficiency, and productivity. As industries evolve, so will hydraulics, integrating cutting-edge technologies to meet the challenges of tomorrow. The market's future lies in smart automation, sustainable solutions, and high-performance engineering, ensuring that industries worldwide continue to operate efficiently and effectively. Companies that embrace digital transformation, energy efficiency, and sustainable innovations will be at the forefront of this evolution, shaping the next era of industrial hydraulics.

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Altem and One Click Metal to Make 3D Printing Accessible

By combining One Click Metal's innovative BOLDseries metal 3D printing systems with Altem Technologies' extensive distribution network and industry expertise, the collaboration aims to provide cost-effective, user-friendly solutions tailored to the needs of Indian businesses.



One Click Metal, a leading provider of metal 3D printing solutions, is pleased to announce a partnership with Altem Technologies, a pioneer in additive manufacturing and product lifecycle management solutions in India. This collaboration aims to make metal 3D printing more accessible to small and medium-sized enterprises and research institutions across India, addressing the growing demand for advanced manufacturing technologies in the region.

Expanding metal 3D printing accessibility

The partnership between One Click Metal and Altem Technologies seeks to bridge the gap between advanced metal 3D printing technologies and the Indian manufacturing sector. By combining One Click Metal's innovative BOLDseries metal 3D printing systems with Altem Technologies' extensive distribution network and industry expertise, the collaboration aims to provide cost-effective, user-friendly solutions tailored to the needs of Indian businesses.

Leadership perspectives

Martin Heller, Global Sales Director, One Click

Metal, expressed enthusiasm about the partnership:

"Collaborating with Altem Technologies aligns with our mission to democratise metal 3D printing. Their deep understanding of the Indian market and commitment to customer success make them an ideal partner as we expand our global footprint."

Abhishek Kalra, Associate Vice President-Digital Manufacturing, Altem Technologies, commented on the strategic alliance: "Partnering with One Click Metal enables us to offer cutting-edge metal 3D printing solutions to our clients. This collaboration will empower Indian manufacturers to innovate and enhance their production capabilities, keeping pace with global advancements in additive manufacturing."



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Reshu Madan,
Director & CEO - Global Products & Services,
Sterlite Power Transmission Ltd

Can you provide an overview of the Global Products & Services business?

We are the leading provider of conductors and optical ground wire (OPGW) solutions. Our product portfolio covers a complete range of conductors — from conventional conductors to high-performance conductors — and, in both segments, we enjoy a leadership position in India with a market share of about 30-35 per cent. Beyond our strong domestic presence, our products have a global footprint, having been exported to nearly 70 countries. This footprint has been built over time and continues to grow with consistent exports and worldwide partnerships.

The business has been growing well, driven by favourable tailwinds in the Indian market, particularly due to the strong push toward renewable energy. This surge in renewable energy projects has led to a significant increase in transmission projects under the tariff-based competitive bidding (TBCB) model. These projects primarily focus on evacuating renewable power

“India’s power sector is at a pivotal juncture.”

Indian power equipment sector has seen good growth, driven by increasing investment in renewable energy. This surge in renewable energy projects has led to capacity expansion by players in this sector. In this interview with Rakesh Rao, **Reshu Madan, Director & CEO - Global Products & Services, Sterlite Power Transmission Ltd,** highlights on emerging opportunities for the company with energy sector undergoing transformation with increasing contribution of renewables, especially solar.

from states like Gujarat, Rajasthan, and parts of southern India to major load centres across the country.

In the current fiscal year alone, India has seen transmission projects worth ₹500-600 billion being auctioned, and this is expected to cross ₹1 trillion due to the inclusion of two high-voltage direct current (HVDC) projects. Conductors typically account for about 15-20 per cent of this market, translating to a ₹100-120 billion opportunity. Given our 30 per cent market share, our revenue from this segment alone stands at approximately ₹40-50 billion, a significant portion of a rapidly expanding market.

What differentiates Sterlite Power’s products from competitors?

Our success lies in our commitment to innovation and our ability to deliver differentiated products. From the early days of tariff-based competitive bidding (TBCB) projects, most players relied on conventional Aluminum Conductor Steel Reinforced (ACSR) conductors. In this space, there are around 20 players in India, ranging from small to large manufacturers, primarily because these conventional conductors require minimal technological advancement.

We identified a critical gap in the market by engaging with developers to understand their pain points. Land acquisition and right-of-way issues are among the biggest challenges in building transmission lines. Additionally, conventional conductors resulted in higher power losses and lower power evacuation efficiency.

To address these challenges without escalating costs, we introduced A159 alloy conductors, STER-AL59. This product provides nearly 20-25 per cent more power evacuation capacity compared to conventional conductors and is also lighter. This results in reduced structural requirements, allowing for narrower and less cumbersome transmission towers and simpler foundations. Ultimately, this speeds up the construction of transmission lines, reducing project timelines and costs.

We brought this innovation to the market three to four years ago, and competitors have yet to catch up. This early mover advantage has played a crucial role in strengthening our market share and maintaining our leadership position.

With India's renewable energy push, how does this impact your business and product innovation strategy?

India's renewable energy drive offers significant growth opportunities for our business. Of the total renewable energy capacity, around 60 per cent to 70 per cent is solar, 20 per cent to 25 per cent is wind and hydro combined, and the remaining share comes from biomass and other sources.

Recognising the rising demand for solar infrastructure, we are expanding our solar cable manufacturing capacity with new capital expenditure for this segment. The solar cable market in India is growing rapidly, and with only six to seven major players, there is substantial room for expansion. Leveraging our established brand and presence in the cable segment, we see strong potential to contribute significantly here.

In addition to solar cables, we have introduced high-performance conductors, specifically designed for microgrids and renewable energy installations. These conductors minimise power losses and increase transmission efficiency, aligning perfectly with the needs of distributed energy systems.

We also supply a wide range of medium-voltage cables and other cabling solutions to major solar developers in India and our own projects. This end-to-end capability positions us well to serve both the generation and transmission needs of India's renewable energy ecosystem.

What steps are you taking to meet growing demand?

Given the increasing demand and pipeline of

transmission and renewable energy projects, we recognised the need to expand our manufacturing capacity. Last year, we made the strategic decision to increase our conductor production capacity by 1.5x.

In the cable segment, we are making substantial investments in a greenfield plant in Vadodara. This facility will manufacture high-voltage alternating current (HVAC) cables up to 400kV and HVDC cables up to 550kV, which are essential for HVDC projects requiring long-distance, high-power transmission.

This ₹2 billion investment reflects our commitment to scaling up and staying ahead of market demand. Construction is already underway, and we expect the plant to be fully operational by the end of the 2025, with full-scale operations expected in early 2026.

What are some of the industry's challenges at present?

India's power equipment sector still relies heavily on imports, particularly for raw materials and certain components. Products like transformer enclosures, gas-insulated switchgear (GIS) components, and bushings are often sourced from China, Japan, and South Korea.

One of the major pain points for the transformer industry, for instance, is the lack of domestic production of cold-rolled grain-oriented (CRGO) steel, which is a critical material for transformer cores. Currently, 100 per cent of this material is imported, creating supply chain vulnerabilities and cost pressures.

This issue was a focal point during a recent industry dialogue at Elecrama 2025, where we had a detailed discussion with the Union Minister of Power and Power Secretary. The government has been receptive and is working toward aligning policies to support local industry and reduce dependency on imports.

What role does Sterlite Power play in promoting domestic manufacturing and reducing import dependence?

At Sterlite Power, we are committed to enhancing India's self-reliance in the power equipment sector through innovation and capacity expansion. By investing in local manufacturing capabilities, such as our greenfield cable plant in Vadodara and the expansion of our conductor production, we aim to reduce dependence on imported materials and components.

Additionally, our focus on high-performance, domestically manufactured products like alloy conductors and solar cables supports the 'Make in India' initiative. We are actively collaborating with industry bodies and government agencies to address supply chain issues and advocate for policies that promote domestic manufacturing.

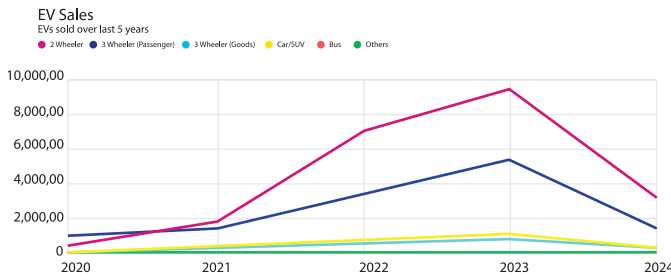
SME



Can India's Clean Mobility Run on Green Power?

Perhaps the most exciting aspect of India's green mobility future is the evolution of electric vehicles from simple transportation tools to sophisticated energy assets, remarks **Manoj Kumar Singh, Director General, Digital Infrastructure Providers Association.**

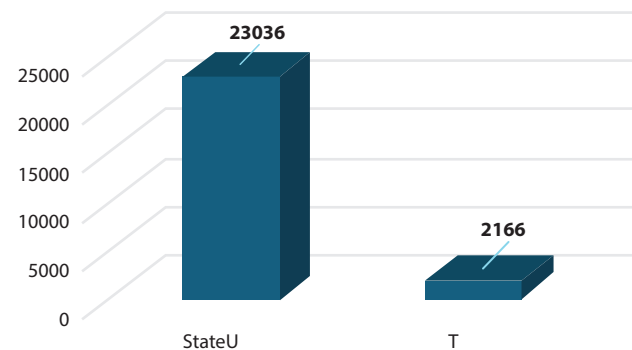
India stands at the threshold of a transformative green revolution where electric mobility and renewable energy converge to create a sustainable future unprecedented in scale and impact. With EV sales soaring to 1.9 million units in 2024, a robust 24.5 per cent year-over-year growth, India is not just adopting clean transportation; it's pioneering an integrated ecosystem where green mobility and clean power reinforce each other in a virtuous cycle of sustainability.



Source: EV Ready India

India's green mobility renaissance

Since 2015, India has embarked on an ambitious journey toward electric mobility through visionary initiatives like the PM E-Drive scheme with its ₹109 billion allocation and the highly successful FAME India Scheme Phase-II, which has empowered over 1.6 million electric vehicles on Indian roads. The rapidly expanding



EV charging stations

Source: Press Information Bureau



Source: Freepik

network of 25,202 charging stations represents not merely infrastructure but the foundation of a new energy paradigm.

This remarkable progress reflects India's unwavering commitment to sustainable transportation. The country is witnessing a green mobility renaissance that extends beyond vehicle electrification to encompass a complete reimagining of how we power movement in the 21st century.

Synergy of clean power and green mobility

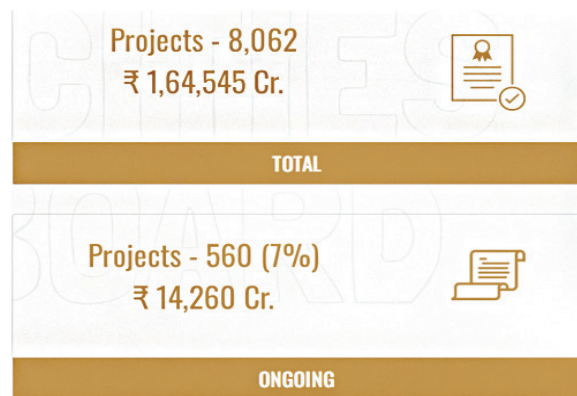
The true genius of India's approach lies in recognising that green mobility and clean power are two sides of the same sustainability coin. By developing these systems in tandem, India is creating a powerful synergy that amplifies the benefits of both.

India's renewable energy achievements provide the perfect foundation for this integration. Having surpassed 200 GW of installed solar capacity, with an impressive addition of 24.5 GW in 2024 alone, the country possesses the clean energy resources to power a truly green mobility revolution. The 53 per cent surge in rooftop solar installations and extraordinary 197 per cent growth in off-grid solar solutions demonstrate India's capacity to generate clean power at both utility and distributed scales.

This abundant renewable capacity presents an unprecedented opportunity to create a mobility



Source: Smart City Mission



ecosystem that is clean from source to wheel, where electric vehicles run on sunshine and wind rather than distant coal plants.

EVs as energy innovators

Perhaps the most exciting aspect of India's green mobility future is the evolution of electric vehicles from simple transportation tools to sophisticated energy assets. Through vehicle-to-grid (V2G) technology, India's growing EV fleet will become a nationwide network of mobile power banks, capable of storing renewable energy during generation peaks and returning it during high demand periods.

Imagine millions of electric cars, buses, and two-wheelers collectively forming a massive distributed battery system that smoothes renewable energy intermittency while providing transportation. This vision transforms the traditional one-way relationship between vehicles and energy into a dynamic partnership where EVs become active contributors to grid stability and clean power accessibility.

Pioneering policy framework

India's policy vision has created a fertile environment for this clean energy-green mobility integration. The revolutionary Green Energy Open Access (GEOA) policy has democratised renewable energy access, currently 26 states and Union Territories have notified, catalysing unprecedented investments and market growth.

The Ministry of Power's forward-thinking Guidelines for Battery Swapping and Charging Stations further accelerate this integration by promoting innovative approaches to EV charging. By embracing battery swapping alongside traditional charging, India is creating a diverse and resilient green mobility ecosystem that adapts to various user needs and infrastructure contexts.

These initiatives align with India's ambitious Panchamrit climate commitments, including 500 GW of non-fossil capacity by 2030 and net-zero emissions by 2070, demonstrating how green mobility serves as a

cornerstone of the nation's broader sustainability vision.

Smart Cities as sustainability showcases

India's smart city initiatives serve as living laboratories for the integration of clean energy and green mobility. The successful implementation of 7,502 smart city projects worth ₹1,502.85 billion demonstrates how urban environments can become sustainability showcases where multiple green technologies converge.

The emergence of integrated street furniture that combines solar-powered EV charging stations with digital connectivity infrastructure represents the physical manifestation of this integration. These elegant, multi-function installations not only maximise urban space but create visible symbols of India's clean, connected future.

Economic leadership through green innovation

India's integrated approach to clean energy and green mobility positions the country for economic leadership in the global sustainability transition. The localisation initiatives under the National Mission on Transformative Mobility and Storage are creating domestic manufacturing capabilities across the entire EV value chain, from batteries to charging systems to vehicles themselves.

This green industrialisation strategy is generating high-quality employment opportunities while reducing dependency on imported fossil fuels. As global markets increasingly demand sustainable solutions, India's early mastery of integrated clean energy and green mobility systems creates significant export potential and positions the country as a solution provider to the world.

Zero-emission vehicles to zero-emission power

India stands at the precipice of a revolutionary breakthrough, a mobility ecosystem where every electric kilometre is powered by clean, renewable energy. This

vision transcends the traditional EV narrative by closing the sustainability loop: vehicles that emit nothing on the road charged by energy that emits nothing at the source.

This complete green circuit represents the crown jewel of India's sustainable development strategy. When sunlight and wind directly power our transportation, we don't merely reduce emissions—we eliminate them entirely while building energy sovereignty. Every solar-charged EV becomes a symbol of India's innovation leadership and commitment to authentic sustainability.

Creating the solar-powered mobility revolution

The infrastructure for this transformation is rapidly taking shape across India. Solar canopies above charging stations are evolving from novelty to necessity, turning parking time into clean energy generation. Innovative battery storage systems are bridging the temporal gap between peak solar production and evening charging demands. Smart charging algorithms are already directing EVs to charge during renewable energy abundance, creating a natural harmony between power generation and consumption patterns.

The timing couldn't be more strategic. As India simultaneously builds both its EV charging network and renewable energy capacity, the opportunity for purposeful integration is unprecedented. By designing these systems to work in concert from the beginning, India avoids the inefficient retrofit approach that has hampered other nations' transitions.

Innovations leading the way

India's entrepreneurial ecosystem is already delivering the innovations needed for this integration:

- Solar expressways featuring integrated photovoltaic surfaces and charging infrastructure are transforming highways into both transportation corridors and clean energy generators. These smart roadways will eventually create continental-scale solar charging networks.
- Green power trading networks enable EV owners to participate directly in renewable energy markets, allowing them to select specific solar or wind facilities as their vehicle's power source and creating consumer-driven demand for clean charging.
- Digital energy certification leverages blockchain technology to verify and track clean energy from generation to vehicle, giving consumers absolute certainty about their transportation's environmental impact and creating premium markets for guaranteed green mobility.
- Dynamic grid-responsive charging uses artificial

intelligence to orchestrate millions of vehicle charging sessions, automatically adjusting to maximise renewable energy utilisation while ensuring vehicles are charged when needed.

- EV-solar innovation hubs are becoming centres of excellence where India's brightest minds collaborate to develop next-generation technologies that further integrate clean mobility and renewable energy systems.

These innovations aren't distant possibilities, they represent India's immediate opportunity to lead the global clean transportation revolution by solving its most fundamental challenge: ensuring electric vehicles truly deliver on their environmental promise through guaranteed clean energy charging.

Conclusion

India's approach to resolving the EV paradox, by creating an integrated ecosystem where clean mobility runs on clean power, offers a blueprint for sustainable development worldwide. Rather than viewing electric vehicles and renewable energy as separate challenges, India recognises them as complementary opportunities that together create something greater than the sum of their parts.

This visionary integration positions India not merely as a participant in the global clean energy transition but as a leader defining its shape and pace. By powering green mobility with clean energy, India demonstrates how developing economies can leapfrog older technologies to create sustainable systems from the ground up, delivering environmental benefits, energy security, and economic opportunities simultaneously.

As this vision becomes reality, India emerges as the proving ground for a new sustainability paradigm where the question is no longer 'Can India's clean mobility run on clean power?' but rather 'How quickly can the world follow India's integrated approach to green transportation and renewable energy?'

SME



About the author:

Manoj Kumar Singh is an experienced professional with a distinguished career in the digital infrastructure sector. Currently serving as the Director General of the Digital Infrastructure Providers Association (DIPA), he has been instrumental in steering the organisation's initiatives and representing the interests of its members. With a

deep understanding of the sector's dynamics and challenges, Singh has played a crucial role in advocating for policies that foster innovation, investment, and sustainable growth in the digital infrastructure industry. Singh brings a wealth of experience from his two-and-a-half-decade tenure including 16-years at Indus Towers, one of the world's largest tower companies, where he served in various key leadership roles, including Chief Regulatory Officer; CSR and CTO; Chief of Regulatory Affairs & Sustainability.



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India Takes a Leap in Energy Transition at Elecrama 2025

With over 1,100 exhibitors and presence of leading international players, Elecrama 2025 provided a vital platform to witness cutting-edge innovations in the energy sector. The event further reinforced India's position as a major force in the global energy ecosystem, reports Rakesh Rao.



Elecrama 2025, organised by the Indian Electrical & Electronics Manufacturers' Association (IEEMA) from February 22 to 26 at Greater Noida, was a landmark event for India's electrical and energy sectors, underscoring the nation's growing influence in the global energy transition. The 16th edition of this exhibition highlighted India's commitment to becoming a global manufacturing hub under the Aatmanirbhar Bharat initiative and a key player in the evolving energy landscape. The inaugural session witnessed participation from top industry leaders, such as Oliver Blum, CEO, Schneider Electric; Matthias Rebellius, CEO, Siemens Smart Infrastructure; Sunil Singhvi, President, IEEMA; Vikram Gandotra, President (Elect) and Chairman, Elecrama 2025; and Siddharth Bhutoria, Vice President, IEEMA and Vice Chairman, Elecrama 2025.

Elaborating on the government's efforts to strengthen India's energy infrastructure, Manohar Lal Khattar, Union Minister of Power and Minister of Housing & Urban Affairs, said, "India is on track to becoming the world's third-largest economy by 2027 and a fully developed nation by 2047. Power is at the core of this transformation. With renewable energy capacity exceeding 200 GW and an ambitious target of 500 GW by 2030, we are making significant strides toward sustainability. The expansion of EV infrastructure, the integration of Vehicle-to-Grid (V2G) technology, and the

digitalisation of the power sector will be crucial in this transition."

Oliver Blum noted, "With the rapid adoption of artificial intelligence, the expansion of data centers, and industrial growth, the demand for innovative energy solutions has never been greater. India's strong manufacturing ecosystem and skilled workforce position it as a global leader in the energy transition."

Emphasising on the transformation underway in India's power sector, Matthias Rebellius said, "India is at a pivotal moment, where digitalisation and clean energy adoption are reshaping its power industry. Smart grids, automation, and sustainable energy investments will drive progress."

India is also playing a major role in the global decarbonisation initiative with 210 GW of renewable energy already achieved and a clear roadmap to 500 GW by 2030. With over 1,100 exhibitors and presence of leading international players, Elecrama 2025 further reinforced India's position as a major force in the global energy ecosystem. *Smart Manufacturing & Enterprises (SME)* interacted with some of the leading exhibitors to know more about emerging trends in the industry and their innovative offerings.

RR Global advocates safety in wires & cables segment

RR Global, a leading electrical and infrastructure solutions provider, is emphasising the importance of safety standards in the cables and wires industry. Speaking to *SME*, **Kirti Kabra, Director, RR Global**, highlighted, "There are concerns over substandard cables in the Indian market. Around 70 per cent of cables available in the country fall below BIS standards. Many manufacturers reportedly compromise on quality, using undersized copper conductors and inferior insulation to cut costs, posing serious fire hazards."

The company is actively engaging with regulators and industry bodies to push for stricter compliance and enforcement of quality standards. Recent discussions with government officials and industry associations such

as CII indicate growing awareness and potential regulatory actions to address these concerns.



L-R: Kirti Kabra, Director, and Shreegopal Kabra, MD, of RR Global

On the growth front, RR Global, which operates in over 19 countries with more than 50 national and international certifications, is strategically shifting focus from wires to cables. “Currently, wires account for 70 per cent of our business, but over the next 4–5 years, the company aims to increase the share of cables to 60 per cent,” added **Shreegopal Kabra, MD, RR Global**. While being a listed company prevents it from disclosing specific growth targets, RR Global remains committed to expanding its cable portfolio and ensuring adherence to the highest safety and quality standards.

Teledyne FLIR showcases innovative condition monitoring solutions

Teledyne FLIR presented its advanced utility-focused solutions at Elecrama 2025, with a strong emphasis on condition monitoring technology. The company’s thermal imaging products enable temperature measurement from a safe distance without requiring physical contact or system shutdowns. One of its flagship offerings can measure temperatures with an accuracy of $\pm 0.1^{\circ}\text{C}$ from up to 300 meters away. This allows utility technicians to assess transmission lines and critical infrastructure efficiently, even in challenging terrains like hills and rivers, significantly improving operational efficiency.

A key highlight is Teledyne FLIR’s acoustic imaging cameras, equipped with 124 microphones to detect and visualise partial discharges in electrical systems. These partial discharges, a common challenge in the power sector, can be identified with precision, enhancing predictive maintenance efforts. Additionally, the company offers specialised gas detection cameras capable of identifying SF₆, ammonia, and volatile organic

compounds, along with 24/7 monitoring solutions that provide real-time visualisation of critical infrastructure from anywhere in the world.

“The demand for these smart solutions was strong in 2024, driven by the increasing adoption of smart manufacturing and digitalisation in utilities. Teledyne FLIR’s digital solutions integrate cloud-based reporting, enabling remote analysis and management. With the ability to upload and access inspection data in real time from any location, these innovations enhance efficiency and decision-making for utilities,” stated **TP Singh, Sr Director Sales - APAC Instrumentation, Teledyne FLIR**.



TP Singh, Sr Director Sales - APAC Instrumentation, Teledyne FLIR

Teledyne FLIR has been firmly established in India since 2011, with a presence across all states. The company has trained over 300 professionals, ensuring strong technical support for its customers. It also operates service centers in India, offering calibration and demo units to maintain seamless operations. With a well-developed infrastructure and a commitment to expanding smart monitoring solutions, Teledyne FLIR is poised for continued growth in India’s evolving power sector.

Powermat leads sustainability in electrical manufacturing

The Powermat Group of Companies, including Powercam Electricals Pvt Ltd, was established in 1986 with a strong commitment to manufacturing high-quality products. By 1992, the company ventured into exports, driven by a vision to deliver superior products at a time when the Indian market was largely focused on low-cost, lower-quality items. Powermat’s export journey began with Thailand, gradually expanding to 70 countries worldwide, including the USA, Europe, the Middle East, and the Far East. The company specialises in producing low-voltage insulators, manufacturing approximately 100,000 insulators daily, with the USA and Europe being



K S Bhadauria, MD, Powermat Group of Companies

key markets. “Long before the Make in India initiative gained traction, Powermat was already championing the cause of quality Indian manufacturing on a global scale,” stated **K S Bhadauria, MD, Powermat Group of Companies**.

To meet international standards, the company developed an advanced in-house testing laboratory equipped to certify products according to US, IEC, RoHS, and REACH compliance standards. “In terms of innovation, we have recently launched high-performance products tailored for drilling applications in the USA, particularly for fracking operations. These products are designed to withstand extreme pressure and high temperatures deep underground, supporting independent drilling farms across the region,” added Bhadauria.

Powermat has also made remarkable strides in sustainability by achieving zero-waste manufacturing. The company developed an innovative system to recycle waste from thermosetting compounds, which traditionally would have been discarded in landfills. This recycled material is reused as filler in production, ensuring that no waste leaves the factory. The company holds prestigious certifications, including the ZED Gold Certification and export house accreditations. With 70 per cent of its revenue coming from exports, Powermat has increased its growth by 40 per cent this year and projects a 25–30 per cent growth next year.

Powermat’s expansive production facility, situated on six acres along the Delhi-Rohtak Road in Haryana, boasts a 250,000-sq ft manufacturing area, with additional land secured for future expansions. This infrastructure positions the company to scale operations seamlessly over the next five to six years.

Modutec highlights panel building software

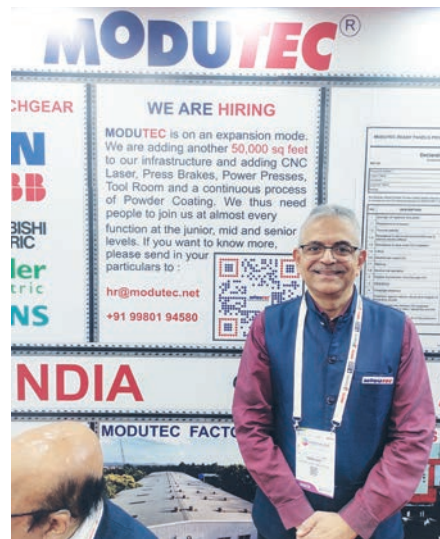
Modutec Ready Panels Pvt Ltd –a part of the Bangalore-based Mani Group of Companies – is an authorised stockist for brands like ABB, Legrand,

Socomec, Electron, etc. In 1990, Modutec expanded into electrical switchboard manufacturing, starting with low-voltage (LV) solutions. Modutec was registered in 2007 to address the growing demand for faster, smarter, safer, and more sustainable panel manufacturing, all while maintaining strict compliance with industry standards. “Today, exports make up 35–40 per cent of the production, and Modutec aims to increase this to 60 per cent soon. The manufacturing infrastructure spans 62,000 sq ft in Bangalore, with an additional 50,000 sq ft expected to be operational by May or June this year,” said **Ramani Mani, Managing Director, Mani Group of Companies**.

As a group, Modutec is projected to achieve a turnover of ₹1.5 billion this year, with plans to double this in the next two years. The production capacity is also set to increase significantly, currently converting approximately 120 tonnes of sheet steel per month and produce 400–500 electrical switchboard verticals monthly, both of which are planned to double annually over the next two to three years.

Their growth will be driven by both domestic and export markets. While load control products currently cater only to the domestic market, Modutec is actively exploring export opportunities. “A key highlight of our innovation is our new estimation software, MODEST

which simplifies panel costing. This follows our earlier software, MODSIM, which helps panel builders generate GA (General Arrangement) drawings and bills of material from a single-line diagram,” commented Ramani Mani.



Ramani Mani, MD, Mani Group of Companies

MODEST

takes this further by allowing users to sketch GA drawings directly and automatically produce the entire mechanical bill of materials with pricing — a major advantage for large-scale enclosure estimations.

Kusum-Meco expands product line amid rising demand

Kusam Electrical Industries Ltd (Kusum-Meco), a

leading manufacturer of electronic test and measuring instruments, is witnessing strong growth driven by increasing electrification and government policies promoting renewable energy. The company, which has been in the industry for over 40 years, offers a wide range of high-precision instruments, including UL-listed multimeters, insulation resistance testers, process calibrators, thermal imagers, and micro-ohm meters.



L-R: Chandmal Goliya, MD, and Navin Goliya, Director, of Kusam Electrical Industries Ltd

“Nearly 40 per cent of our showcased products at Elecrama are new. Among the latest additions are partial discharge acoustic imagers for power industry applications and multifunction insulation testers catering to

the growing EV sector. We are also seeing strong demand for testing instruments from industries such as solar, wind, and power transmission,” disclosed **Chandmal Goliya, MD, Kusam Electrical Industries Ltd.**

Kusum-Meco anticipates a 25 per cent year-on-year revenue growth, driven by increased demand for advanced measuring instruments. While exports remain a lower priority due to high domestic demand, the company continues to expand its product portfolio in response to industry needs.

EAPL showcases expanded range

Electronic Automation Pvt Ltd (EAPL), a leader in industrial electronic instrumentation, founded in 1985, has revolutionised India’s industrial landscape by introducing standardisation in electronic instruments like DIN rail-mounted products. A key feature of EAPL’s products was the universal voltage range (24 to 241V AC/DC), reducing inventory and costs for customers.

Over three decades, EAPL has built a strong reputation for high-quality, competitively priced products. Their portfolio now includes annunciators, sequential timers, energy meters, temperature controllers, time switches, power supplies, reduction



Ashok Shanbhag, MD, Electronic Automation Pvt Ltd

relays, and IoT-enabled instruments. “The new theme, Engineering Smart Solutions, reflects our expanded product range and commitment to innovation,” said **Ashok Shanbhag, MD, Electronic Automation Pvt Ltd.**

EAPL has established a production capacity of over one million products annually, with a diverse portfolio of 500+ products. While their products are already exported to over 20 countries, the company aims to increase its export market share further, leveraging their zero-defect quality and growing global demand.

Sai Computers eyes growth in power distribution sector



Ayush Kumar, Director & CEO, Sai Computers Ltd

Sai Computers Limited, led by Ayush Kumar as Chief Executive Officer and Director, is a 40-year-old company with a robust presence across the power distribution supply chain. The company operates four key verticals: power distribution franchises in Meghalaya and Tripura, digital solutions for utilities, transformer manufacturing up to 20 MVA and 33 kV class, and operational support

for power utilities. “Sai Computers is also one of India’s leading manufacturers of high-power voltage regulators, having supplied the country’s only 16 MVA high-tension AVR,” said **Ayush Kumar, Director & CEO, Sai Computers Ltd.**

At Elecrama 2025, the company showcased its achievements in power distribution, particularly its success in reducing losses in Meghalaya from 87 per cent to 16 per cent over five years. This success was driven by targeted interventions, including advanced analytics, strong field execution, and tailored solutions based on localised diagnostics. Key initiatives like providing doorstep and online payment facilities played a crucial role in improving collection efficiency across the vast service area.

Sai Computers also highlighted its digital products, including one of the country’s best-performing meter data analytics tools. This tool has delivered an average revenue increase of over 20 per cent for six different utilities, with one utility achieving an impressive 30x return on investment, claimed Kumar.

The company’s manufacturing facility in Meerut has also undergone a recent capacity expansion, now producing over 300–400 tons per month, up from 250 tonnes earlier. While Sai Computers exports to countries in Africa, Nepal, Bhutan, and other neighbouring regions, the company remains focused on India’s rapidly growing market. Looking ahead, Sai Computers expects strong growth in its digital product division and anticipates increased interest in private participation in power distribution, driven by rising discom losses and government initiatives.

Weidmueller Electronics eyes localisation in India

With a strong focus on providing value-added solutions tailored to customer needs, the Germany-based Weidmueller Electronics, which has been in India for over 30 years, has been playing a key role in the country’s industrial and automation sectors. The company has been a consistent participant in Elecrama the past many years and has been using the platform to showcase its latest technologies and innovations. According to Weidmueller, being part of such a prominent exhibition is crucial for understanding market dynamics, recognising industry trends, and adapting strategies to align with evolving demands.

“This year marks a significant milestone for Weidmueller globally, as the company celebrates 175 years in the industry. Having started with components like terminal blocks used in control cabinets, the company has evolved into a comprehensive industrial automation solutions provider. Today, we offer an extensive portfolio ranging from simple PCB connectors



Manoj Dunung, MD, Weidmueller Electronics India

to advanced IoT hardware and software solutions,” remarked **Manoj Dunung, MD, Weidmueller Electronics India.**

At Elecrama 2025, Weidmueller showcased its approach to solution engineering and its expertise across multiple industry segments. “The company is focused on understanding sector-specific challenges and offering customised solutions that address key pain points. Among its targeted verticals are green hydrogen, wind energy, photovoltaics, intralogistics driven by e-commerce, transportation (especially railways), marine, and process automation,” said Dunung.

Looking ahead, Weidmueller has ambitious growth plans for India, driven by the government’s Make in India initiative. The company, which started as a liaison office in 2015 and later transitioned to local billing and warehousing, has been steadily expanding its value-added services. Future plans include partial localisation through partnerships to gain market experience, with an eventual move toward establishing local manufacturing facilities.

Essen Deinki eyes growth through new products

Essen Deinki, a leading manufacturer of electrical components, participated in Elecrama 2025 to expand its industry connections and integrate into the evolving supply chain. With over ten years of participation, the company sees the event as an opportunity to engage with industry leaders and strengthen its position in the Indian and global markets. “We have observed a maturing Indian market, where customers are increasingly



Nikhil Jain, Managing Partner, Essen Deinki

prioritising quality and reliability over price. While Chinese and Far Eastern products offer competition, Essen Deinki differentiates itself through its superior quality-price ratio. Essen also exports to 14 countries, with Western Europe, Brazil, Africa, and the Middle East being key markets. Exports account for 40 per cent of its revenue, benefiting from the preference of developed markets for certified and reliable suppliers,” commented **Nikhil Jain, Managing Partner, Essen Deinki.**

Tracing its roots back to 1964, Essen Deinki started as an electrical component manufacturer before expanding into telecommunication connectors during India’s fixed-line telephone boom of the 1980s. Today, the company continues to supply leading telecom vendors while adapting to 5G and evolving telecom infrastructure needs. However, global competition remains a challenge, particularly from Western and Asian manufacturers.

Looking ahead, the company plans to expand its product portfolio, introducing 20-30 new products annually across switchgear, electrical solutions, and wiring. Essen Deinki aims to collaborate with automation and electrical sector leaders, leveraging gaps left by larger firms to capitalise on niche opportunities in the global market.

Vidhyut Control displays smart LV panels

Vidhyut Control, a 35-year-old manufacturer of LV control panels, is making its debut at Elecrama to gauge market response and showcase its latest technology. The company is displaying its CPAN design, developed as per

IEC 439 standards, featuring a complete range of Siemens LV products, including draw-out panels, intelligent motor control centres (IMCCs), and busbar termination systems.

With a production capacity of 4,000 verticals annually, Vidhyut Control offers a fully integrated in-house manufacturing setup, including sheet metal fabrication, powder coating, and wiring. The company employs 250 professionals and derives 80 per cent of its revenue from industrial businesses.

“The new panel design emphasises smart technology, allowing real-time data communication. Now, technology is all about being smart. Our panels enable users to monitor data from ACBs and motors directly on mobile devices, DCS, or SCADA systems. The shift towards digitalisation in energy management aligns with industry trends, as energy becomes a critical resource akin to air and water,” said **Varun Agarwal, Director, Vidhyut Control (India) Pvt Ltd.**



Varun Agarwal, Director, Vidhyut Control (India) Pvt Ltd

Looking ahead, Vidhyut Control is set to expand into medium-voltage (MV) manufacturing and double its production capacity. Currently operating a 55,000 sq ft plant in Ghaziabad, the company plans to scale up to 100,000 sq ft over the next three years. The first phase, covering 60 per cent of production space, is expected to be operational by December 2026. Beyond LV panels, Vidhyut Control also exports compressed fibre materials catering to the oil & gas and marine sectors across 26 countries, with a strong presence in the Middle East and South Asia.

Indore Composite unveils new conductor technology



Mukesh Sanghvi, MD, Indore Composite Pvt Ltd

Indore Composite Pvt Ltd, a leading manufacturer of composite products for fibre optic and power cables, has launched EnergyCore, becoming the first Indian company to develop and commercialise this advanced conductor technology. EnergyCore is designed to enhance grid efficiency, offering twice to three times the ampacity (ampere capacity) of conventional conductors while reducing sag and weight. Unlike traditional Aluminum Conductor Steel Reinforced (ACSR) conductors, which use steel cores, EnergyCore employs a carbon composite core, making it corrosion-resistant and lightweight.

“The technology is gaining traction globally, particularly in recondoring projects where it can replace aging infrastructure and double current capacity without modifications to existing transmission lines. Additionally, its lower energy losses contribute to a reduced carbon footprint, making it a sustainable alternative in power transmission,” remarked **Mukesh Sanghvi, MD, Indore Composite Pvt Ltd**. At Elecrama 2025, the company also showcased its semiconductive tapes used in high, medium, and low voltage power cables to prevent water ingress and electrical surges.

With 80 per cent of its revenue coming from exports to America and Europe, Indore Composite operates warehouses in the US and Brazil and has a manufacturing plant in Morocco to support European markets. Looking ahead, the company is gearing up for a major expansion, having acquired 30 acres of land in Vadodara. “We will establish a greenfield facility and plan to commence construction in June 2025, with commissioning targeted for 2026. This new plant will focus on EnergyCore production and a newly developed wind energy product,” informed Sanghvi.

Tesla Transformers plans capacity expansion

Tesla Transformers India is gearing up for a large-scale expansion to meet the rising demands for transformers across various sectors with a heavy focus on renewable energy. Tesla, a 50-year-old company, operates four manufacturing plants, three in Bhopal and one in Mandideep, 30 km from Bhopal. The company produces a wide range of transformers, including distribution, power, inverter, and furnace transformers, catering to diverse industrial needs. With a production capacity of 16,000 MVA per annum, Tesla expects to achieve a sales turnover of ₹10 billion this year and aims to reach ₹15 billion next year. Some of their important customers include NTPC, PGCIL, the Adani Group, and the Tata Group.



Jitendra Singh, CEO, Tesla Transformers (India) Ltd

“The demand for transformers, particularly in the renewable energy sector, remains high. Sectors like solar and wind energy are driving significant transformer demand, and this trend is expected to continue for the next five years,” highlighted **Jitender Singh, Country Head, Tesla Transformers India**.

To capitalise on this growth, Tesla showcased its 17.6 MVA IDD transformer at Elecrama 2025. Looking ahead, Tesla Transformers India plans to expand capacity and introduce new products, including transformers up to 200 MVA and 220 kV class. The expansion is expected to be completed in the next six months.

(With inputs from Sanskriti Ramachandran)

SME



"Secure Meters is foraying into PCB manufacturing."

Secure Meters Ltd, an Indian multinational, is a specialist in smart meters and electricity meters along with providing revenue management, power quality and energy efficiency solutions to its customers. With demand for electronics growing strongly in India, the company is gearing up for a foray into printed circuit board (PCB) manufacturing with ₹10 billion investment. Speaking to Rakesh Rao during Elecrama 2025, **Sanjiv Dhal, CEO – APAC, Secure Meters Ltd**, elaborates on the company's growth plans focusing on its diversification strategies.

Can you provide an overview of Secure Meters Limited?

Secure Meters Ltd is an India-based multinational company and a leading manufacturer of smart meters, electricity meters, and gas meters. Our goal is to help utilities and consumers manage energy efficiently by addressing issues related to revenue, comfort, and convenience. We have a strong presence in both domestic and international markets.

What are the key highlights of Elecrama 2025 for Secure Meters?

One of the major highlights for us at Elecrama 2025 is the launch of our new product, eWatch Online. This is specifically designed for small and medium enterprises (SMEs) where energy costs are a significant factor. However, these enterprises often lack skilled personnel or adequate IT infrastructure to monitor their energy consumption effectively.

This solution allows business owners, who often juggle multiple roles, to monitor their factory's energy consumption in real-time through a mobile device. This enables them to make informed decisions even when they are not physically present at their facility.

Apart from this, our product portfolio spans from power generation to transmission and distribution. We cater to residential and commercial developers, as well as OEMs. We also provide solutions for machine manufacturers, panel builders, and switchboard manufacturers.

Secure Meters is known for its commitment to quality. Can you elaborate on this?



Sanjiv Dhal,
CEO - APAC, Secure Meters Ltd

At Secure, we firmly believe that quality is not an expense but an investment that pays off. We pioneered a 10-year product life warranty, which we introduced at Elecrama 2019. This is unprecedented in the electrical industry, where most manufacturers, whether in LV switchgear, MV switchgear, cables, transformers, or conductors, typically offer warranties ranging from 12 to 18 months. Even utilities generally provide a maximum warranty of five years.

Our no quibbles warranty policy sets us apart. Unlike traditional warranties that cover only manufacturing defects often leaving customers with little choice, we guarantee performance without conditions. Today, 95 per cent of our products carry the 10-year product life warranty.

What are your growth plans?

India's power sector is experiencing massive growth, driven by the rise in renewable energy and expansion in transmission networks. Smart metering is also gaining momentum. At Secure, we have always been patient, focusing on long-term impact rather than short-term gains. We pioneered smart metering in India, starting with rural electrification projects in Bihar. Today, smart meters are advancing further with prepaid models that allow consumers to monitor and recharge their electricity usage via mobile phones. This innovation benefits both consumers and distribution companies (Discoms) by improving payment recovery and reducing losses.

Looking ahead, we see immense potential in the global market. The world is increasingly looking to India for quality electrical products, and Indian manufacturers

must step up to meet these expectations. Many companies from India have not yet made a significant global mark, but we are determined to change that narrative.

How significant is the export market?

Exports are a major component of our business, contributing approximately 65 per cent of our total revenue. Our primary export markets include the UK, Australia, Europe, and the Middle East. However, we do not have a strong presence in North and South America, and while we do sell in Africa, it is not a key focus area.

We see substantial opportunities for growth in our existing markets. The demand for high-quality, reliable smart metering solutions is increasing, and Secure Meters is well-positioned to capitalise on this trend. Our focus on quality and long-term performance gives us a competitive advantage in international markets.

How many manufacturing units do you currently operate?

We have four manufacturing facilities, one in Sanand (Gujarat), one in Udaipur (Rajasthan), one in Himachal Pradesh, and another in Italy. These plants are equipped with advanced technology to ensure high-quality production standards.

Are there plans to expand your manufacturing capacity?

Yes, we are expanding our business with a significant new initiative, an advanced PCB (Printed Circuit Board) manufacturing plant in Sehore, near Bhopal. This will be India's largest PCB manufacturing facility by a huge margin. The capacity we are building is nearly ten times larger than the next biggest PCB facility in India.

Why is Secure Meters entering PCB manufacturing?

India currently imports nearly 80 per cent of its PCB requirements, primarily from China. PCBs are crucial components in various industries, including consumer electronics, electric vehicles, and industrial automation. By setting up a domestic PCB manufacturing plant, we aim to reduce reliance on imports and strengthen India's self-sufficiency in this critical segment.

What is the scale of investment in the new PCB plant?

The total investment for this project, across multiple phases, will be close to ₹10 billion. Currently, we have acquired the land and completed ground levelling work. We are also constructing a water reservoir, as PCB manufacturing is highly water-intensive.

When is the expected commercial launch of the PCB plant?

The first phase is scheduled to be operational by January 2026. In this phase, we plan to produce approximately 50,000 sq m of PCBs. In the later phases, we intend to integrate backward into laminate manufacturing. Typically, PCBs are made from laminates, so by producing laminates in-house, we can enhance our control over quality and cost while further reducing reliance on imports.



The total investment for this project, across multiple phases, will be close to ₹10 billion. The first phase is scheduled to be operational by January 2026.

How does this expansion align with India's semiconductor and electronics manufacturing push?

The semiconductor industry is critical, but PCB manufacturing itself represents a massive opportunity. Without high-quality PCBs, the electronics ecosystem cannot function effectively. Our entry into this space is part of the broader vision to make India a global hub for electronics manufacturing.

With increasing demand from the electric vehicle (EV) sector, industrial automation, and telecommunications, the need for reliable PCB production within India has never been more urgent. We believe that this initiative will significantly contribute to the country's Make in India mission and position Secure Meters as a key player in the electronics supply chain.

What are your thoughts on the future of the electrical industry in India?

India is at a turning point where quality, reliability, and global competitiveness must take centre stage. The electrical and electronics industry has great potential, but we need to move beyond low-cost manufacturing and focus on innovation and quality.

The world is watching India, and we must rise to the occasion. Secure Meters is committed to leading this transformation, whether through smart metering, high-quality electrical components, or cutting-edge PCB manufacturing. We believe that by focusing on long-term value creation, we can contribute to making India a global leader in the power and electronics sector.

SME



“Raychem RPG aims for ₹20 bn revenue in next 2 years.”

Raychem RPG Pvt Ltd, a 50:50 joint venture between TE Connectivity and RPG Enterprises, provides engineering solutions and services to multiple industries. In this interaction with Rakesh Rao, **Vivek Venkatachalam, CEO, Raychem RPG**, highlights on emerging trends in the energy sector and the company's future plans.

Can you provide an overview of Raychem RPG and its key product offerings?

Raychem RPG is a leading manufacturer of electrical products catering to India's energy and transition sectors. Our portfolio includes a wide range of solutions designed for power transmission, distribution, and renewable energy applications. Some of our key products include cable accessories, which are essential for cable jointing, transformers for the energy sector, and various components for the renewable energy industry, particularly solar power. Our focus is on delivering high-quality, innovative solutions that support India's energy and sustainability goals.



Vivek Venkatachalam,
CEO, Raychem RPG

What are the highlights of your stall at Elecrama? Are you introducing any new products?

Elecrama is more than just a trade show for us, it is a platform to showcase our latest innovations and engage with industry leaders, customers, and stakeholders. This year, we are excited to launch two new products that align with the needs of the energy sector.

The first is a 145 kV dry-type termination kit, a novel innovation in India. Traditionally, termination kits contain oil for insulation, but our new dry-type variant eliminates the need for oil, making it more environment-friendly and easier to handle. This reduces risks associated with oil seepage, pilferage, and maintenance, while also improving overall operational efficiency.

The second product is a solar connector, an essential component for solar panel installations. In solar power systems, DC power from individual solar modules must be connected in series for efficient energy evacuation. The connector plays a critical role in linking these panels securely and efficiently.

Currently, the Indian market relies heavily on imported solar connectors. By manufacturing them

domestically, we are reducing import dependency and contributing to the Make in India initiative.

How do you see the market potential for these two products?

Both products have significant growth potential, given the rapid transformation in India's energy landscape. The dry-type termination kit is a game-changer in terms of installation ease, reliability, and environmental impact. By eliminating the need for oil, we are simplifying the installation process and ensuring long-term benefits for utilities and power distribution companies.

The solar connector is particularly important because India is aggressively expanding its renewable energy capacity. With solar power contributing a larger share to the country's energy basket, having a reliable and locally manufactured connector solution is crucial. We anticipate a strong demand for this product, not just within India but also in export markets.

What are your growth plans for the next one to two years?

Our current revenue stands at ₹15 billion, and we are targeting ₹20 billion within the next two years. To achieve this, we are focusing on capacity expansion, innovation, and new product development.

We are particularly investing in smart sensors and IoT-enabled solutions for the power sector. These products will bring enhanced monitoring and automation capabilities, improving efficiency and reliability for energy utilities and industrial customers. By integrating AI-driven analytics and live data monitoring, we aim to provide solutions that align with the global trend of digital transformation in energy management.

Additionally, we are expanding our manufacturing capabilities with a focus on sustainability, smart technology, and localisation.



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Overcoming Roadblocks in India's Solar Sector

The rapid shift toward high-end solar technologies like monocrystalline and bifacial modules requires a highly trained workforce that can manage advanced manufacturing processes and implement evolving industry standards, remarks **Prashant Mathur, CEO, Saatvik Solar**.



Source: Freepik

In 2021, during the 26th UN Climate Change Conference in Glasgow, Prime Minister Narendra Modi outlined a vision for India's clean energy future. Determined to speed up the shift towards sustainable power, the government aimed to reach 500 GW of installed electricity capacity from non-fossil fuels by 2030. This target is a major leap towards energy security, lower carbon emissions, and enhancing India's position in the international renewable energy market.

Renewable energy has been powering 22.49 per cent of the nation's overall electricity generation in 2024-25 until January, as per government statistics. While this represents robust momentum for India's shift to clean energy, the journey has not been smooth. Relying on foreign raw materials, huge capital expenditure, and ongoing technological upgradation are big pitfalls. India has long been dependent on the importation of solar components, thus exposing the industry to price

volatility and supply chain risk. The high cost of new factory setup and acquisition of high-tech equipment remain a challenge.

Despite all these drawbacks, the sector is demonstrating strength, innovation, and growth, thereby enhancing India's position in the international solar industry. India has an installed solar PV cell manufacturing capacity of around 25 GW at present, as per industry associations like the Solar PV Manufacturers Association, the All India Solar Industries Association (AISIA), and the North India Module Manufacturer Association (NIMMA).

The producers are expanding their manufacturing capacity, making investments in end-to-end supply chains, and exploring alternative models of sourcing. Government-sponsored schemes, like the Production-Linked Incentive (PLI) scheme, are helping reduce dependence on imports and encouraging businesses to build a more indigenous environment.

Push for self-reliance in solar manufacturing

According to Mercom Capital, India saw a significant surge in solar capacity addition in 2024, reaching 25.2 gigawatts (GW) as developers rushed to complete previously delayed projects. This marks a sharp increase from the 8.3 GW added in 2023, as highlighted in the research firm's latest report. With diversification of the supply chain encouraged through policy initiatives, India is emerging as an increasingly potential destination for the production of solar modules. This is reflected in the increasing quantity of Indian solar products being exported to foreign markets.

Companies are putting their bets on the production of premium solar modules, including N-Type TopCon and bifacial panels, to improve efficiency and lifespan. Meeting international quality standards and undertaking stringent in-house testing enables Indian manufacturers to establish their credibility in the global market. With the rapid development of solar technology, remaining competitive means constant innovation, with Indian manufacturers showing remarkable improvement in this aspect.

Factoring in sustainability

Producers are increasingly adopting green production processes, integrating renewable resources into their operations, and developing recycling plans for solar panels. This effort matters because poorly recycled solar modules are a significant ecological threat. Companies are ensuring that sustainability is integrated into all solar value chain dimensions by embracing circular economy principles.

India's success with renewable energy is clear. With over 100 GW of solar installation capacity and 48 GW of wind power, the nation is racing to cut its carbon footprint. For it to continue at that pace, the sector needs to concentrate on getting manufacturing as clean as the energy it generates.

Labour force enabling the shift

The rapid shift toward high-end solar technologies like monocrystalline and bifacial modules requires a highly trained workforce that can manage advanced manufacturing processes and implement evolving industry standards.

Most of the producers are moving ahead by investing in human development. Regular training programs, academia-industry collaborations, and hands-on skill development programs are imparting the latest skills in solar cell production, automation, and digital manufacturing.

In addition to technical competencies, leadership growth is also emerging as a priority. As businesses

continue to evolve to meet the shifting industry, decision-makers must remain up-to-date on technological innovation, policy changes, and market forces. Organisations are creating a learning culture where employees at every level are motivated to enhance their competencies so that the industry becomes competitive in a global marketplace.



Producers are increasingly adopting green production processes, integrating renewable resources into their operations, and developing recycling plans for solar panels.

Conclusion

The road to 500 GW of non-fossil fuel capacity has been paved with ambition, but for India's solar manufacturing industry, it has also been a test of endurance. Factories have scaled up, supply chains have been reworked, and new technologies have been embraced in a bid to build a self-sufficient solar ecosystem. Yet, the puzzle remains unfinished.

Manufacturers are prepared to meet the challenge, but without steady policy support, streamlined financing, and stronger domestic supply chains, the pace of growth remains vulnerable to external shocks. The missing piece? A long-term, coordinated push that brings stability to the sector. Clearer policies on procurement, stronger incentives for R&D, and infrastructure investments in storage and grid integration will ensure that India's solar ambitions are met and exceeded.

SME



About the author:

Prashant Mathur, the CEO of Saatvik Solar, has over 26 years of varied experience as a Chief Strategist and Executor in the renewable energy industry. Over his career, he has set numerous benchmarks with his commercial acumen and extensive knowledge of launching and growing companies in domestic and foreign markets. Mathur has held leadership

positions in reputable companies including Adani Solar, Vikram Solar, Targray, and Solis Solar prior to joining Saatvik Solar. He has been with Saatvik Green Energy since April 2021, and throughout that time, he has made notable advancements and successes. Saatvik has expanded by successfully launching new business verticals under his direction, such as Solar EPC, International Businesses, and IPP agreements. Over 300 MW of EPC orders have been won by the company in both Indian and international markets, and 100 MW of projects have already been delivered on schedule.



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Jassper Shipping Integrates EVs into Logistics Network

India's electric vehicle (EV) market is growing quickly, fuelled by changing consumer behaviour, tech advancements, and strong investments.

The global EV market is rapidly expanding as countries strive for sustainable transport and lower carbon emissions. China, Europe, and the U.S. lead the transition, supported by government incentives, enhanced charging infrastructure, and technological advancements. India is emerging as a key player, fuelled by policy support, growing environmental awareness, and innovation. According to an ACMA-Grant Thornton Bharat report, India's EV market is valued at ₹490 billion in 2024, with projections to reach ₹3,180 billion by 2030, growing at a 37 per cent CAGR and offering substantial investment opportunities, and solidifying the country's role in the global EV revolution.



EV adoption in India

India's electric vehicle (EV) market is growing quickly, fuelled by changing consumer behaviour, tech advancements, and strong investments. Key trends include:

- Charging infrastructure expansion: Ultra-fast charging networks are expanding in major cities (Mumbai, Pune, Ahmedabad, Hyderabad, Gurugram, Bangalore) and key highways, making EVs more accessible.
- Government initiatives: The FAME India Scheme, with ₹115 billion allocated in Phase-II, and the 2024 MEC initiative aims to boost local manufacturing and create jobs. Additionally, ₹8 billion will fund 5,833 charging stations.
- Consumer awareness: Rising concerns about air pollution and climate change are accelerating EV adoption.
- Public transport electrification: EVs are increasingly used in buses, auto-rickshaws, and ride-hailing services. In 2023-24, India saw 1.67 million EV sales, including 3,693 electric buses.
- EV integration in logistics & e-commerce:

Businesses and e-commerce platforms are increasingly using EVs for deliveries and logistics, aligning with sustainability goals and reducing emissions.

Leading the shift toward greener logistics, Jassper Shipping is also actively adopting electric vehicles in its delivery operations. By embracing innovation and sustainability, the company is not only reducing its environmental footprint but also enhancing operational efficiency.

Jassper Shipping is making bold strides in sustainable logistics by integrating electric vehicles (EVs) into its distribution network. With 58 EVs already operational, the company is committed to:

- Reducing carbon emissions to support a cleaner environment
- Mitigating fuel price uncertainties for cost-effective logistics
- Optimising urban deliveries with efficient fleet management
- Enhancing delivery partners' earnings through lower operational costs

According to Pushpank Kaushik, CEO & Head, Business Development (Subcontinent, Middle East and South-East Asia), Jassper Shipping, “This initiative is not just about sustainability—it’s also about improving profitability for delivery partners, ensuring better returns with every rupee saved.”

Jassper Shipping supports its green logistics initiative with a strategically mapped network of 380 locations across India, including major states like Maharashtra, Gujarat, Telangana, Andhra Pradesh, Karnataka, Madhya Pradesh, Chhattisgarh, NCR, Tamil Nadu, Punjab, and Rajasthan. This network spans beyond Tier 1 cities, reaching Tier 2 cities and smaller towns to provide accessible, sustainable logistics solutions. As Jassper continues to expand, they aim to build a seamless, future-ready service network for businesses across diverse regions.

The company plans to expand its EV fleet from 58 to 150 vehicles in the next two quarters, reinforcing its commitment to eco-friendly logistics. This growth is fuelled by strategic partnerships with major supermarket chains, FMCG brands, and pharmaceutical companies, including D-Mart and Big Basket. By integrating EVs into its logistics, Jassper delivers high-quality service while

promoting a greener, more efficient supply chain for last-mile delivery.

Beyond expanding its fleet, Jassper Shipping is deeply committed to improving the lives of its delivery partners. The company offers life and health insurance, and stable employment opportunities to those driving its logistics network.

Jassper’s initiative reflects its commitment to a workforce that is financially secure and well-supported in health and well-being. “We’re not just expanding our logistics network; we’re creating better opportunities for the people who drive our success,” says Kaushik. By prioritising its people, Jassper Shipping ensures long-term sustainability for both its business and its employees.

India’s rapidly growing EV sector, backed by supportive policies and technological advancements, is on track to meet the government’s 30 per cent EV penetration goal by 2030. Public-private collaboration is key to driving innovation, and with continued efforts, India is set to lead the global EV revolution, reducing carbon emissions and enhancing energy security. Jassper Shipping’s sustainability-first approach plays a vital role in shaping greener logistics nationwide.

SME

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Gandhi Automations' Rolling Shutters Have Better Safety and Durability

Each of Gandhi Automation's Rolling Shutters is designed to the client's specifications, conforming to IS 6248, and is solidly constructed to promote trouble-free operation and long life.

Rolling shutters have always been considered one of the most dependable additions to any building due to their safety, durability, maintenance, and ease of operation. Along with safety and other features mentioned in the building, it also provides optimal privacy without compromising the aesthetic appeal of the property. Modern rolling shutters are outperforming traditional doors and the erstwhile prototype rolling shutter option. This is actually happening because of its innovative designs, handiness, and material strength, which are far better than those of its earlier roller shutter models. Gandhi Rolling Shutters are ideal for situations where side room is at a premium and security is required. They require very little headroom above the structural opening. Their strength, elegance, durability, and other salient features are designed for both external and internal applications. Gandhi Rolling Shutters are fabricated of interlocking galvanised, insulated, and non-insulated stainless steel, patented aluminium profiles, and patented MS Rolling Grills.

Gandhi Automations Pvt Ltd, India's No. 1 Entrance Automation & Loading Bay Equipment Company, is the only manufacturer of Rolling Shutters certified to EN ISO 9001:2015, EN ISO 14001:2015 & ISO 45001:2018 by TÜV Austria. This has resulted in the implementation of continuous improvement in personnel training, production technique, inspection, equipment calibration, machinery maintenance, logistics, and customer relations. The product engineering team uses the latest software combined with technologically advanced machinery to offer the customer a well-engineered product.

Over years of meticulously working on the design, fabrication, and installation, Gandhi Automations has developed technical expertise in manufacturing various kinds of automated rolling shutters. The R&D team, with its extensive know-how and experience, is



able to produce specific types of rolling shutters unique to certain sites and client requirements. This consistent quality product has thus become the hallmark of Gandhi Automations' manufacturing process, right through installation to after-sales service.

Each of Gandhi Automation's Rolling Shutters is designed to the client's specifications, conforming to IS 6248, and is solidly constructed to promote trouble-free operation and long life. Gandhi Rolling Shutters fit openings to a maximum width of 30,000 mm and height of 40,000 mm, with an endless array of options to satisfy both aesthetic considerations and working requirements. All rolling shutters are automatic, using vigorous drive expertise with manual override in case of power failure, and are dense, noiseless and dependable.

SME

For details, contact Gandhi Automations, Mumbai,
on Tel: +91 22 6672 0200, 6672 0300, or
Email: sales@geapl.com, or visit www.geapl.com

(Communication provided by the management of the company)

CNC POLYGON TURNING MACHINE POLYGON 2A

Brisk Tech Engineers offers a wide range of CNC polygon turning machine polygon 2A.

Features:

- **Cast Iron Bed:** Built with a robust cast iron bed, providing excellent stability and vibration damping for enhanced precision during operation. **Precision Axis Slides with Box Guideways:** Equipped with axis slides featuring box guideways, ensuring superior accuracy and smooth motion for high-precision machining. **High-Performance Gearboxes with Helical Gears:** Features gearboxes with helical gears, offering quiet operation, higher torque transmission, and improved overall machine efficiency. **Enhanced Stability for Consistent Results:** The combination of a cast iron base and box guideways ensures maximum stability, delivering consistent, high-quality machining results.
- **Its Benefits:** **High Precision and Versatility:** Delivers exceptional precision in polygonal and complex part machining. Capable of producing multi-sided components with tight tolerances. **Superior Surface Finish:** Achieves superior surface finishes, enhancing the quality of the finished components. **Optimized Production Efficiency:** Designed to reduce cycle times and increase throughput. Enhances overall productivity and minimizes downtime. **Ideal for Multiple Industries:** Perfect for use in industries such as automotive, aerospace, agriculture, medical, Hydraulics pumps and valves and general manufacturing. **Improved Cost Efficiency:** Reduces the need for manual labor and increases operational efficiency, leading to cost savings. **High-Quality Output:** Ensures consistent, high-quality results with every batch, minimizing the need for rework. **Advanced Technology Integration:** Utilizes cutting-edge CNC technology to provide precision and automation in complex machining tasks. **Enhanced Production Flexibility:** Capable of handling a wide range of materials and component sizes for diverse machining needs.
- At Brisk Tech Engineers, we are dedicated to providing tailored solutions that enhance our clients' operational capabilities, ensuring top-notch performance in every product we offer.

About the Company: Brisk Tech Engineers, based in Bangalore, is a trusted name in the field of precision engineering. We specialize in delivering innovative CNC machining solutions that cater to diverse industries.

Contact:

Brisk Tech Engineers, Bangalore
Mobile: 09448479855, 07892743816
Email: info@brisktechengineers.com



HIGH SPEED TRIPPING RELAY TWO ELEMENT JRV171X2

JVS Electronics Pvt Ltd offers a wide range of high speed tripping relay two element JRV171X2.

Features:

- High speed tripping relays are voltage operated, attracted armature type with 5 contacts per element. Each element is enclosed in a dust proof moulded, transparent, polycarbonate cover. Radio metal is used for the magnetic components such as the armature, the core and the yoke of the tripping relay to ensure good electrical performance.
- The contacts are made of phosphor bronze and are nickel plated. The contact tips are made of pure silver. The use of these materials ensures very good contact performance.
- High speed interface between the protection system and the circuit breaker Functions requiring a number of simultaneous switching operations, interlocks in control and closing circuits.
- Its features include: Wide range of voltage & contacts configurations; Electromechanical design; Self reset contacts; Protective transparent cover for the element; Compact panel mounting case.

About the Company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:

JVS Electronics Pvt Ltd, Bangalore
Mobile: 09448288863
Email: bangalore@jvselectronics.in



MILL SAW FILES HAND

PFERD offers a wide range of mill saw files hand.

Features:

- Mill saw files are versatile tools for sharpening cutting edges on saw blades, knives and other tools that have sharp metal edges.
- Rectangular file, tanged and cut on all four sides. Second cut for universal sharpening tasks.

About the Company: PFERD engages in development, production and support and distribution of tool solutions on jobs for surfaces and material cutting.

Contact:

PFERD, Bengaluru
Tel: 080-42187117
Mobile: 09880665415, 09741481117
Email: sales@swit.in



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4-Way Ball Valves

Shreeram Engineers offers a wide range of 4-way ball valves.

Features:

- The SRE 124MS4 series of 4-way ball valves are designed to control and divert the flow of multiple fluid or gas lines. These valves feature, one operating handle operate all 3 valve at time , trunnion-type construction with a front sealing design, allowing for various porting patterns to suit different applications.
- Engineered for versatility, they are compatible with petroleum-based hydraulic fluids, air, and other gaseous and liquid media, with connectors that can be pressurized in any configuration. The soft-seated design ensures a secure shut-off with Class A sealing, in accordance with DIN EN 12266 standards.

About the Company: Shreeram Engineers is a registered SSI & NSIC company established in 1984 by highly qualified and experienced people at the prime industrial zone of GIDC, Odhav Ahmedabad, accredited with ISO 9001:2015 certificate from BVQI.

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Contact:

Shreeram Engineers, Ahmedabad
Tel: 079-29700701
Mobile: 8866055310
Email: info@shreeramahmedabad.com



E2 SELF-LUBRICANT BALLSCREW

IBK Engineers Pvt Ltd offers a wide range of E2 self-lubricant Ball screw.

Features:

- HIWIN uses precise procedure to create groove profiles, either by grinding or rolling. Accurate heat treatment is used to ensure the hardness of ball screws. These result in maximum load capacity.
- E2 series self-lubrication design extends the maintenance period, it is easy to be installed and reduces maintenance time. E2 can prevent oil leaking issue and it is environmentally friendly.

About the Company: Established in 2014, IBK Engineers Pvt Ltd, is engaged in the wholesaling, supplying, distributing and trading of deep groove ball bearing, mechanical bearing, roller chain, steel rear sprocket, safety equipment, automotive components, electric equipment, etc.

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Contact:

IBK Engineers Pvt Ltd, Bengaluru
Tel: 080-26321112 Mobile: 09880566644
Email: raju.kn@ibizkart.com



32 SERIES JUMBO DOME PILOT LIGHTS

Werner Electric offers the 32 Series Jumbo Dome Pilot Lights, designed for high visibility and reliable performance.

Features:

- High Brightness & Visibility: Powerful illumination with a ø66mm dome lens for clear recognition from a distance and at various angles.
- Compact Design: Short depth behind the panel for space efficiency without compromising performance.
- Low Voltage Protection: Built-in protection for safe operation and reduced risk of damage.

About the Company: Werner Electric combines expert design and user feedback to create reliable, high-performance products that ensure customer success.

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Contact:

Werner Electric Private Limited, Mysore
Mobile: 07353947299
Email: info@wernerelektrik.com



SHADED POLE ELECTRIC MOTORS

Delco Fans Pvt. Ltd. offers Shaded Pole Electric Motors for light duty applications.

Features:

- Designed specifically as per customers' requirements. Available in 2-pole, single phase design. Wide range of motors from 5 Watts to 30 Watts. Temperature rise is limited to 40 D Celcius. Available in 110 V AC and 230 V AC. Ball Bearing type.
- Shaft available EN8 and SS 304. Shaft diameter 6 mm. Length available from 25 mm to 150 mm Threading of shaft can be provided. Motor can be mounted Horizontally and Vertically. Motor cooling blade can also be provided.
- Its application areas: Magnetic Stirrer.

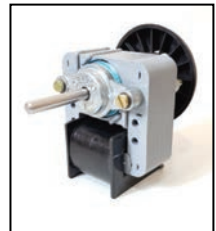
About the Company: Delco Fans Pvt Ltd established in 1975. Their manufacturing range consists of FHP Electric Motors, Geared Electric Motors, Centrifugal Blowers and Industrial Fans. Presently they deal with more than 900 clients in India and Abroad. Their specialty is to manufacture products as per customers specific requirements.

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Contact:

Delco Fans Pvt Ltd, Thane
Mobile: 09769201564,
Email: delcofans@gmail.com



VIBRATORY FURNACE CHARGER

Elektromag-Joest Vibration Pvt Ltd offers a wide range of vibratory furnace charger.

Features:

- This vibratory furnace chargers are a cost effective method of increasing productivity and quality of melt.
- With constant improvement in technology, furnaces require rapid and uniform charging to keep pace with the melting power of the system for which the Furnace chargers are the optimum solution. .
- Due to controlled feed, the hot metal splashing is avoided and the charger can be operated from a framed plate by the operator without actually being near to the furnace.

About the Company: Elektromag-Joest Vibration Pvt. Ltd., is a leading manufacture of Vibrating equipments for foundry, steel, mining, quarrying, chemical, food, recycling, etc.

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Contact:

*Elektromag-Joest Vibration Pvt Ltd,
Mumbai
Tel: 022-66624444
Email: vibration@elektromag.com*



CABLE DRAG CHAINS

Elektromag offers a wide range of metallic/plastic cable drag chains.

Features:

- This Elektromag drag chains enable the conveyance of flexible cables/hoses, etc to movable units with maximum reliability.
- Its advantages of Elektromag cable drag chains is avoidance of mechanical strain on the cables/hoses.
- No tensile stress or compression, no frictional wear as there is no relative movement between the cables/hoses and the cable drag chain, no bending below an established radius, no crushing, buckling or forming of loops or torsion strain.

About the Company: Established in the year 1958, Elektromag is engaged in manufacturing of metallic/plastic cable drag chains and supplying to various steel plant, machine tools, cement, foundries, etc.

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Contact:

*Elektromag Methods, Mumbai
Mobile: 09820192772
Email: cablereels@elektromag.com*



QUICK RELEASE COUPLERS - STRAIGHT THROUGH

Vijay Air Control offers a wide range of quick release couplers - straight through.

Features:

- This valveless construction drastically saves pressure loss and achieves high flow rate.
- It is suitable for high viscosity fluids (such as grease).
- Available in various standard body materials, sizes and end configurations to cope with diversified applications and operating situations.

About the Company: Vijay Air Control is a one large workplace where work is done and then put on the market in the form of products and services. This work must be benefit if it is to hold its own in the face of competition. Only company based on sound economic, technical and organisation principles and which is in a position to have a say in future developments is a match for the challenges presented by the market and competition.

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Contact:

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Mobile: 08951101436, 09880652082
Email: saivacblr@vacpneumatic.co.in*



PV SERIES VARIABLE DELIVERY PUMP

HTM Hydraulics Pvt Ltd offers a wide range of PV series variable delivery pump.

Features:

- These pumps supply infinitely variable flow controlled by the linear movement of a volume stem control. On hydraulic variable delivery pumps, the output is regulated by an external low-pressure control signal supplied to a control port in the cover.
- Variable delivery PV 6000 series pumps are used on drill rigs to power the drill rotation, drill pressure, mast movement and propulsion.
- They are proven to be rugged and reliable even when subjected to shock, vibration and long duty cycles.

About the Company: HTM Group has been in the field of hydraulics since 1995. Their expertise in the industry makes us one of the leading competitive companies in the field of trading, marketing & servicing and straining for customers in India and abroad. HTM group has headquarters in Bangalore, India.

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Contact:

*HTM Hydraulics Pvt Ltd, Bangalore
Tel: 080-41572101 Mobile: 09741165877
Email: info@htmhydraulics.co.in,
sales@htmhydraulics.co.in*



UV LASER PROCESSING SYSTEMS

C And C Laser Engineering Pvt Ltd offers a wide range of UV laser processing systems.

Features:

- With the UV Laser Series, C And C Laser Engineering offers a flexible, cost effective and low maintenance marking system for non-metals and organic materials.
- The Marking Software is easy to operate and allows the user to quickly define parameters for single piece, small scale, medium-scale and large-scale production. UV laser marking machines are available in power ranging from 3W to 12W to achieve top quality marking in industry. The excellent beam quality with the sufficient power enables marking with high precision.

About the Company: C And C Laser also offers compact lasers for all applications – lasers of wavelengths from Far IR – CO₂ lasers, Diode-pumped fiber-coupled IR, Green, UV and DUV lasers.

Contact:

*C And C Laser Engineering Pvt Ltd,
Mumbai*

*Tel: 022-3506 1794 Mobile: 09833105515
Email: info@cncclaserengg.com*



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BEARING INDUCTION HEATERS

Inventum Engineering Co Pvt Ltd offers bearing induction heaters.

Features:

- Inventum heaters are rated at par with the imported European bearing induction heaters and are the preferred choice of leading Indian industries, because of the sturdiness and superior after sales service. The company manufactures more than 17 models ranging from power 2 kVA to 120 kVA to suit different applications of heating bearings, gears, couplings etc.
- Special induction heaters are also available for dismantling inner racers of cylindrical roller bearings and couplings etc.

About the Company: Inventum Engineering Co Pvt Ltd is pioneer in developing bearing induction heaters with microprocessor controls in India and have been

manufacturing the induction heaters for more than 35 years.

Contact:

*Inventum Engineering Co Pvt Ltd,
Mumbai*

Mobile: 09819802535

Email: sales@inventumindia.com



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LARGEST WIRING HARNESS, CABLE LOOMS

Miracle Electronic Devices Pvt Ltd offers a wide range of largest wiring harness, cable looms.

Features:

- One of the largest cable harness manufacturers in India, Miracle Electronics specializes in offering premium wire harness solutions for a range of industries, such as industrial, automotive, and aerospace. Being the most reputable looms manufacturer in India, we focus on providing our customers with specialized, dependable, and effective wire harnesses that satisfy their exacting requirements.
- Wire harnesses for aerospace industry: Miracle Electronics, a certified manufacturer with the largest wiring harness manufacturing in India, carefully builds aerospace wire harnesses to endure vibration, mechanical stress, and high temperature fluctuations – all typical issues in the aerospace environment. Their wire harnesses are especially designed to satisfy strict industry requirements, including resistance to environmental factors, durability, and weight efficiency.
- The reliability and effectiveness of wire harnesses are crucial in the extremely specialized field of aircraft engineering. Their wire harnesses offer a more compact, safe, and well-organized way to connect several cables than free wires.
- Being one of the largest cable harness manufacturers in India, we prioritize reducing installation faults by providing chances for process standardization.
- Customized solutions by Miracle Electronics: Miracle Electronics is aware that the requirements of various applications vary. As a result, we offer wiring solutions that are specifically tailored to our clients' needs.
- Their products are made to the highest standards, guaranteeing reliable and durable performance in a range of applications.
- Comprehensive product range: Miracle Electronics offers an extensive range of wire harness solutions, including: Single & Discrete EMI Cables; EMI Shielded Cable Harnesses; Wiring Harness Multiwire; Flat Cable Harness Assembly; Airborne Looms; Ribbon Cable; Harness Assembly; Military Looms Assembly.

About the company: Miracle Electronics is a renowned Transformer manufacturer in India, engaged in manufacturing Power transformers, Toroidal transformers,

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EI transformers, SMPS transformers, Medical Isolation Transformers.

Contact:

Miracle Electronic Devices Pvt Ltd,

Bangalore Tel: 080-28362750

Email: sales@miracle.net.in



33kV VACUUM CIRCUIT BREAKER

Excel Power Switchgear Pvt Ltd offers a wide range of 33kV vacuum circuit breaker.



Features:

- The Medium Voltage Switchgear are manufactured in accordance with the relevant standard and widely used in various utilities and industries.
- The cubicle is made of high grade sheet steel and with the aid of numerically controlled machines precision punching, cutting, bending and welding techniques ensures all cubicles to be identical in every dimension; rigid and distortion resistant under short circuit conditions and during transport.

About the Company: Excel Power Switchgear, a high tech manufacturing unit established in 1998, is engaged in R&D, production, and manufacturing of low & medium voltage switchgear. Their company has displayed a rapid growth in the switchgear industry by attaching primary importance to customer.

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Contact:

Excel Power Switchgear Pvt Ltd, Chennai
Tel: 044-22254870
Email: sales@excelpower.co.in

PRECISION TWIN MACHINE VICE - BR - TWIN - 150

B R Precisions offers a wide range of precision twin machine vice model type BR - Twin - 150.



Features:

- B R Twin vice 150 made out of high tensile casting powerful with high absorption and has strong anti tension which can keep long durability for absorption and has strong rigidity with high precision Body surface are flame hardened and grounded tenon slot grounded machined and surface grounded to ensure maximum accuracy jaw plates are made out of tool steel hardened and ground.
- The function which permits first one work piece to be clamped and then the other enabling it to clamp the work piece.

About the Company: B R Precisions is dedicated to the manufacturing of clamping solutions; our main products are high pressure and precision vices.

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Contact:

B R Precisions, Bangalore
Mobile: 09845208854, 09449648171
Email: brvices@rediffmail.com, brprecisions@gmail.com

TWIN SPINDLE CNC CHUCKER - MW80G

Meiban Engineering Technologies Pvt Ltd offers a wide range of twin spindle CNC chucker - MW80G.

Features:

- Muratec MW80G is a compact twin spindle turning machine with Gang tooling (Linear) concept.
- Machine offers high precision with direct spindle drive and construction. MW80 is suitable for Hard part turning with short cycle times.
- This small machine comes with a 6" chuck and can accommodate up to 4 gang tools. MW80 has a Spindle power of 7.5kw and speeds up to 6000 RPM are available. It can turn parts up to 80mm diameter and length of up to 50mm.



- Linear Tooling eliminates turret Indexing time for significant cycle time reduction. Loader is available with swivel or horizontal types.
- With standard Loading/unloading time as low as 3 secs, MW80 is an optimal solution for high-speed turning and for simple parts such as small bearings, rings, gears and hard part turning.
- Most widely used applications are: Bearing Outer and inner, Differential Pinion and side gear, compressor wheel etc.
- Machine can be supplied with either single or twin gantry loaders. Muratec is a global leader in providing fully integrated built-in automation for a variety of applications.

About the Company: Meiban Engineering Technologies Pvt Ltd is a solution provider in the field of automation and turn key projects for manufacturing automobile and sheet metal components.

Contact:

Meiban Engineering Technologies Pvt Ltd, Bangalore
Tel: 080-26860600
Email: office@meibanengg.com

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POWER PRESS

Universal Machine Tools Corporation offers MS body, fixed/inclinable type power press.

Features:

- The frame is off all steel construction, fabricated from rolled steel plates with suitable ribbings.
- The clutch is of pin/rolling key type, crankshaft is made of special alloy steel, fitted with bronze bushes for smooth working, properly sized fly wheel gears all of steel cast / fabricated, table and ram made of heavy-duty cast iron, perfectly aligned to each other. Inclinable type presses are provided with inclining mechanism.
- These press are available in various sizes: 'C' type / inclinable – 3 tons to 300 tons; 'H' frame 20 tons to 300 tons.

About the Company: Universal Machine Tools Corporation, established in 1981, is one of the leading companies in the machine tool industry.

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Contact:

Universal Machine Tools Corporation,
Bangalore
Mobile: 09845006959, 09844199559
Email: universalblr@gmail.com,
info@universalblr.com



BELT DRIVE SPINDLES – MV0910

Secon Technological Solutions Inc offers a wide range of belt drive spindles – MV0910.

Features:

- Offered two types of high precision spindles for CNC machining centers; belt drive spindles and direct drive spindles for a versatile range of machining options.
- The five series of CNC machining center spindles are all very rigid and feature very low run out tolerances, with speeds up to 12,000rpm.
- These high precision, high speed spindles are available in a range of sizes and are guaranteed to offer smooth operations and a long service life.

About the Company: Secon Technological Solutions Inc. is engaged as a manufacturer, trader, service provider, distributor of CNC machines tools, preventive maintenance and consultancy services.

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Contact:

Secon Technological Solutions Inc,
Bangalore
Telefax: 080-23575752
Email: secontech2000@gmail.com,
secontech@hotmail.com



AIR FILTER REGULATORS

Placka Instruments India Pvt Ltd offers a wide range of air filter regulators.

Features:

- This air filter-cum-pressure regulator removes completely the moisture and dust particles, and provides the exact pressure constantly at varying air demands.
- Its compactness and highly accurate performance for a long period with minimum of maintenance make for an optimum compromise between the ideal and the practical, consistent with end-use. This economically priced unit is extensively used for process control instruments, air-actuated control valves, cylinders and other equipments.
- The primary air through the inlet port, passes through the filter element, leaving down the contaminants in the bowl. When the knob is adjusted suitably, the spring acts on the diaphragm which in turn actuates the main valves to allow the pure secondary air at a particular pressure to the outlet.
- The main valve is supported between the relief valve and the main valve spring, eliminating the need for stem guiding. Toggle action between main valve and relief valve completely eliminates the alignment problems and thus, erratic output pressure.
- Its features include: Longer life assured as the materials used are selected for their corrosion resistance and long wear; Excellent characteristics throughout the full flow range particularly at low flow zone in which the unit usually serves instruments; and negligible pressure drop due to high porosity ratio of the filter.
- The filter is reusable and has a high impact strength. In addition to solid particles, the unit extracts a high percentage of water thus ensuring trouble-free service even in the most adverse conditions. Built-in relief ensures rapid response to circuit-induced pressure changes. The dust and liquid contaminants can be fully drained out when the regulator is mounted both vertically and horizontally as in the case of control valves, transmitters, etc.

About the Company: Placka Instruments & Controls (Shreyas Instruments Pvt Ltd), established in 1974, manufactures process control instruments, such as air filter regulators, rotameters, level switches, level gauges, liquid level controllers, transmitters etc.

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Contact:

Placka Instruments India Pvt Ltd,
Chennai
Tel: 044-22231559
Email: plackainstruments@yahoo.com,
sales@plackainstruments.com



HIGH SPEED TRIPPING RELAY THREE ELEMENT - JRV171X3

JVS Electronics Pvt Ltd offers a wide range of high speed tripping relay three element - JRV171X3.

Features:

- High speed tripping relays are voltage operated, attracted armature type with 5 contacts per element. Each element is enclosed in a dust proof moulded, transparent, polycarbonate cover. Radio metal is used for the magnetic components such as the armature, the core and the yoke of the tripping relay to ensure good electrical performance. The contacts are made of phosphor bronze and are nickel plated.
- Its features include: Wide range of voltage & contacts configurations. Electromechanical design. Self reset contacts. Protective transparent cover for the element. Compact panel mounting case.

About the Company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:

JVS Electronics Pvt Ltd, Bangalore
Mobile: 09448288863
Email: bangalore@jvselectronics.in

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SEMI METALLIC AND METALLIC GASKETS

PGE Industries Pvt Ltd offers a wide range of semi metallic and metallic gaskets.

Features:

- The PGE® SealPro™ is a reusable gasket consisting of a solid metal core with serrations with a specialized flexible face consisting of various options for high temperature, chemical resistance, and exhaust gases etc.
- Once the gasket is installed, the soft non-metallic material is forced into the metal core serrated grooves. As a result, the compressive stress increases, and multiple concentric high-pressure seals are created along the gasket face surface.
- Unlike traditional spiral-wound gasket, all of the compressive force is exerted on the PGE® SealPro™ facing, thus resulting in a very tight seal.

About the Company: Established in 1981, PGE India (PILOT Gaskets) is the prominent manufacturer of sealing and insulating products..

Contact:

PGE Industries Pvt Ltd, Mumbai
Mobile: 08080890022
Email: info@pilotgaskets.com

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GASKET GRAPHITE POWDER

Arihant Packing & Gasket Company offers a wide range of gasket graphite powder.



Features:

- The graphite powder is basically used for casting and polishing purposes, molding & carbon addition in steel industries.
- The graphite powder is well-treated and offers high conductivity. Their graphite powder is easily available at industry leading prices.

About the Company: Established in 1956 our parent firm A.K Jain and Brothers www.akjain.co.in is a highly acclaimed name for Asbestos, Non-Asbestos Gland Packing, Ceramic Products, PTFE products, pure graphite products, Asbestos / Non-Asbestos Jointing Sheets, cut Gasket, Spiral wound metallic gaskets, Rubber Products, Brake liner & Friction Material and other industrial products in India for over 55 years.

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Contact:

Arihant Packing & Gasket Company,
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Tel: 033-22624511, 33164018
Email: sales@arihantgasket.com

BOPP SELF ADHESIVE TAPES

Sonal Adhesives

Limited offers a wide range of Bopp self adhesive tapes.



Features:

- Biaxially oriented polypropylene (BOPP) carton sealing tape with a water-based acrylic adhesive. It has excellent adhesion, superior impact resistance, and excellent shelf life and UV resistance.
- Suitable for Automatic carton sealing and manual Dispenser machines. Made with water based acrylic adhesive.
- In all sizes and required lengths. Being one of the leading manufacturers of BOPP Tapes in India, we offer complete range of products.

About the Company: Incorporated in the year 1991, Sonal Adhesives Limited is one of the largest manufacturers and exporters of BOPP Self Adhesive Tapes and Various types of Speciality Adhesives & Emulsions in India.

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Contact:

Sonal Adhesives Limited, Dist-Raigad
Tel: 022-49633128
Email: info@sonal.co.in

METRIC HEX NUTS

Austenite Fasteners Pvt Ltd engages to manufacture metric hex nuts. A six-sided internally threaded fastener with metric thread pitch. 16 millimeter nuts and smaller are chamfered on the top and the bearing surface.



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Contact:

Austenite Fasteners Pvt Ltd, Vadodara
Tel: 0265-2635396, 2635397
Mobile: 09099094481
Email: info@austenitefasteners.com

CONICAL SPRINGS

Micro Spring Products offering conical springs. The different types of conical springs are conical compression and extension Springs. Conical Springs are used in push buttons, battery conductors, electrical and electronics products.



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Contact:

Micro Spring Products, Chennai
Tel: 044-24765567 Mobile: 09003062996
Email: info@microsprings.com

HOSE COUPLINGS

Patel Brass Turnomatics Pvt Ltd is manufacturing hose couplings. A hose coupling is a connector on the end of a hose to connect (or couple) it with another hose or with a tap or a hose appliance, such as an irrigation sprinkler.



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Contact:

Patel Brass Turnomatics Pvt Ltd,
Jamnagar
Tel: 0288-2730877/78
Email: info@patelbrass.com

CARBON STEEL FASTENERS

Katariya Steel Distributors engages as a manufacturer and supplier of a wide range of carbon steel fasteners. The use of optimum quality raw materials in the manufacturing of the carbon steel fastener ensures high durability, tensile strength and resistivity to adverse conditions.



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Contact:

Katariya Steel Distributors, Mumbai
Mobile: 09833405433, 09823458877
Email: sales@katariyasteel.com

INDUSTRIAL BOLTS

Micro Metals is a provider a wide range of industrial bolts. These are widely used in fence fittings and hydraulic fittings. These are produced using high-quality material and are highly appreciated by their clients.



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Contact:

Micro Metals, Mumbai
Tel: 022-66595495, 66159036
Mobile: 09930772998, 09773102209
Email: info@micrometals.co.in

IMPACT WRENCH

Hardware & Pneumatics offers a wide range of impact wrench. An impact wrench (also known as an impactor, impact gun, air wrench, air gun, rattle gun, torque gun, windy gun) is a socket wrench power tool designed to deliver high torque output with minimal exertion by the user.



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Contact:

Hardware & Pneumatics, Kolkata
Mobile: 09831063719, 09874044351
Email: sales@hardwarepneumatics.in

SLEDGE BRASS HAMMER

Manomay & Co offers a wide range of sledge brass hammer. It devoted towards manufacturing an optimum quality range of sledge brass hammer. Offered range is highly acknowledged for compact design, corrosion resistance, easy handling and long life.



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Contact:

Manomay and Co, Jamnagar
Mobile: 09898015043
Email: amncojam@gmail.com, manomayjam@gmail.com

AUTOMATIC SELF ADJUSTING PIPE WRENCH, 9"

Solsons Exim develops automatic self-adjusting pipe wrench, 9". It automatically sizes any pipe or round bar. Slip-free grip - the harder you turn, the tighter it grips. Grips securely without adjusting any nut.



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Contact:

Solsons Exim, Ahmedabad
Tel: 02717-294167
Mobile: 09925152422
Email: solsons@solsons.comsolsons@gmail.com

U BOLT

Excel Metal & Engg Industries engages as a manufacturer of a wide range of U-bolts. These bolts are manufactured using premium quality raw material and can be availed with extra long nuts and in full round, half round and square profiles as per the request.



Scan the QR Code for instant product enquiry



Contact:

Excel Metal & Engg Industries, Mumbai
Mobile: 09819459755, 09930005444
Email: iffnc@gmail.com

HAND TOOLS

Akar Tools Ltd manufactures and exports a wide range of hand tools. It has right from conceptualising, designing and manufacturing these hi-end tool products, the company employ's latest cutting-edge technology at its state-of-the-art facility where Makino CNC machines.



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Contact:

Akar Tools Ltd, Mumbai
Tel: 022-23484886, 23481082
Email: akarmumbai@gmail.com

MS BOLT FASTENERS

Canco Fasteners offers a range of MS bolt fasteners. These products are manufactured by using supreme quality raw material and modern machines. Material – carbon steel 4.8, 5.8, 6.8, 8.8 grade are all available.



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Contact:

Canco Fasteners, New Delhi
Tel: 011-42525500
Mobile: 09811063537, 09811315315
Email: canco@vsnl.com

SELF DRILLING SCREW, DOUBLE THREADED TYPE

Bharat Industrial Supplier is a provider of quality approved double threaded self drilling screw. These products are ideal for the use in thin metal applications such as roofing, where they can be used to fix cement, asbestos and fiber cladding sheets.



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Contact:

Bharat Industrial Supplier, Chennai
Mobile: 07200058312, 08148058312
Email: info@bharatindustrialsupplier.com

CLAMPING KIT

Preci-Tech Engineering is providing clamping kit. These kits offer a complete set of coupling nuts, studs, flange nuts, step blocks and step clamps for complete set up operations.



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Contact:

Preci-Tech Engineering, Rajkot
Mobile: 09825747865, 08866261241, 09904402432
Email: precitechtools11@gmail.com, precitecheng1@gmail.com

VENTURI SCRUBBER

AQC Systems Pvt Ltd is a manufacturer and supplier of a wide range of venturi scrubbers. These scrubbers have longer durability, high efficiency and reliable performance.



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Contact:

AQC Systems Pvt Ltd, Chennai
Tel: 044-24333675, 24333775
Mobile: 09380063339, 08939660799
Fax: 044-24333775
Email: aqcsystems@gmail.com

SS HEX HEAD BOLTS

Trychem Metal And Alloys is offering SS hex head bolt. These bolts are manufactured using high-grade steel. These products have a sturdy and strong construction; acknowledged for their resistance against corrosion and high durability.



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Contact:

Trychem Metal And Alloys, Mumbai
Tel: 022-66595547
Mobile: 09833746609
Email: info@trychemfittings.com

TRIMMING KNIFE BLADE

Techno Rise Industries engages as a provider of a wide range of trimming knife blade. It has two cutting positions for a variety of applications & has two-point reversible blade.



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Contact:

Techno Rise Industries, Mumbai
Tel: 022-23424274, 30117293
Mobile: 09820094119, 09867294119
Email: tri_triari@yahoo.co.in

EPABX SYSTEMS

SND Netsol offers a wide range of telecommunication - EPABX systems. The firm offers a range of solutions for complete requirements in voice communication for enterprises in the areas of business telephony, contact centres, mobility, cloud telephony and IP telephony.



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Contact:

SND Netsol Pvt Ltd, Chennai
Mobile: 09840258035, 09840664811
Email: netsol@sndnetsol.com

TELECOM POWER SYSTEM, POWERPULSE

Power Pulse offers a Gen4 telecom power system based on trusted technology. It is ideal for FTTH/FTTX/FTTU/SDH/STM/OLT/OPTI MUX /EPABX, etc. This powerpack has the following features: input – 230 V AC; output – 48 V DC; output current.



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Contact:

Power Pulse, New Delhi
Mobile: 098106-76780
Email: sales@powerpulseindia.com

NITROCELLULOSE SPRAY PAINT

Mehul Electro Insulating Industries manufactures and supplies a wide range of nitrocellulose spray paint. The product is widely used in the wooden products like furniture, toys, etc.



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Contact:

Mehul Electro Insulating Industries, Ahmedabad
Mobile: 09998236772, 08000006846
Email: mehulelectro@vsnl.com

TELECOM DC POWER SUPPLY

Autoronica has introduced a rugged telecom DC power supply which uses established design techniques to ensure high reliability. It utilises high frequency conversion technology to generate 2000 W from a 230 V AC input power source and provides standard DC output voltages. .



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Contact:

Autoronica, Panhula
Mobile: 09888822708, 090414-00817
Email: autoronica2@gmail.com

TELECOM SHUTTERS AND ENCLOSURES

Dinesh Micro Waves & Electronics offers a range of telecom shutters and enclosures. These are manufactured and designed using advanced technology and are ideal to place BTS equipment, amplifiers units.



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Contact:

Dinesh Micro Waves & Electronics, Coimbatore
Mobile: 09952444222
Email: info@dineshmicrowaves.com

MOBILE RACKING STORAGE SYSTEM

Spangle Steel Products offers a wide range of mobile racking storage systems. The strong and space efficient racks are manufactured and designed according to client requirements; also offered is an exclusive range.



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Contact:

Spangle Steel Products, New Delhi
Mobile: 09818748509, 09818475845
Fax: 91-11-25897761
Email: spanglesteel@yahoo.in

MOBILE PLATFORM LADDER FPM 1000 SERIES

Sumip Composites offers mobile platform ladders, FPM 1000 Series. The firm is known for quality performance of its fibreglass products, be it ladders, cable trays, trefoil clamps, street light poles, luminaries, etc. This series is available up to 15 ft height.



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Contact:

Sumip Composites Pvt Ltd, Ahmedabad
Tel: 079-26933456, 65416382
Email: sales@sumip.com

MOBILE BATCHING PLANT

Tecimequip Engineering offers a wide range of mobile batching plants. It is exclusively designed and known for features like superior operational fluency and high performance. These plants conform to international quality standards and are offered in compact designs for facilitating easy transportation and shifting.



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Contact:

Tecimequip Engineering, Ahmedabad
Tel: 079-29092539
Mobile: 09825340058
Email: info@tecimequip.com

PROPELLER SHAFT

Evergreen Exports manufacturers a wide range of propeller shaft. These shafts are designed to be used in all types of automobiles and have immense strength thus increasing the performance of the engine.



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Contact:

Evergreen Exports, New Delhi
Mobile: 09810047336, 09818081779
Fax: 011-45082217
Email: evergreen@vsnl.com

WIRELESS DEVICE SERVER

Sparr Electronics Limited offers Wireless Device Server - GSM, which provides full functional capability to serial devices to send SMS and data over GSM Network using GPRS. The product is available in



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Contact:

Sparr Electronics Ltd, Bangalore
Tel: 080-23602836, 23606308
Email: sales@sparrl.com

board level or enclosed in metal box.

POWER STEERING OIL FILTER

Clair Filter Systems manufactures and supplies a wide range of power steering oil filter. These are correctly outlined oil filters. They help in greasing up moving motor parts. Oil filters are accessible with well-being



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valves, which sidestep over-prohibitive stream.

Contact:

Clair Filter Systems, Pune
Mobile: 09881620899, 07745090899
Email: clairfilter@gmail.com

AUTOMOBILES SCANNER

Newtech Equipment offers wide range of automobiles scanner. It is very important equipment for each and every automobile workshop, engineering institutes, and automobile professionals. This is compact



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and diagnostic scan tool for all Asian and European vehicles.

Contact:

Newtech Equipment, Ahmedabad
Mobile: 09327123141, 09426068557
Email: newtechequipment@gmail.com

3D-STL WHEEL ALIGNMENT MACHINE

Sarveshwari Technologies Ltd provides 3D-STL wheel alignment machine. This is plug & play machine; 5 mega pixels Sony camera made for fast & accurate



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alignment; adjustable camera exposure to align super big vehicles.

Contact:

Sarveshwari Technologies Ltd, Delhi
Tel: 011-27023750, 27021499
Email: info@garageequipments.com

AUTOMOTIVE AIR DUCT HOSE

Ace Engineering & Chemicals Private Ltd manufactures and distributes automotive air duct hose. This automotive air duct hose is FRP-based that makes it non-corrosive in terms of finish and long lasting in usage.



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Contact:

Ace Engineering & Chemicals Private Limited, Indore
Mobile: 09826061669, 09826078922
Email: director@aceengineerings.com

CAR GAS SAVER

S Vagadia Innovatives manufacturers and supplies excellent quality car gas saver.



These car gas savers are developed using high quality raw material in adherence to quality norms. These offered car gas savers are widely demanded in the market & provided in different specifications.

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Contact:

S Vagadia Innovatives, Rajkot
Tel: 02827-254148.
Mobile: 09925125625
Email: info@svinnovatives.com

ZED HYDRAULIC CAR PARKING LIFT

New National Hydraulics manufacturers and trades a wide range of zed hydraulic car parking lift. These car parking lifts, scissor hydraulic car parking lift are used to lift cars at different levels, suitable for car moving between floors and levels.



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Contact:

New National Hydraulics, Noida
Mobile: 09811553201, 08506070450
Fax: 0120-4215072
Email: nationalhydraulics@gmail.com

Event	Date & Venue	Contact
INDIA FASTENER SHOW SOUTH CHENNAI	April 24-26, 2025 Chennai Trade Center, Chennai	FME (Future Market Events) Media Pvt Ltd Noida Email: eisha@futuremarketevents.com
PROWAVE EXPO - CHENNAI	April 24-26, 2025 Chennai Trade Center Chennai	Sai Solutions, Chennai, India Email: operations@saisolutions.info
BLECH INDIA - MUMBAI	May 08-10, 2025 Bombay Exhibition Centre (BEC) NESCO Mumbai	Mack Brooks Exhibitions Ltd United Kingdom of Great Britain and Northern Ireland Tel: +44 (0)1727 814400 Email: info@mackbrooks.com
INDIA MACHINE TOOLS SHOW - NEW DELHI	May 15-18, 2025 Yashobhoomi Convention Centre New Delhi	K AND D Communication Ltd. (KDCL) Ahmedabad Mobile: 099090-41613 Email: info@kdclglobal.com
INDOMACH - HYDERABAD	May 23-25, 2025 Hitex Exhibition Center Hyderabad	Indomach Business Solutions Nagpur Email: info.indomach@gmail.com
INDIA WAREHOUSING SHOW - NEW DELHI	June 26-28, 2025 IICC India international Convention and Expo Center New Delhi	RX India, Gurugram Tel: 0124-4774444 Email: Chandan.Kumar@rxglobal.com
AUTOROBOT - COIMBATORE	August 01-03, 2025 Codissia Trade Fair Complex Coimbatore	Midaas Touch Events & Trade Fairs LLP Chennai Mobile: 09600047460 Email: vivek@midaastouch.in
AUTOMATION EXPO - MUMBAI	August 11- 14, 2025 Bombay Exhibition Centre (BEC) NESCO Mumbai	IED Communications Ltd, Mumbai Tel: 022-22079567 Email: jyothi@iedcommunications.com
7TH IMS 2025 INDIA MANUFACTURING SHOW	November 06-08, 2025 BIEC, Bangalore	India Exposition Mart Ltd Mobile: 09743784166 Email: exhibition21@indiaexpocentre.com
INTERNATIONAL		
PCIM EXPO - NUREMBERG	May – 06-08, 2025 Messe Nürnberg, Germany	Mesago Messe Frankfurt GmbH Germany Tel: +49 (0)711 619460 Fax: +49 (0)711 6194691 Email: info@mesago.com
POWER 2 DRIVE - EUROPE MUNICH	May – 07-09, 2025 Messe München, Germany	Solar Promotion GmbH Germany Tel: +49 (0)7231 585980 Fax: +49 (0)7231 5859828 Email: info@solarpromotion.com
SHEETMETAL -CHINA SHANGHAI	June 17-20, 2025 NECC National Exhibition and Convention Center Shanghai, China	Confederation of Chinese Metalforming Industry (CCMI) 102206 Beijing, China Tel: +86 10 53056669 Email: metalform@chinaforge.org.cn
AIREXPO SHANGHAI - CHINA SHANGHAI	August 07-09, 2025 Shanghai Convention & Exhibition Center of International Sourcing Shanghai, China	Shanghai Golden Commercial Exhibition Co. Ltd Shanghai, China Tel: +86 (0)21 31276864 Email: goldenexpo@yahoo.com.cn

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DRDO



MoD signed production order for Nag Missile System leading to induction into Indian Army. On this momentous occasion, Secretary DDR&D and Chairman DRDO congratulated Project Director-NAG & team for development of indigenous 3rd generation ATGM Weapon System. #atmanirbharbharat



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Bharat Forge Ltd



Bharat Forge Limited has achieved a significant milestone with the signing of a landmark contract with the Indian government, yesterday. This contract entails the supply of 184 Made-in-India artillery gun systems: 155 mm/52 cal and 6 * 6 High Mobility Gun Towing Vehicles, underscoring Bharat Forge's commitment to indigenous defence manufacturing. It is a testament to the Honourable Prime Minister Shri Narendra Modi ji's Vision of an Atmanirbhar Bharat in Defence and the visionary leadership of Mr. Baba Kalyani, Chairman and Managing Director of Bharat Forge Limited. His strategic focus on innovation and self-reliance has enabled the company to emerge as a leading player in India's defence manufacturing sector. The contract signing ceremony was attended by Mr. Baba Kalyani, CMD Bharat Forge, Mr. Amit Kalyani, Vice-Chairman and Joint Managing Director, Bharat Forge Limited, and Mr. Neelesh Tungar, Whole Time Director and CEO, Kalyani Strategic Systems Limited (KSSL) and President Defence, Bharat Forge. #WeAreBharatForge #KSSL



Adani Group

We are excited to announce that #Thermax has entered into a strategic partnership with Brazil-based OCQ, one of the leading chemical companies in Latin America, to bring high-performance chemicals to the market.

Together, we are setting up a new entity in India, with Thermax holding a 51% stake and OCQ holding 49%. As part of this collaboration, we will be adapting our existing industrial plant in Gujarat to establish the first production line for acrylic resins.

Commenting on this partnership, Ashish Bhandari, Managing Director and CEO, Thermax Limited, said, "OCQ is a leading company in its space, and partnering with them will help us manufacture and deliver high-performance chemicals to a wide range of industries. Initially, production will focus on acrylic resins—widely used in the paint, adhesives, infrastructure, textile, and waterproofing industries. In the future, the plant will expand to include polyester and alkyd resins, among others. This step marks the beginning of our venturing into a new line of business within the chemical range of solutions."



Tata Steel

On a mission to reduce carbon footprint, we have launched our first-ever fleet of 20 electric buses for employees at our Meramandali plant! This initiative not only ensures efficient intra-plant movement but also strengthens our commitment to eco-friendly employee transportation.

With 20 electric buses and a new EV Bus Bay with charging facilities inaugurated by Chanakya Chaudhary - Vice President, Corporate Services, Tata Steel, and Uttam Singh - Vice President, Operations, Tata Steel Meramandali, this transition is set to reduce our ecological impact significantly.



Larson & Toubro



QatarEnergy LNG, the world's premier LNG company, has awarded an Ultra Mega Offshore Contract for the North Field Production Sustainability Offshore Compression Project (NFPS COMP 4) to L&T Hydrocarbon Business (L&T Energy Hydrocarbon - LTEH) marking the largest single contract ever received by L&T. #L&Tnews

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