A Times Group publication

ET NOW

ULTIMATE GUIDE TO PROFITABLE MANUFACTURING

MACHINIST

RNI No 71129/98

Volume 19 Issue 8 • August 2024 • Rs 75

www.themachinist.in

BY FY 2025, OUR ORDER INTAKE WILL GROW BY 12-15 PER CENT

Reshu Madan, the new **CEO** of **Sterlite Power's Global Products and Solutions business,** has outlined a strategic vision to position the company as one of the top ten global wire and cable companies. In an interview, he discussed his plans to sustain growth, seize emerging opportunities, maintain a healthy order book and more.

SPECIAL FEATURE

FROM TECH UPGRADES TO CYBER PARADES

KHADI MANUFACTURING

ENHANCING MSME GROWTH AND STARTUP ECOSYSTEMS THROUGH KHADI MANUFACTURING

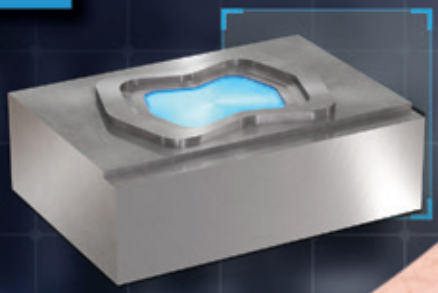
YOU

MILLING

INTELLIGENTLY?

MULTI-MASTER

NEW High Feed Heads with
6 Effective Cutting Edge



The new heads have ramping and slotting capability.
Diameter: 8, 10, 12, 16, 20, and 25 mm.

LOGIQUICK
MACHINING INTELLIGENTLY

Member IMC Group
ISCAR
www.iscar.com

SCAN ME

Since 1857
HURON
Subsidiary of Jyoti CNC

JYOTI

1,30,000+

Installations across 62 Countries

Finest Range of CNC Machines

Turning / Turn-Mill Centers | Vertical Machining Centers
Horizontal Machining Centers | 5-Axis Machining Centers | Multi-Tasking Machining Centers

JYOTI CNC AUTOMATION LIMITED

G - 506, G.I.D.C. Lodhika, Village : Metoda, Dist : Rajkot - 360021, Gujarat (INDIA).
T : +91-2827-235100/101 | E : info@jyoti.co.in, sales@jyoti.co.in | jyoti.co.in huron.fr

IS THIS A VIKSIT BHARAT BUDGET?

The Union Budget 2024 was built on the foundation of Viksit Bharat with a focus on manufacturing, particularly MSMEs. Moreover, the Credit Guarantee Scheme for MSMEs up to Rs 100 crore in manufacturing, leveraging digital footprints for credit assessment, and measures to support MSMEs during stress periods are game changers that will foster innovation, expand access to credit, and sustain entrepreneurial resilience. Enhancements in Mudra loans, mandatory onboarding on TReDS, and SIDBI branch establishments in MSME clusters will unlock working capital, improve credit access, and extend critical support nationwide.

The Union Budget critically focuses on employment, skilling, manufacturing, and the upliftment of the middle class through a variety of initiatives. Employment and Skilling opportunities will be created through financial assistance, where over 20 lakh youth will be skilled over five years. Additionally, to modernise the Industrial Training Institutes, 1,000 such institutes will be upgraded in a hub-and-spoke arrangement. This will certainly create the necessary skills for youth for gainful employment in industries.

As always, 'Infrastructure' has been a strong area for subsequent budgets which have been announced over the years. This time as well, a provision of Rs 11 lakh crore, which is 3.4 per cent of the GDP, has been positive for 'Infrastructure Development' which has a multiplier effect on the economy. Stay tuned for our 9th ET NOW Infra Focus Summit and Awards 2024, scheduled on September 19th in Delhi.

Critically, phase 4 of PMGSY, a program specifically focusing on rural roads, has also been announced, connecting over 25,000 rural habitations. This will create employment and reduce the farm-to-market distance sprucing up the rural economy. What's more? The PM Awas Yojna, 2.0 announced in the budget will improve the lives of over 1 crore people.

A strong focus was put on solar energy. The remarkable achievement of PM Surya Ghar Muft Bijli Yojana with 1.28 crore registrations and 14 lakh applications reflected the growing public awareness and alignment with the government's vision of a solar-powered India.

The government's intention to partner with the private sector to develop small modular reactors is a good step in emphasising the importance of nuclear energy in India's energy mix. Moreover, the Rs 1,000 crore venture capital fund to promote space technology is a welcome step in encouraging greater participation of the private sector in India's burgeoning space sector, where we have the potential to be the global leader for satellite launches.

To sum up, the Union Budget's focus on increasing women's workforce participation and youth skilling is a significant step towards addressing key barriers women face in the workforce, promoting gender equality and economic empowerment. The youth skilling initiative is a forward-thinking move that will enhance workforce skills and employability, driving industry growth and boosting the gig economy.

Editor

ET NOW MACHINIST
ULTIMATE GUIDE TO PROFITABLE MANUFACTURING
Volume 19 Issue 8 August 2024

Worldwide Media Pvt. Ltd.

Director **Rohit Gopakumar**

Chief Financial Officer **Subramaniam S**

Head Human Resources **S. Srivathsan**

Vice President Marketing **Vidyut Patra**

Business Head **Rishi Sutrave**
c-rishi.sutrave@wwm.co.in

Editor **Rahul Kamat**
rahul.kamat@wwm.co.in

Assistant Editor **Nisha Shukla**
nisha.shukla@wwm.co.in

Associate Art Director **Sanjay Dalvi**
sanjay.dalvi@wwm.co.in

Print Production Coordinator **Ravindra Gawade**

ADVERTISING

West & North **Ranjan Haldar**
ranjan.haldar@wwm.co.in
+91 9167267474

South **Mahadev B**
mahadev.b@wwm.co.in
+91 9448483475

CAREERS
careers@wwm.co.in

SUBSCRIPTIONS
subscriptions.wwm@wwm.co.in

Printed and published by Sunil Dad for and on behalf of owners Worldwide Media Pvt Ltd (CIN:U22120MH2003PTC142239), The Times of India Building, Dr DN Road, Mumbai 400001. Printed at Print Plus Pvt Ltd, 212, Swastik Chambers, S T Road, Chembur, Mumbai- 400 071.
Editor: Rahul Kamat. Published for August 2024.


MOTUL TECH
THE INDUSTRIAL LUBRICANTS DIVISION OF THE MOTUL GROUP
THE ECONOMIC TIMES
BEST METAL CUTTING BRANDS 2022
SOLUBLE FLUIDS
INDUSTRIAL LUBRICANTS
FORMING OILS
QUENCHING FLUIDS
NEAT MACHINING OILS
HIGH PERFORMANCE GREASES
HIGH PRESSURE DIE CASTING
RUST PROTECTION
CLEANING
motul.com
Indian HQ - Mumbai
MOTULTECH INDIA PVT LTD
#203 B, Godrej TWO,
Pirojshanagar, Eastern Express Highway,
Vikhroli East, Mumbai - 400079
Info.motultech@motul.co.in
Regional HQ - Singapore
Motul Asia Pacific Pte Ltd
1A International Business
Park Road, #06-03,
Singapore 609933
Global HQ – Paris
Motul SA
119 Boulevard Felix Faure
93300 Aubervilliers,
FRANCE

ET NOW MACHINIST
ULTIMATE GUIDE TO PROFITABLE MANUFACTURING

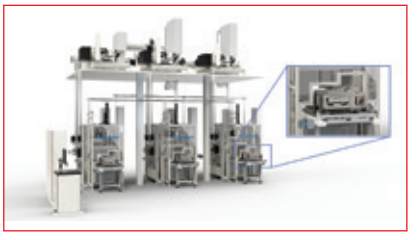
Powered By
MITSUBISHI MATERIALS

CONTENTS

COVER STORY
By FY 2025, our order intake will grow by 12-15 per cent **34**

SPECIAL FEATURE
From Tech Upgrades to Cyber Parades **42**

E-WASTE MANAGEMENT
Recycling Revolution: Powering India's EV Manufacturing with E-waste ---------- **12**



HVAC
In-Line Leak Testing: Advanced Industrial Solution for Appliances ---------- **18**

METROLOGY
The Crucial Role of Training and Support for Effective Metrology Implementation ---------- **27**

ELECTRONICS MANUFACTURING
India's Electronics Industry Surges: Challenging China's Dominance amidst Skill Deficits ---------- **40**

Combining Eco-friendliness with High Productivity and High Accuracy

Emblem for Green-Smart Machine

Green-Smart Machine
Powered by Intelligent Technology

Two key technologies equipped on 「Green-Smart Machine」

Intelligent Technology that enables a machine to autonomously maintain high accuracy.

Over 60,000 units produced from 2001 to September 2022

Thermo-Friendly Concept

Energy-saving system for a decarbonized society

Over 42,000 units produced from 2014 to August 2022
*Including the predecessor ECO suite

ECO suite plus

*Green-Smart machine is available on 5-axis machining centers, multi-tasking machines, lathes, and machining centers

OPEN POSSIBILITIES

Okuma India Pvt Ltd
Plot No.89, Udyog Vihar, Phase-1,
Gurugram-122016, Haryana, India
TEL: +91-12-4425-0229
www.okumaindia.com

For more information about Green-Smart Machine

OKUMA

Rittal and Eplan inaugurate new sales office in Bangalore

RITTAL, the global leader in industrial enclosure, power distribution, climate control, and IT infrastructure solutions, along with Eplan, the innovator in software solutions for electrical engineering, have announced the official inauguration of our new sales office in Bangalore, India.

The inauguration, held on July 17, 2024, reflects Rittal and Eplan's dedication to strengthening customer relationships and delivering superior services. The new office, strategically located in the heart of Bangalore (Hebbal), a hub for technology and innovation, will act as a pivotal point for sales and support operations, ensuring faster response times, enhanced local engagement, and a more personalised experience for our customers.

Mathew Jacob Vice President – Sales of Rittal Pvt Ltd India and Umesh Pai -Managing Director - EPLAN Software & Services Pvt. Ltd., India are thrilled to launch their new sales office in Bangalore. In an joint statement they said, "This move is a testament to our unwavering commitment to our customers' success. By relocating closer to our customers, we are not only reducing geographical barriers but also paving the way for more effective collaboration and tailored solutions that meet the unique demands of the market."

The new office will house a team of dedicated sales and support professionals, fully equipped to offer immediate assistance and expert guidance. Rittal and Eplan, intend to host regular workshops, training sessions, and customer meet-ups to foster knowledge exchange and community building within the industry.

The relocation to Brigade Triumph - Hebbal is not merely a geographical move but a strategic investment in Rittal and Eplan's future growth and innovation. "By deepening our roots in the Bangalore market, we are better positioned to respond to evolving customer needs and market trends, ensuring we remain at the forefront of our industry," the MD added.

Walter Enhances Aerospace Tooling with New J Profile Threading Solutions

WALTER is expanding its existing portfolio for J profiles with extensive new dimensions for the Paradur® Ti Plus and Paradur® Ni 10 blind-hole taps, for the Prototex® TiNi Plus for throughhole threads as well as the new TC630 Supreme thread milling cutter. Users can now obtain practically any thread size in the standard range in the profiles MJ, UNJC and UNJF. Thanks to their high load-bearing capacity, threads with the J profile are preferred in the aerospace sector (e.g., for engine components) since this involves difficult-to-machine materials such as titanium (on the "cold side" of the engine) or nickel-based alloys (on the "hot side"). The tried-and-tested Walter tool families have been specially specified for these exacting requirements – for example with appropriate coatings or helix angle geometries.

All four tools have an extremely stable design and guarantee high process reliability in difficult-to-machine materials. The Paradur® Ti Plus for titanium machining is impressive due to stable cutting edges and its highly wear-resistant, titanium-free ACN hard coating that prevents the formation of built-up edges. It also enables a very long tool edge life and excellent thread quality. Paradur® Ni 10 for nickel-based alloys is particularly suitable for both cost-effective and reliable machining of difficult materials such as Inconel 718. Prototex® TiNi Plus is ideal for the universal machining of challenging titanium and nickel alloys with one tool; whereby the newly added TC630 Supreme orbital thread milling cutters are specially designed for components made of stainless steels and high-tensile materials such as titanium or Inconel with the highest demands on process reliability. They are therefore impressive – even in unfavorable conditions – thanks to their versatility in practically any material. Overall, Walter offers its customers one of the most comprehensive ranges for J profiles.

Elgi Equipments Ltd's net profit stands at Rs. 72.8 crores for the June 2024 quarter

ELGI EQUIPMENTS LTD, a manufacturer of air compressors, posted consolidated sales of Rs. 801 crores for the quarter, compared to Rs. 724 crores in the corresponding quarter of 2023-2024, representing a growth of 11 per cent. Standalone sales for the quarter were Rs. 472 crores, up from Rs. 399 crores in the same quarter of 2023-24, reflecting a growth of 18 per cent.

The company reported a PAT (Profit After Tax) of Rs. 72.8 crores for the June 2024 quarter, compared to a PAT of Rs. 60.5 crores for the same period in 2023-2024 on a consolidated basis, indicating a growth of 20 per cent. The standalone PAT for the quarter was Rs. 72.8 crores, compared to a PAT of Rs. 67.1 crores in the same period of 2023-24.

Demand in the Indian and Middle Eastern markets is quite buoyant. Sales have been muted in Europe because of the Ukraine war and rising raw material costs. Performance in the USA is picking up momentum; however, the outlook remains cautious. Growth in the Australian, Brazilian, and South-East Asian markets is largely muted.

Sales in the company's automotive garage equipment business increased marginally compared to the corresponding period of 2023-24. Overall, the company has demonstrated good growth, led by India, compared to the same period last year.

Outlook for the second quarter of 2024-25: The company expects to grow its business at the same level as in the first quarter.

BLUM
NOVOTEST

CUTTING-EDGE MEASURING AND TESTING TECHNOLOGY

Blum-Novotest - a global leader in technology and innovation in measuring and testing technology.
A reliable partner to the global machine tool, automotive and aerospace industires.

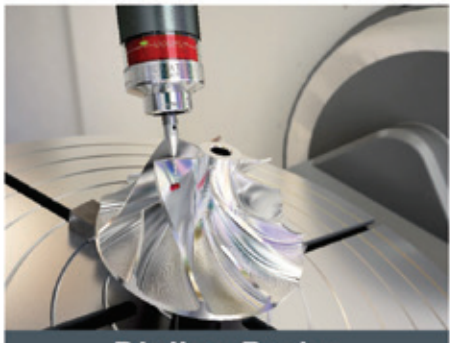
Production metrology for maximum productivity and precision

Advanced measuring systems for tool setting, tool breakage detection and workpiece measurement in machine tools.

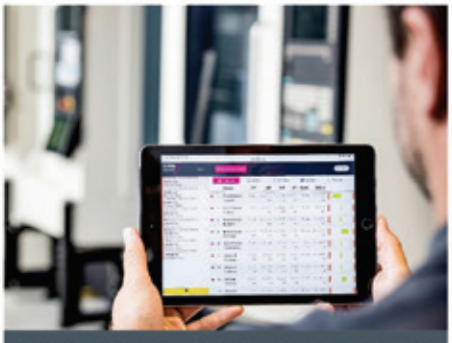

Workpiece Probe


Tool Setting Probe


Laser Control


Digilog Probe


Software FormControl X


Measuring & Automation Software

BLUM-NOVOTEST MEASURING & TESTING TECHNOLOGY PVT. LTD.
Mobile: +91 98452 14650
E-mail: info@blumnovotestindia.in | **Web:** www.blum-novotest.com

Daimler India Commercial Vehicles announces the appointment of its Head of Bus Business

DAIMLER INDIA COMMERCIAL VEHICLES (DICV), a wholly owned subsidiary of Daimler Truck AG ("Daimler Truck"), announced the appointment of Mr. Andamuthu Ponnusamy as Head of Bus Business, effective July 1, 2024. Mr. Andamuthu P began his journey with DICV in 2011 and brings over 35 years of experience in the automotive (passenger and commercial vehicle) industry, specialising in operations management.

Mr. Satyakam Arya, Managing Director & CEO of Daimler India Commercial Vehicles, stated, "The bus industry in India is witnessing healthy growth and is poised to become a vital part of the growing CV industry volume in the medium term. Bus is an important part of our business and Mr. Andamuthu is the most able person in our Organisation to take our bus business to the next level. I am confident that he will drive the development and execution of strategic initiatives, focusing on product innovation and operational excellence in our bus business."

He was instrumental in setting up DICV's truck assembly operations right from the start given his expertise in leading diversified manufacturing teams and his solid comprehension of operational excellence and cost management pivotal to the company's growth over the last decade. In 2016, he became Head of Cab Production and Truck Operating Systems, where he significantly improved operational excellence in DICV truck operations. Notably, he spearheaded the end-to-end operational planning and execution of the BharatBenz BS6 truck range at the time of the implementation of the regulation in India.

In 2021, Mr. Andamuthu P was appointed as Head of Bus Production, a role in addition to his role as Head of Truck Cab Production, when he successfully integrated the bus business with truck operations and spearheaded a capacity ramp-up for fully built buses, leading to a significant increase in cumulative production. His continuous efforts towards cost savings in bus production, through strategic initiatives and fostering collaboration with procurement, manufacturing and engineering teams, have been substantial.

Commenting on his appointment, Mr. Andamuthu Ponnusamy, Head of Bus Business, Daimler India Commercial Vehicles, said, "I am honored to be chosen to head the bus business at DICV. With our global DNA and the strong foundation that we have built here at DICV over the past decade, I am confident that we will achieve significant growth and set new industry benchmarks in the bus industry. As we navigate this exciting growth period, my priority will be to sharpen our competitive edge, contribute to the sustainable development of BharatBenz buses, and deliver value to our customers and stakeholders."

Over the last decade, DICV has set high standards for safety and efficiency in the commercial vehicle industry. Recognised for industry-leading total cost of ownership, BharatBenz buses have become synonymous with reliability, comfort, and safety. In 2023, the company rolled out over 1,000 fully-built buses in a single year, showing our commitment to excellence and the ability to meet the growing demands of the market. The BharatBenz brand focus remains on delivering top-quality products that ensure a superior travel experience, while contributing to the sustainable development of the transportation sector.

Godawari Electric Motors launches the new Eblu Feo X

GODAWARI ELECTRIC MOTORS, manufacturers of the Eblu range of electric 2 and 3-wheelers, announced the launch of a new variant of India's first family e-scooter, Eblu Feo X. This is the second product from the company in the EV two-wheeler segment in India. The Eblu Feo X was unveiled at Bharat Global Mobility Expo 2024.

Eblu Feo X will now be offered with 28 liters of storage space. The e-scooter will continue to feature 2.36 kW battery and offer a 110 km range. Eblu Feo X will be priced at Rs 99,999 (ex-showroom).

Commenting on the launch, Hyder Khan, CEO of Godawari Electric Motors, said, "Eblu Feo X has been designed with customer feedback on our existing product, featuring a timeless design and focusing on offering superior comfort. Feo X is a blend of performance and safety with great value for money. With our expansion into the EV two-wheeler segment, Godawari Electric Motors further strengthens its commitment to the next generation of mobility in India."

He added, "We have been buoyed by the response to our existing EV products and with a robust retail network pan-India, we can cater to the demand of a wider customer base. EV two-wheeler segment has seen remarkable progress in the past couple of years in India, and we are confident that Eblu Feo X will exceed the expectations and aspirations of next-generation buyers. The 500 Eblu Feo X pre-orders testify to customers' trust in our brand."

The company has invested significantly in network expansion with 74 dealerships across the country and aims to have 100 dealers by the end of this fiscal. The company currently retails the Eblu Feo (EV two-wheeler), Eblu Rozee (EV three-wheeler- L5M), Eblu Spin and Eblu Thrill (e-bicycle) range of cycles in the country.

PMT MACHINES LIMITED

Where success is a way of life...

CNC Turning Center 5000 ABC with C/Y axis & live tools

CNC Internal Grinding

CNC Cylindrical Grinding

CNC Vertical Turning Lathe

CNC Gear Hobbing

PRODUCTS

- HEAVY DUTY CNC TURNING MACHINES
- CNC VERTICAL TURNING MACHINES
- ID GRINDING
- OD GRINDING
- GRINDING CHUCKS
- SURFACE GRINDING
- HOBBING MACHINES
- SHAPING MACHINES
- FIXTURES

Tel. No.- +91 98600 78552 | E-mail - marketing@pmtmachines.com
Tel. No.- +91 96625 03927 | E-mail - mkt.brd@pmtmachines.com

www.pmtmachines.com

By Prassann Daphal, CEO, Recyclekaro

RECYCLING REVOLUTION: POWERING INDIA'S EV MANUFACTURING WITH E-WASTE

While electronic waste remains a significant challenge, there are numerous opportunities to transform it into a valuable resource through recycling. The article emphasises the critical role of e-waste recycling in EVs and battery manufacturing.

India generates a significant amount of e-waste annually, largely due to rapid technological advancement and a growing consumer electronics market. E-waste includes discarded electronic devices such as smartphones, computers, and household appliances. The informal waste management sector is responsible for the collection of more than 90 per cent of the electronic waste produced in the country.

Prassann Daphal, CEO, Recyclekaro

The Central Pollution Control Board reported that India produced 1.71 million metric tons of electronic waste, which is significantly lower than the global e-waste output of 59.40 million metric tons recorded by the same organisation. The exponential growth of the information technology and communication industries has led to increased utilisation of electronic equipment.

The ambitious push for electric vehicles (EVs) in India is driven by the country's net zero environmental strategy, which includes battery supply as a critical component. India plans to sell 100 million EVs by 2030, necessitating batteries that can supply 145-158 GWh of energy. Battery recycling and the extraction of essential minerals required in battery manufacturing and other EV components are integral parts of the Centre's Performance Linked Incentives (PLI) program, which is crucial to the success of this initiative.

E-waste contains valuable materials such as copper, aluminum, and rare earth elements, which are needed for EV batteries, motors, and wiring. Lithium and cobalt from e-waste can be utilised to produce lithium-ion batteries for EVs. Advanced recycling technologies improve the efficiency of e-waste material recovery. Research and development can further enhance e-waste processing and EV manufacturing.

The use of recycled materials can help electric vehicle manufacturers reduce production costs, providing significant benefits. Recycling is a sector with the potential to offer numerous employment opportunities, ranging from collection and processing to manufacturing.

Effective recycling reduces the amount of electronic waste disposed of in landfills and helps conserve natural resources by lowering the need for raw material extraction. Utilising recycled materials can substantially reduce the carbon footprint associated with electric vehicle production.

Efficient collection and sorting of electronic waste can be challenging due to logistical hurdles. Technological barriers, such as the development of advanced recycling technologies, pose additional challenges. Establishing a solid regulatory framework to oversee electronic waste recycling is crucial. Public awareness and participation initiatives should encourage consumers to recycle their electronic devices.

The government has implemented policies and incentives to promote electronic waste recycling and the use of recycled materials in manufacturing. Collaborative efforts among governments, the private sector, and non-governmental organisations are essential for developing an environmentally friendly electronic waste management system.

Using electronic waste as a source of materials for electric vehicle production in India is not only theoretically possible but also economically and environmentally advantageous. By adopting cutting-edge recycling technologies, fostering collaboration, and enacting supportive regulations, India has the potential to lead in developing a sustainable and environmentally friendly circular economy.

BAKER
...a passion for precision

BAKER 60 YEARS Since 1962

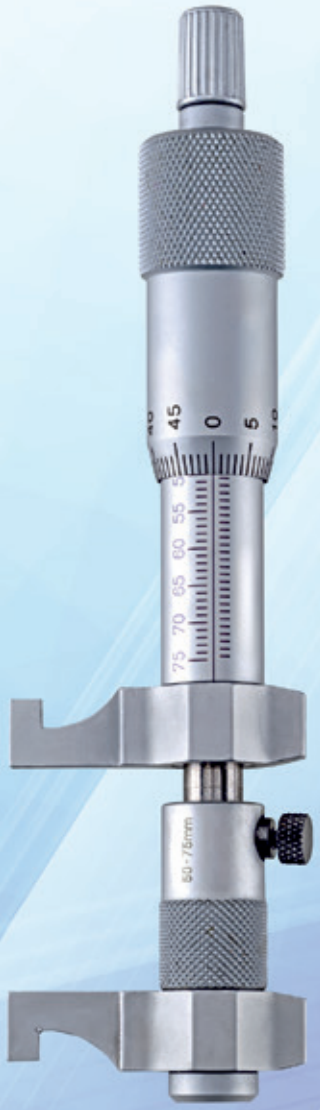
HIGH PRECISION
INSIDE MICROMETER

FEATURES

- Carbide Measuring faces
- Metallic Ratchet stop
- Measuring force 5-10 N
- Stainless Steel spindle for rust prevention.
- Robust design.

Measuring Range mm	Reading mm	Type
5-30	0.010	IM30
25-50	0.010	IM50
50-75	0.010	IM75
75-100	0.010	IM100

5 - 30 mm



25 - 100 mm

BAKER GAUGES INDIA PRIVATE LIMITED

An ISO 9001 : 2015 Certified Company
Head Office-Pune
Tel. : (020) 66250600
Mob. : 7447449621
E-mail : bakerhip@bakergauges.com

Tel. : (020) 66093800
Mob. : 7447438251
E-mail : bakerbmi@bakergauges.com

www.bakergauges.com

New Delhi	Tel. (011) 23328186	Mob.	9810160313	Email: bakerdlh@bakergauges.com
Chandigarh	Tel. (0172) 4631027	Mob.	9815601027	Email: bakerchd@bakergauges.com
Ludhiana		Mob.	7447444098	Email: bakerldh@bakergauges.com
Kolkata	Tel. (033) 22156387	Mob.	7447444980	Email: bakercal@bakergauges.com
Jamshedpur		Mob.	7447444978	Email: bakerjsr@bakergauges.com
Ahmedabad	Tel. (079) 27540665	Mob.	7435041140	Email: bakerbar@bakergauges.com
Indore		Mob.	7447438257	Email: bakermp@bakergauges.com
Rajkot		Mob.	7435041142	Email: bakerrajkot@bakergauges.com
Mumbai	Tel. (022) 43471701/2/3	Mob.	7400199752	Email: bakermum@bakergauges.com
Nashik		Mob.	7447438256	Email: baker_nsk@bakergauges.com
Aurangabad		Mob.	9561777668	Email: bakeraur@bakergauges.com
Kolhapur		Mob.	9823058400	Email: bakersales1@bakergauges.com
Hyderabad		Mob.	7447443439	Email: bakerhyd@bakergauges.com
Bengaluru	Tel. (080) 22217336	Mob.	9845182965	Email: bakerblr@bakergauges.com
Chennai	Tel. (044) 28140963	Mob.	7550055245	Email: bakerche@bakergauges.com
Coimbatore		Mob.	9884480963	Email: bakerche@bakergauges.com

BAKER
SCAN FOR PRODUCT CATALOGUE 2023

By Rony Banerjee, Advisor World Association for Small and Medium enterprises (WASME);
Mentor, Startup Innovation and Incubation Centre, IIT Kanpur & Advisor EY.

ENHANCING MSME GROWTH AND STARTUP ECOSYSTEMS THROUGH KHADI MANUFACTURING

This article explores both the challenges inherent in this integration and the synergies that can be tapped to invigorate the MSME sector and fortify the burgeoning startup landscape.

Amidst the rapid development of India's startup ecosystem and the significant expansion of the Micro, Small, and Medium Enterprises (MSMEs), the traditional Khadi sector stands at a crossroads of opportunity and challenge. While Khadi offers unique possibilities for fostering sustainable and inclusive growth, it faces substantial hurdles that need to be addressed to effectively merge with the modern manufacturing framework.

Rony Banerjee, Advisor World Association for Small and Medium enterprises (WASME); Mentor, Startup Innovation and Incubation Centre, IIT Kanpur & Advisor EY

India's MSMEs in the manufacturing sector are positioned at a critical juncture, poised to catalyse substantial economic growth and foster innovation. With the emergence of a dynamic startup ecosystem, a new horizon of opportunities is unfolding, which could redefine manufacturing practices to be more efficient, sustainable, and globally competitive.

The interaction between MSMEs and startups heralds a vibrant period for the manufacturing sector, promising to infuse it with cutting-edge technologies and innovative methodologies. Khadi, a symbol of India's artisanal heritage and self-reliance, possesses untapped potential to significantly impact the MSME manufacturing sector, a critical pillar of India's economy. As the country propels forward with its 'Make in India' initiative, incorporating Khadi could provide a unique blend of traditional craftsmanship and modern entrepreneurial spirit, thereby fostering innovation and sustainability in manufacturing.

Advancements in textile engineering can be integrated into Khadi manufacturing to enhance fabric quality, diversify product ranges, and reduce costs. Startups can collaborate with research institutions to pioneer technologies that refine the spinning, weaving, and dyeing processes. Leveraging startup agility, the sector can expand beyond apparel and home furnishings to include industrial applications. This diversification can open new markets and increase the sector's resilience.

Harnessing the transformative power of blockchain technology presents a revolutionary opportunity to redefine the traceability of Khadi products, anchoring authenticity and amplifying consumer confidence. By forging strategic partnerships with startups specialising in blockchain, Khadi producers can establish impeccably transparent supply chains, positioning Khadi at the forefront of technological innovation in the textile industry. In the realm of operational enhancement, the adoption of lean manufacturing techniques represents a futuristic stride toward optimising efficiency within Khadi units. These methodologies, borrowed from advanced sectors of large-scale manufacturing, hold the potential to drastically reduce waste and escalate productivity. Collaboration with major corporations to deliver targeted training programs and workshops can catalyse this transfer of sophisticated knowledge, ensuring that Khadi units are equipped to thrive in an increasingly competitive and efficiency-driven global market.

Large-scale manufacturers have a unique opportunity to leverage the strengths of the traditional Indian Khadi sector to foster innovation, enhance sustainability, and expand market reach. By integrating advancements in textile engineering into Khadi manufacturing, these manufacturers can not only enhance the quality and diversity of Khadi fabrics but also significantly reduce production costs. By embracing these synergies, large-scale manufacturers can play a crucial role in transforming the traditional Khadi sector into a modern, innovative, and sustainable industry while paving the way for a new era of manufacturing excellence in the global textile industry.

Digital platforms offer expansive outreach for

LMW®

Crafting intricate
Medical solutions
with precision

JG Series: High Precision Machining Centers

J Series: Next gen Vertical Machining Centers

JD Series: High Speed Machining Centers

TM Series: Turnmill Centers

Upto 5-axes machining | Spindle speed upto 16000 rpm

www.lmwcnc.com

FOLLOW US ON: LMW CNC

INDIA'S FINEST RANGE OF CNC MACHINES

LAKSHMI MACHINE WORKS LIMITED
MACHINE TOOL DIVISION
+91 422 719 1300 | mtd_marketing@lmw.co.in

*Information provided is subject to change

Khadi products. Collaborations with tech startups can help leverage artificial intelligence and data analytics to target potential markets and craft effective marketing campaigns. Partnerships with established brands in the textile and fashion industries can help position Khadi as a premium sustainable brand on global platforms, enhancing export potential. On a different note, large corporations can fulfill their CSR objectives by supporting Khadi MSMEs through direct investments, infrastructure support, or marketing partnerships.

Facilitating access to new forms of finance, such as angel investment for Khadi-based startups, can alleviate financial constraints typically faced by artisans and small producers. Joint efforts in policy advocacy by startups and large industries can help shape favourable policies that promote Khadi, such as tax benefits, export incentives, and subsidies for sustainable practices.

Integrating the traditional Khadi sector into India's dynamic MSME and startup ecosystems represents a profound convergence of challenges and opportunities. By proactively tackling these challenges and effectively capitalising on synergistic opportunities, Khadi can be reinvigorated as a cornerstone of India's sustainable manufacturing landscape. This transformation is not merely about upgrading old practices but about reshaping perceptions, modernising production, and opening new markets through strategic partnerships and innovative approaches. As Khadi aligns with modern industrial standards and practices, it promises not only to revive a heritage-rich industry but also to drive broader socio-economic advancements. By doing so, Khadi is poised to become a beacon of sustainable development in the global textile arena, illustrating how traditional sectors can successfully transition into thriving, contemporary industries.

UPDATE

EXICOM TO ACQUIRE BUSINESS AND ASSETS OF TRITIUM

Exicom Tele-systems Limited, India's largest electric vehicle charger manufacturer, announced that its subsidiary Exicom Power Solutions B.V. Netherlands and other step-down subsidiaries, have entered into a definitive agreement under which it will acquire business and assets of Tritium group of companies (henceforth referred to as "Tritium"), a distinguished global leader in DC fast chargers, headquartered in Australia.

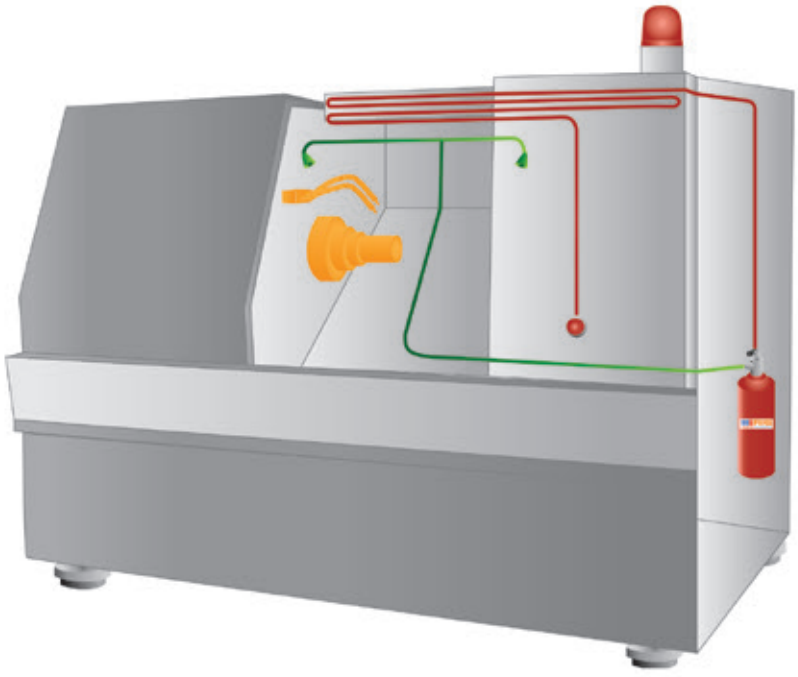
With over 13,000 DC fast chargers sold in 47 countries, Tritium is recognised as a leading industry brand globally. Founded in 2001, Tritium designs and manufactures proprietary hardware and software to create advanced and reliable liquid-cooled DC fast chargers for electric vehicles. Tritium's chargers are designed for both aesthetic appeal and durability in tough environments. They feature engineering that simplifies installation, ownership, and usage.

With this landmark acquisition, Exicom is set to unlock substantial long-term growth and value for its stakeholders. The acquisition adds Tritium's manufacturing facility in Tennessee, USA, as well as a world-class engineering centre in Brisbane, Australia to Exicom's existing presence in Asia. The acquisition expands Exicom's global reach and amplifies its commitment to research and development to drive innovation in this growing industry. With the complementary product portfolio of Exicom and Tritium, the acquisition provides the opportunity to serve the different use cases across the world and expand EV infrastructure adoption.

According to Bloomberg NEF's "Economic Transition Scenario," which forecasts EV growth based on current techno-economic trends, EVs are slated to reach 45 per cent of global passenger-vehicle sales by 2030 and 73 per cent by 2040.

Anant Nahata, CEO, Exicom said, "This acquisition is in line with Exicom's strategic vision to be a key contributor to the world of tomorrow by enabling an emission free future for mobility. Exicom and Tritium have a complementary sales and product footprint and have each established leadership in their respective regions. We look forward to working with Tritium's employees, customers, partners and other stakeholders to grow the business further and provide faster, more reliable charging experiences to EV users across the globe."

WEFIRE®



WEFIRE® CNC FIRE SUPPRESSION SYSTEMS

WHY US?

Endorsed by machine builders and MNC's, WEFIRE manufactures tailor made & proven fire suppression systems for CNC Machines, there by avoiding weeks of costly production downtime due to fire, at less than 2% cost of your CNC.

NOW AVAIL "0% INTEREST EMI" ON CREDIT & DEBIT CARDS WITH 6/9/12 MONTHS REPAYMENT PERIOD*

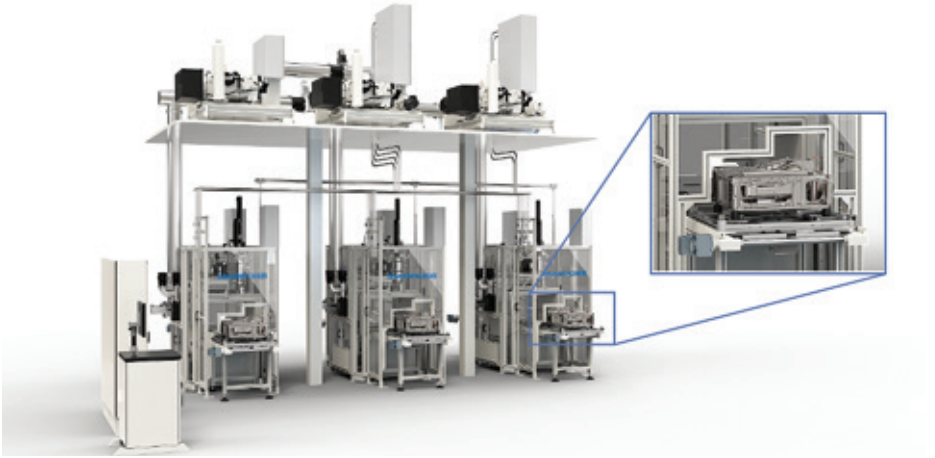
*Terms & conditions apply

WARRIER ELECTRONICS

"Sticker House" 180/1, Ravet, Ganesh Nagar,
MIDC Road, Shinde Vasti, Nigdi, Pune-412101.
Ph: +91 8806 44 99 00 / +91 70287 99520
Email: info@wepune.co.in
Web: www.wefire.in

IN-LINE LEAK TESTING: ADVANCED INDUSTRIAL SOLUTION FOR APPLIANCES

A look at Marposs' Dryer Heat Pump Leak Test application and how it ensures high product quality without compromising the requisite high productivity to meet market demands at production sites.



In the context of the White Goods/Home Appliances industry, Marposs' Dryer Heat Pump Leak Test application is a high-tech end-of-line test that ensures very high product quality without sacrificing the necessary high productivity to meet market demands at production sites. This solution utilises a hard vacuum helium leak detection system across the entire finished assembly, offering the most reliable method for detecting global leaks in circuits.

The testing method employs 100 per cent helium as the tracer gas, with mass spectrometer measurement in a vacuum chamber, making it the most effective among various leak testing systems for detecting even the smallest leaks. Marposs' in-line leak test machines can detect leaks in heat pump assemblies down to a threshold range of 10-5 mbarl/s. For comparison, traditional nitrogen leak tests in water tanks typically yield results in the range of 10-2 mbarl/s (one bubble with a radius of 2 mm in 1 second), factoring in human guesswork and potential undetected leaks.

> "Marposs' in-line leak test machines can detect leaks in heat pump assemblies down to a threshold range of 10-5 mbarl/s. For comparison, traditional nitrogen leak tests in water tanks typically yield results in the range of 10-2 mbarl/s (one bubble with a radius of 2 mm in 1 second), factoring in human guesswork and potential undetected leaks.

A significant challenge in automatic testing lies in the large manufacturing tolerances of coolant tubes. To address this, Marposs has developed a highly flexible coupling design that facilitates automatic connection of the inlet pipe, despite uncertainties in assembly positioning. The coupler has a large compensating capacity, even when a large distance is covered up and down to reach the connection point with vertical pneumatic movement.

What was once a manual test has been successfully automated, significantly benefiting production efficiency. The modular design, accommodating from one to several leak test stations, offers versatile productivity in fully automated settings.

Leak testing is crucial for all thermal exchange processes using refrigerant gases, ensuring long-term

Smarter technology for all

Lenovo

Think anything. Make everything.

Lenovo

ThinkStation

Lets you design eco-friendly architecture

ThinkStation PX

MOLDINO Tool Engineering, Ltd.

MOLDINO
The Edge To Innovation

Indexable Square End Mill

ASM type

Super Excellent Mini ASM

Indexable end mill using advanced small-diameter inserts. Pocket design and 3D-shaped cutting edge enables high-efficient machining of even small diameter sizes.

Small dia.
Lineup of small diameter sizes from ϕ8 to ϕ32.
▶ **Can be used instead of solid end mills.**

Multi-function
JDMT-type inserts for shoulder cutting and EDMT-type inserts for low-depth, high-feed-rate machining can be used in the same holder.
▶ **Concentration of roughing tools**

By using a modular type holder, a carbide shank and special arbor suitable for the cutting depth and cutting shape can be selected.
▶ **Broad cutting range**

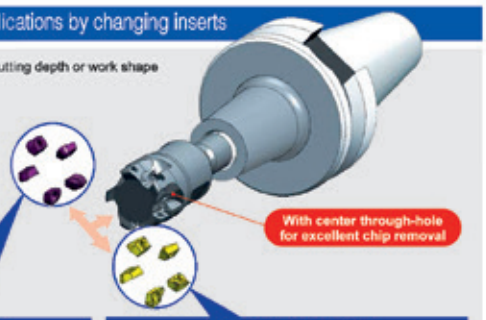
Easy cutting
Uses low-force free-cutting-shape insert.
▶ **Compatible with low-powered small-sized machines equivalent to BT-30.**

Environment
▶ **Economical insert with 2-corner specifications**
▶ **Special environmentally-friendly, high-hardness, corrosion-resistant surface treatment employed on holder.**

Features 01 2 types of applications by changing inserts

· High-efficient tooling system to match cutting **depth or work shape**

1 Steel Shank type
2 Carbide Shank
3 Modular Arbor



EDMT-type insert for machining efficiency

Utilizes R2.0 cutting edge shape.
- No uncut remnants peculiar to high feed tools
- Low cutting resistance

Work material : S50C
Tools : ASMM07108R-2(ϕ10-2NT)
+ASC10-6.5-114-49
Cutting Conditions : Vc=160m/min
Vf=6,115mm/min
ap × ae=0.25×5mm
Tool overhang 80mm

JDMT-type insert for high-grade machined surfaces

Utilizes Fine Wall (FW) shape.
- Decrease unevenness of machined surfaces
- Decrease burring

Work material : S50C
Tools : ASMD12512R-2(ϕ12-3NT)
+ASC13-6.5-114-49
Cutting Conditions : Vc=200m/min
Vf=800mm/min
ap × ae=5×D.5mm×2
Tool overhang 25mm

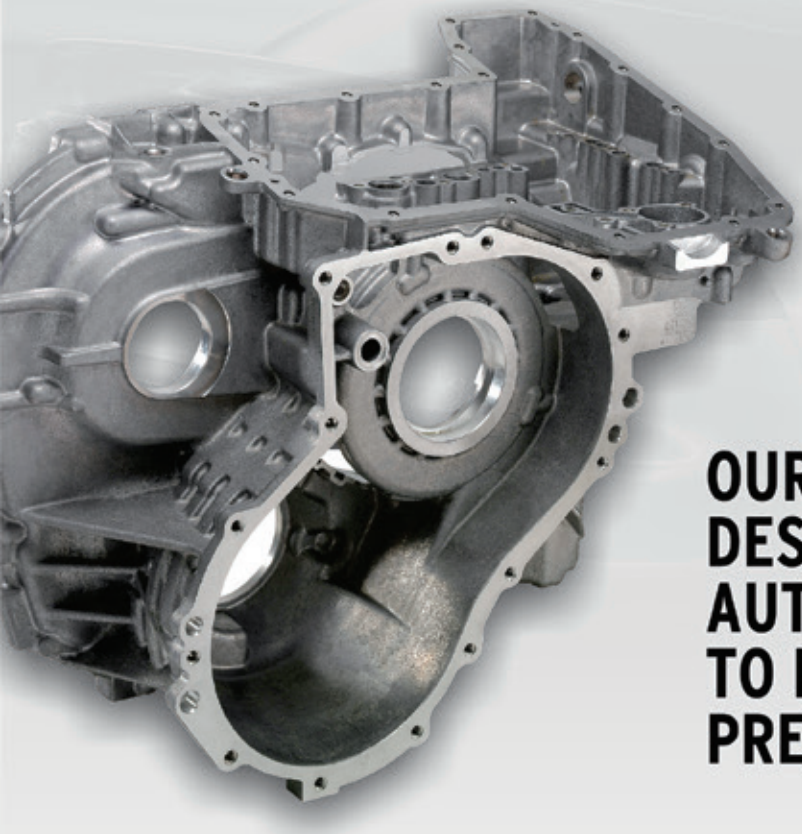
MMC Hardmetal India Pvt. Ltd.

A Subsidiary Company of MITSUBISHI MATERIALS
A Sales Company of MOLDINO Tool Engineering, Ltd.

Tel : +91 80 2204 3600 - 2204 3699
Website : www.mitsubishicarbide.com
Email : mmcindia@mmc.co.jp

MITSUBISHI MATERIALS

DIA EDGE



OUR TOOLS ARE DESIGNED TO BOOST YOUR AUTOMOTIVE PRODUCTION TO NEW HEIGHTS WITH PRECISION & QUALITY

FMAX

FEED MAXIMUM MILLING CUTTER FOR ULTRA EFFICIENT AND ACCURATE FINISHING

The ultra fine pitch design is ideal for high efficiency machining (vf ≥20,000mm/min) (Milling for aluminum alloy)

AHX Series

A UNIQUE FACE MILL FOR MACHINING OF STEEL, STAINLESS STEEL AND CAST IRON

ECONOMICAL 14 CUTTING EDGE INSERTS.

MMC Hardmetal India Pvt. Ltd.

A Subsidiary Company of MITSUBISHI MATERIALS
A Sales Company of MOLDINO Tool Engineering, Ltd.

Tel : +91 80 2204 3600 - 2204 3699
Website : www.mitsubishicarbide.com
Email : mmcindia@mmc.co.jp

YOUR GLOBAL CRAFTSMAN STUDIO

> A significant challenge in automatic testing lies in the large manufacturing tolerances of coolant tubes. To address this, Marposs has developed a highly flexible coupling design that facilitates automatic connection of the inlet pipe, despite uncertainties in assembly positioning.

tightness of refrigerant-containing components and performance efficiency in terms of heat exchange. Increasing demand for energy-efficient heat exchange systems underscores the importance of accurate HVAC product leak testing. As attention shifts towards refrigerant compounds' environmental impact, reliable leak testing solutions become indispensable.

To ensure accuracy and compliance with legal leakage thresholds for each chemical compound, comprehensive EOL leak testing is imperative for both components and final assemblies. Detecting leaks guarantees sustained thermal efficiency and performance over extended periods, essential for product longevity and consumer satisfaction.

Marposs solutions are strongly focusing on enhancing leak testing performance for more efficient products, utilising hard vacuum test chamber methods and additional functional tests to augment test station value. Basic tests like preliminary gross leak tests on the dryer heat pump assembly using air pressure decay techniques help identify major defects early, optimising production processes and data management.

Additional features include manual sniffing systems for maintenance and troubleshooting, and functional tests for electro-pneumatic devices within the unit, all integrated with full test traceability for warranty purposes. Marposs also offers a helium recovery system with high efficiency (85-95 per cent), recycling helium within a closed system to maintain test accuracy and reliability.

Helium purity is closely monitored, ensuring correct levels through refilling and final compression to required test pressures. The recovery output provides leak test set points to the HLT machines so that data outside the acceptable range generates alarms to avoid false leak detection. The fully integrated process gives better accuracy and reliability to the system, with the shortest return on investment ever.

UPDATE

TOSHIBA TO AUGMENT PRODUCTION CAPACITY OF POWER T&D EQUIPMENT IN INDIA

To address the growing global demand for Power Transmission & Distribution (T&D) equipment amid the global trend of renewable energy expansion, Toshiba Transmission & Distribution Systems (India) Private Limited (hereinafter "TTDI") has announced that it will increase its manufacturing capacity of power transformers and distribution transformer by approximately 1.5 times compared to FY2023, over a three-year period from FY2024 to FY2026. Toshiba Group has positioned the power T&D business as a focus business and will invest approximately JPY 10 billion (over Rs 500 crore) in TTDI to expand its capacity.

Elaborating on the significance of this global announcement to India, Hiroshi Furuta, Chairperson and Managing Director, TTDI said, "Toshiba is a world leader in the supply of T&D equipment for both conventional and renewable energy sources. With India established as a hub for our T&D equipment manufacturing operations and export base, TTDI has successfully supplied India-made transformers to over 50 countries. Furthering our commitment to Make-in-India and Export-from-India, the new investment will improve operational efficiency, increase speed-to-market, and support in expanding our business in India and overseas."

With this investment, TTDI will increase its assembly and test line capacity for Distribution transformers and Power transformers for the Transmission Grids and Distribution Networks. Its enhanced testing capacity for power transformers will represent a significant upgrade in its testing capacity, specifically geared towards expanding exports of power transformers and meeting the high demand for 400kV / 765kV transformers in the Indian market. Distribution Transform expansion is mainly to create a dedicated state-of-the-art facility for CRGO (cold-rolled grain-oriented) steel processing centre in order to enhance the vertical integration facility, which can help us to reduce the process's lead time, safety, and 5S. Additionally, TTDI will also build a new manufacturing facility for surge arresters during the first half of FY2024 and the products will be commercially available in the market by the second half of the year.

Going forward, TTDI will continue to contribute to carbon neutrality and quality of social infrastructure for electric power companies and manufacturers globally.


JINDAL
Jindal Aluminium
Even
THEN
Also
NOW
Even then, Jindal Aluminium, a leading player in the downstream Aluminium industry, had made significant contributions to the building and construction sector. With its high-quality engineered Aluminium products and solutions, it has revolutionized the industry.
Also now, its innovative designs and advanced manufacturing technique is enabling the construction sector to create modern, eco-friendly structures that are not only visually appealing but also environmentally responsible.
INDIA'S LARGEST ALUMINIUM EXTRUSION COMPANY
Quality Engineered Aluminium
for Building & Construction Sector
CURTAIN WALL | FACADE SYSTEM | LOUVER | GLAZING | SCAFFOLDING | DOOR & WINDOW
Aluminium Extruded and Flat-Rolled Products
We use
100%
renewable energy
for manufacturing
@ Bengaluru and Dabaspet units
Iconic Brand of India, 2023 | Brand of the year, 2024
ISO 9001:2015 | ISO 45001:2018 | PED by HSB Global Standards, UK | AS9100D (Aerospace) Certified
Know More
+91 9900-072-169
Hello@JindalAluminium.com
Since 1968

By Chalapathi Rao, CEO, Orange Business Services

UNLOCKING THE VALUE OF DATA-DRIVEN MANUFACTURING

The article delves into the smart manufacturing adoption in India, emphasising the crucial role of data. It also discusses how manufacturers can tackle challenges such as data silos, cultural resistance, and the digital skills gap to leverage their data fully.

The age of smart manufacturing has long begun, driven by a strategic imperative to remain competitive and improve agility in response to rapidly evolving market dynamics. Manufacturers in India have embarked on their digital journey to transform their factory floors and supply chains with new-age technologies. Today, over 57 per cent of Indian companies make use of smart manufacturing – at the heart of which lies data.

Chalapathi Rao, CEO, Orange Business Services

DATA: THE PULSE OF SMART MANUFACTURING

The availability of high-quality, real-time data has made it optimal for manufacturers to gain smart insights, supporting better decision-making and improved efficiency. Data helps manufacturers reduce energy consumption, optimise supply chains, predict future outcomes for the business, and automate processes, which lowers costs and saves time. When applied intelligently, data also enhances product quality, increases productivity, detects production flaws, minimises downtime and instances of unanticipated maintenance.

However, despite having access to relevant data, most manufacturers still struggle to capture value from it. One reason for this gap is the challenge of ensuring interoperability between their information technology (IT) and operational technology (OT) infrastructure. The first question before the Indian industry is: with the integration of IT and OT and the convergence of these technologies, how do they ensure greater interoperability? Such integration is essential for grasping data and converting it into valuable, actionable insights.

MASTERING DATA FOR ACTIONABLE INSIGHTS

Ensuring connectivity between new and legacy machines is key, given that many legacy systems are built with modern architectures and open interfaces that enable easy connection. This ensures that all data can be captured even from the most fragmented systems in a scalable and secure manner. At the same time, it's essential to ensure that data is made available not only at the executive level but across the entire factory floor, supply chains, and between factories - horizontally and vertically. This approach enables real-time knowledge and troubleshooting, nurturing the culture of a data-driven organisation.

Manufacturers are acutely aware that the transformational journey ahead presents challenges, such as:

- **Digital Skills Drought**
  Without context, any data generated remains unused and useless. Applying context to data requires a workforce trained to understand and interpret the data devices in a value-added manner, enabling swift problem-solving based on facts and evidence. This means digital skills are necessary, whether through upskilling or reskilling by employers, around skills like data entry, automation, and analytics to create a functional and unified factory unit, and a consistent pipeline of digitally trained workers.
- **Cultural Resistance**
  Cultural resistance can be a barrier when there is a lack of understanding of the organisation's transformation goals and worries about job security. This results in workers feeling less motivated by the company's cultural shift and the uptake of technology. The workforce will be the greatest asset in unleashing the power of data, deriving strategic and operational insights, and sharing data that supports the optimal functioning of a factory.

BRINGING YOU THE BEST OF THE GLOBAL MACHINE TOOL INDUSTRY.

DOWELL
Rotary and
Surface Grinder

HONG JI
Gun Drilling
Machine

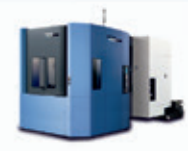
MILLSTAR VH
CNC and Conventional
Vertical + Horizontal
Milling Machine

FULLTONTECH
Double Column
Conventional and
CNC Vertical Lathe

FOUR-STAR HDT
Medium Travelling
Double Column
Machining Center

MICROCUT HM-RT
High Speed
Horizontal Milling
Machine

FOUR-STAR HRP
High Rapid Precision
Machining Center



DN SOLUTIONS
Horizontal and
Vertical Machining
Center

FOUR-STAR SD-2S
Heavy-duty Two Ram
Column Moving
Machining Center

FOUR-STAR FDW
High Precision W Axis
Fixed Double Column
Machining Center

FOUR-STAR FQ
High Speed
Fixed Double Column
Machining Center

MOMENTUM
Heavy-duty
Precision CNC Vertical
Turning Center

World renowned brands with full service support in India.

Hosabettu, a leading name in the machine tool sector in India, brings you an unmatched range of machine tools from the world's renowned manufacturers. A wide range of machines that assures you of peak performance even under challenging work conditions, ensuring precision and productivity with very high machine uptime. You will find our range being extensively used by various industries across India for parts and component manufacturing as well as in toolrooms.

For your requirement, contact us today.

Mobile: +91 97114 10030 / +91 99710 10030
E-mail : hosabettu56@gmail.com
hm@HosabettuMachinery.com
www.HosabettuMachinery.com

Hosabettu
Machine Tools

- **Siloed Data Sources and Manual Processes**
  When data sources are isolated or siloed, it can impede the extraction of data from fragmented systems. Additionally, the use of paper-based processes by manufacturers leads to a lack of transparency or visibility, inaccuracies or errors, and data islands, making data less accessible and retrievable.

GETTING DOWN TO BRASS TACKS

Hope prevails in the face of challenges, and where there is a will, there is always a way. To make a manufacturing facility and its value chain data-driven, manufacturers must first run a digital transformation maturity assessment on data maturity. Performing an analytics evaluation assessment identifies the location of data assets and how they are being used. This process pinpoints gaps in manufacturing processes and singles out data-driven processes to be prioritised.

As successful data analysis depends on high-quality data, a manufacturer should define how data will be used and analysed to get the most accurate, actionable, and timely results. Firms must understand their OT and IT architectures and how to integrate them to harvest high-quality data. Building a cross-functional OT and IT team that shares data and analytics can create organisational-wide data security policies, fostering high-performing collaboration and a streamlined structure to achieve the best possible outcomes.

Organisations are recommended to take an iterative approach to data governance. This involves developing a policy that defines how data is processed organisation-wide, ensuring consistent and compliant data collection and storage, and establishing a solid data foundation from the start. To ensure success at this stage, manufacturers should work with an experienced partner.

A digital data-driven factory relies on workers skilled in digital tools. Here, an experienced partner can further help manufacturers bring their workforce up to speed with the latest digital tools. Gradually, the skills transfer should occur so that employees become familiar with using technology to solve problems, remaining competitive in today's revolutionary digital landscape.

Finally, manufacturers can adopt a unified namespace approach for a central data hub to ensure consistent data exchange across the organisation. Such contextualised and structured data allows machinery parts to be dissected and assessed, while enabling new analytics applications to be deployed at a faster rate.

CONCLUSION

The promise of data in transforming manufacturing is enormous. By working with a trusted partner who can help foster a data-driven culture and identify the best business cases to drive a successful data-driven strategy, manufacturers can gain a competitive edge through operational insights, be more resilient to market disruption, and ensure that their growing volume of data brings about tangible business impact.

UPDATE

KIRLOSKAR FERROUS INDUSTRIES LIMITED AND ISMT TO START OPERATING AS A MERGED ENTITY

Kirloskar Ferrous Industries Limited and Indian Seamless Metal Tubes Limited (ISMT) have announced that they will begin operations as a merged entity starting, August 9th, 2024.

This merger represents a significant milestone in KFIL's strategic growth plan. The consolidation aims to leverage synergies, enhance operational efficiency, and create long-term value for all stakeholders. The merged entity is set to benefit from an expanded product portfolio, increased market reach, and improved financial strength.

KFIL's Board of Directors approved the merger in their meeting on 5th November 2022. The NCLT's approval on 24th July 2024, marked the successful culmination of this process.

The merged entity will be led by a seasoned management team drawn from both KFIL and ISMT, ensuring continuity and a smooth transition. The leadership team is committed to driving the company forward with a focus on sustainable growth and long-term success.

Atul Kirloskar, Chairman of Kirloskar Ferrous Industries Limited, said, "This merger is a strategic step towards consolidating our strengths and expanding our capabilities. We are confident that the combined entity will deliver significant value to our customers, shareholders, and employees."

R.V. Gumaste, Managing Director of KFIL, added, "We are excited about the opportunities this merger presents. By joining forces, we can leverage our collective expertise and resources to drive innovation and growth in the industry."

THE CRUCIAL ROLE OF TRAINING AND SUPPORT FOR EFFECTIVE METROLOGY IMPLEMENTATION

Aveen Padmaprabha, Head of Industrial Quality Solutions, Carl Zeiss India (Bangalore) Pvt. Ltd., discusses the benefits of continuous training and development in metrology and addresses common implementation mistakes.

Why is training so crucial in metrology implementation?

Training is pivotal for the successful implementation of metrology across any organisation. It serves as the foundation upon which accuracy, compliance, and innovation thrive. Fundamentally, metrology involves principles of physics and mathematics, coupled with the use of complex instruments and software. Training ensures that personnel grasp these concepts and tools thoroughly, enabling them to achieve precise and reliable measurement results. It also plays a crucial role in maintaining consistency and reliability in measurements across various conditions and locations. By educating employees on proper calibration and measurement procedures, training safeguards the integrity of measurement processes. This not only enhances operational efficiency but also minimises errors that can lead to costly mistakes.

In industries governed by stringent regulatory standards—such as aerospace, pharmaceuticals, and manufacturing—metrology training is indispensable. It equips personnel with the knowledge and skills needed to comply with these regulations rigorously. Adhering to these regulations not only mitigates legal risks but also upholds the high quality and reliability of products and services delivered.

Beyond compliance and precision, training in metrology fosters innovation. A deep understanding of metrology principles empowers employees to explore new measurement techniques and refine existing ones. This innovative spirit drives improvements in product design, enhances overall quality, and boosts operational performance.

In today's interconnected global economy, interoperability of measurements across different geographical locations is vital. Metrology training, aligned with international standards, ensures consistency and reliability in measurements. This facilitates smooth international trade and collaboration, bolstering organisational competitiveness and reputation.

Aveen Padmaprabha, Head of Industrial Quality Solutions, Carl Zeiss India (Bangalore) Pvt. Ltd.

What is the typical training process for new metrology personnel?

The training process at ZEISS Academy Metrology is designed to empower metrology professionals with comprehensive skills and knowledge essential for precise measurement tasks. The journey begins with foundational courses covering basic metrology, including measurement techniques and standards. These courses provide a strong theoretical grounding,

Now you can check the accurate price of any property anytime, from anywhere with Magicbricks' instant property valuation tool PropWorth. It uses smart algorithms and extensive data from over 15 years to determine the true worth of any property. Thus, giving you clarity to make well-informed property decisions confidently.

magicbricks

Property Sahi. Services Sabhi.

Scan now to find the right property worth on

magicbricks

PROPWORTH

Delivers data-driven estimates with 98% accuracy

Trained on 15 years of data and over 30 million listings

Covers 50,000+ projects & 5,500+ localities across 30 Cities

15 LAC+ LISTINGS EXPERT ADVICE I HOME LOAN I HOME INTERIORS I SITE VISIT

T&C apply

which is then reinforced through practical exercises using ZEISS metrology equipment and software.

As trainees progress, they can choose from four customised learning paths based on their current knowledge and specific application needs. These paths guide them through increasingly specialised topics such as software-based training for mastering ZEISS software tools and technology-based training focused on efficient device and sensor usage.

ZEISS Academy Metrology offers various learning formats to accommodate different preferences and needs, including classroom training at over 60 locations worldwide, live online sessions, and individual on-site support. Upon completion of each training course, participants receive globally recognised certificates, validating their expertise in metrology.

Continuous learning is emphasised through e-learnings, apps, and e-books, allowing metrologists to stay updated independently and apply their knowledge effectively in real-world scenarios. This structured approach not only enhances technical proficiency but also supports industry-specific challenges, ensuring metrology labs perform optimally and contribute to maintaining global quality standards.

How has the advancement of technology influenced the training and support needed in metrology?

Traditionally focused on mastering measurement techniques and equipment operation, modern metrology training now integrates sophisticated software and cutting-edge hardware capabilities. This shift demands a more dynamic approach to education, where understanding complex algorithms, data analytics, and digital integration becomes crucial.

Today, metrology training programs must incorporate comprehensive instruction on utilising advanced software functionalities for data analysis, visualisation, and interpretation. Training modules now emphasise not just operating hardware but also understanding how to leverage digital interfaces and automated systems effectively. This ensures that technicians can extract meaningful insights from large datasets and optimise measurement processes in real-time.

Moreover, the proliferation of smart sensors, IoT connectivity, and cloud-based solutions has expanded the scope of metrology training to include cybersecurity protocols and data management best practices. Technicians are now trained to safeguard sensitive data and ensure compliance with stringent regulatory requirements across different industries.

The evolution of technology also necessitates ongoing education and upskilling initiatives. Metrology professionals must stay abreast of technological updates and advancements through continuous professional development programs. These programs not only enhance technical proficiency but also cultivate a mindset of innovation and adaptability in response to emerging technologies.

How can one ensure the training and support practices keep up with the evolving field of metrology?

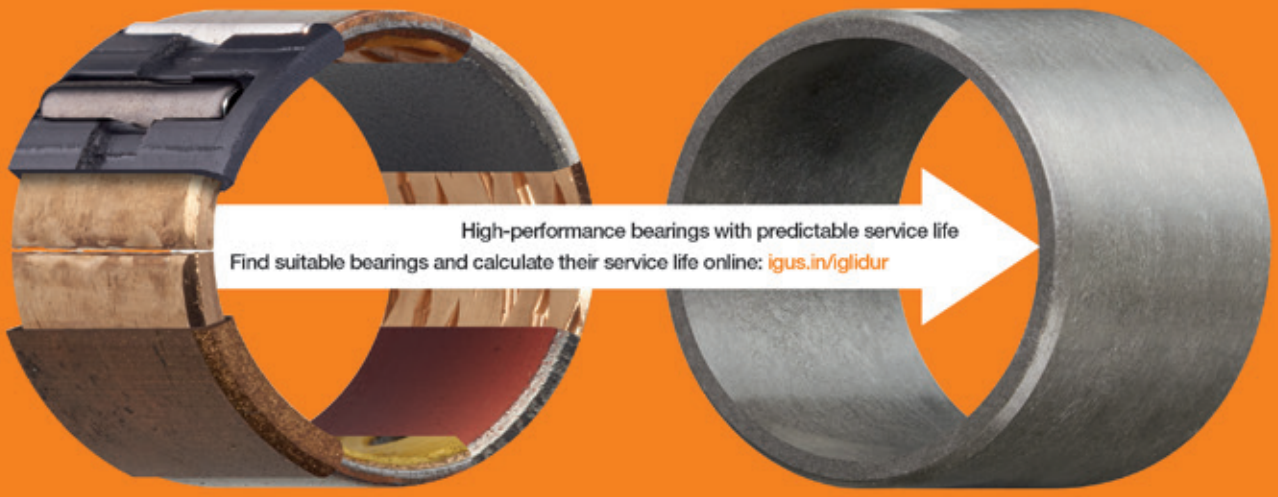
Our strategy for keeping abreast of the evolving metrology landscape revolves around a proactive and comprehensive approach. By seamlessly integrating our research and development initiatives with our training programs, we ensure that advancements in metrology devices and software are swiftly reflected in our training materials. This enables us to deliver timely and relevant training whenever our clients adopt new products or updates.

Understanding our clients' evolving needs is paramount. Through continuous engagement and feedback, we gain valuable insights into their challenges and requirements. This insight-driven approach allows us to tailor our training solutions dynamically, ensuring they meet the real-world demands of the metrology industry effectively. We have established a metrology community—the #measuringhero—where our customers can directly ask critical questions, share best practices, and connect with other metrology professionals.

Collaboration is a cornerstone of our strategy. By forging strategic partnerships with academic institutions and industry alliances, we remain at the forefront of emerging trends and technologies in metrology. These

igus® dry-tech® ... lubrication-free bearings made easy

Change your bearing now



and save 40%

THE MACHINIST BEST METAL CUTTING BRANDS 2023

ET POLYMERS BEST PLASTICS & POLYMERS BRANDS 2024

Whether bronze or sintered bearings, coated metal bushings or needle roller bearings: Reduce costs and improve machine performance with iglidur® polymer bearings. Lubrication-free, lightweight and wear-resistant for your moving application.

igus®.in
plastics for longer life®

Phone +91-80-45127800 Fax +91-80-45127802 info@igus.in

From single components to turnkey engineering solutions for your industry – igus® dry-tech®

igus® (India) Pvt. Ltd. 36/1, Sy. No. 17/3, Euro School Road, Dodda Nekkundi Industrial Area - 2nd Stage Mahadevapura Post Bangalore - 560048

collaborations enable us to align our training programs with the latest industry standards and best practices, ensuring our clients receive cutting-edge education.

Regular assessment and refinement of our training materials are crucial. By continuously evaluating the effectiveness of our training practices and incorporating user feedback, we adapt swiftly to changes in metrology advancements. This iterative improvement process guarantees that our training and support practices evolve in tandem with the dynamic field of metrology, empowering our clients with enduring knowledge and capabilities.

What are some common mistakes companies make in metrology implementation and how can good training and support help avoid these?

Some companies encounter common pitfalls in metrology implementation that can be mitigated through effective training and support. A primary issue is the neglect of calibration, where instruments

drift without regular adjustment, leading to unreliable measurements. Proper training emphasises the importance of calibration routines, ensuring accurate and consistent results. Environmental factors such as temperature, humidity, and vibrations sometimes go overlooked, affecting measurement precision. Comprehensive training programs educate employees on these influences and provide strategies to minimise their impact, maintaining accuracy. These two issues are addressed in our basic metrology training.

Another critical mistake is poorly defined measurement processes, which result in inconsistencies across operations. Structured training imparts clear guidelines for creating and adhering to standardised measurement protocols, promoting uniformity.

Misinterpretation of measurement data due to inadequate understanding of metrology principles is also common. Training in fundamental concepts and specific techniques enhances personnel's ability to interpret data accurately, supporting informed decision-making.

Additionally, underestimating the complexity of metrology software can lead to erroneous results. Thorough training in software functionalities ensures proper utilisation, enhancing measurement accuracy.

Lastly, robust support systems are essential to address queries promptly during implementation, preventing confusion and errors. By integrating these elements into training and support frameworks, companies can optimise metrology practices, improving overall reliability and efficiency.

How does effective training and support contribute to quality control in metrology?

Effective training and support are integral to quality control in metrology, significantly enhancing measurement accuracy, reliability, and consistency. Comprehensive training programs ensure personnel grasp core metrology principles and understand the specific functionalities of equipment and software. This knowledge empowers them to achieve precise measurements, crucial for maintaining product quality in industries where even minor deviations can impact outcomes significantly.

Furthermore, training equips staff with skills in instrument calibration and maintenance, essential for instruments to perform within specified tolerances. Regular calibration prevents measurement errors, bolstering the overall reliability of measurement systems. Support complements training by providing ongoing assistance, swiftly addressing technical issues or procedural queries to minimise disruptions in measurement processes. This responsive support framework ensures efficiency and consistency in delivering high-quality outputs.

Moreover, training programs encompass compliance with industry standards and regulations, ensuring measurements meet legal requirements and enhancing credibility. By staying abreast of evolving metrology technologies through continuous professional development, personnel adopt best practices and innovative solutions. This culture of ongoing learning promotes continual improvement in quality control measures, adapting to advancements in metrology methodologies.

In conclusion, effective training and support systems in metrology are essential for maintaining accurate, reliable, and compliant measurements. They not only ensure instruments are well-maintained and calibrated but also foster a culture of excellence and adaptability, vital for sustained quality control across diverse manufacturing environments.

NOMINATION OPEN

ET NOW

INFRA FOCUS

AWARDS 9TH EDITION

Theme: **Viksit Bharat @2047: Intention. Innovation. Inclusiveness**

19th SEPTEMBER 2024

The awards will be presented across three categories:

Infrastructure Developers

Project Development Agencies (Central and State Government)

EPC Contractors

The awards will recognize excellence in the following sectors

- Power and Renewable Energy
- Transportation (Roads, Bridges and Rail, Airports, Ports)
- Oil and Gas
- Power T&D
- Urban Infrastructure (Water Supply, Solid Waste Management, Low-cost Housing, Parking, TMS etc).
- Smart Cities

Editorial Choice Awards

- Women's Achievement in Infrastructure Award
- Future Infrastructure Leader of the Year Award
- Emerging Infra Tech Player
- Lifetime Achievement of the Year Award
- EPC Person of the Year
- EPC Company of the Year
- Emerging EPC Company of the Year
- Construction Company of the Year
- Emerging Construction Company of the Year
- Emerging LogiTech Company of The Year

For nominations, contact:

Rahul Kamat | rahul.kamat@wwm.co.in | +919892612075

Yadnya Sawant | yadnya.sawant@wwm.co.in | +917506531228

For sponsorship, contact

Ranjan Haldar | ranjan.haldar@wwm.co.in | +919167267474

Since you became CEO, how do you plan to drive growth and innovation within your power transmission and solution offerings? Kindly share your vision for the next few years.

In the next few years, we plan to take Sterlite Power's GPS business to the forefront of the industry, with a goal of increasing our market capitalisation by five times and becoming one of the global top ten wire and cable companies.

To achieve this, we aim to expand our market share by significantly increasing our export efforts, targeting more than 50 per cent of our turnover from exports and premium markets. We also want to capitalise on our expertise in niche areas such as high-performance conductors and end-to-end HV & EHV solutions.

Additionally, we are committed to driving innovation by developing two new products each year that address client needs and overcome significant demand-supply gaps in global markets. By continuously enhancing our product portfolio and focusing on high-growth markets, we aim to foster sustained growth and establish Sterlite Power as a leader in the power transmission sector.

How is the business shaping for Sterlite Power's Global Products and Solutions Business? Which key markets or regions you are eyeing for expansion?

Sterlite Power's Global Products & Solutions (GPS) business is experiencing robust growth, driven by significant tailwinds across the global market. Our

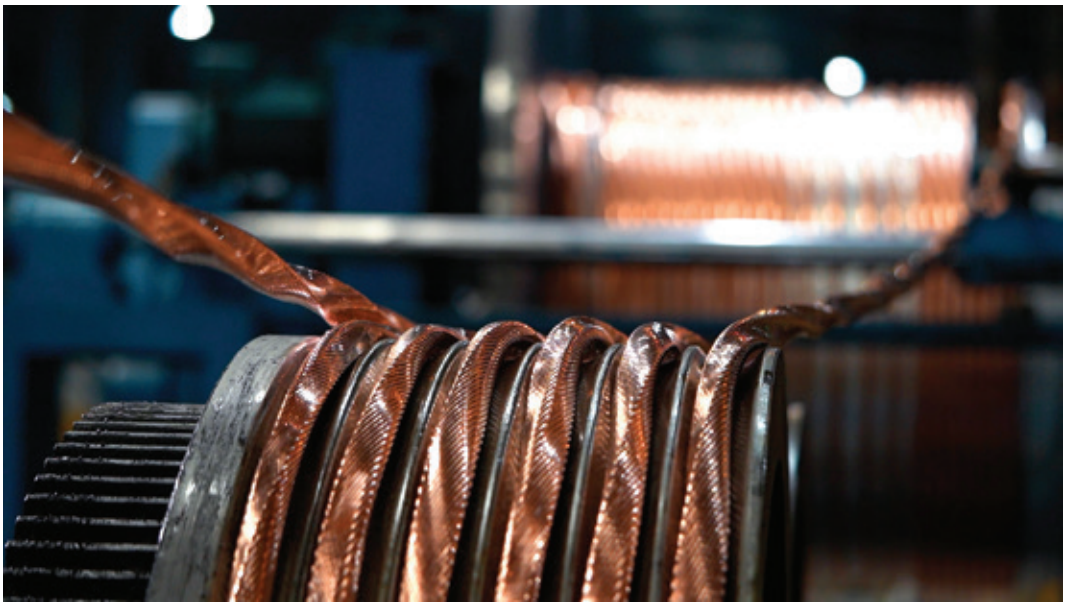
"BY FY 2025, OUR ORDER INTAKE WILL GROW BY 12-15 PER CENT"

Reshu Madan, the new **CEO of Sterlite Power's Global Products and Solutions business,** aims to position the company as one of the top ten global wire and cable companies. In a recent interview, he outlined plans for sustained growth, seizing emerging opportunities, expanding into export markets, and developing high-performance products. Madan also discussed the company's demerger and other plans in an interview with Nisha Shukla.

"We are committed to driving innovation by developing two new products each year that address client needs and overcome significant demand-supply gaps in global markets. By continuously enhancing our product portfolio and focusing on high growth markets, we aim to foster sustained growth and establish Sterlite Power as a leader in the power transmission sector.

products and services are in high demand, driven by evolving client needs in areas such as renewable energy integration, urbanisation, last-mile connectivity, and grid strengthening in key regions.

In India, the construction of new transmission infrastructure at EHV & HV levels is challenged by land scarcity. To address this, utilities are increasingly opting for high-performance conductors and reconductoring existing infrastructure, enabling transmission lines to carry higher ampacity without expanding the physical footprint. Similar solutions are employed in markets like the US and Latin America, where high-performance conductors (HPCs), such as ACSS, tackle comparable challenges. In densely populated urban areas and forested regions where traditional cables are



impractical, Medium Voltage Covered Conductors (MVCC) offer a viable alternative, requiring less clearance than overhead conductors.

To meet the growing demand for long-distance power transmission, HVDC cables are becoming more prevalent. Additionally, the rise of digitalisation and blockchain technologies is driving utilities to adopt 96 and 144 fiber Optical Ground Wire (OPGW) solutions. India is also preparing to transition from 48 to 96 fiber OPGW to accommodate these advancements.

Sterlite Power's Global Product & Services business is well-equipped to meet these evolving demands, serving over 70 customers globally. The primary focus is on overcoming critical needs and creating a positive social impact. Our expansion strategy targets key markets where our innovation and problem-solving capabilities provide significant opportunities, particularly in the Americas and Europe. While we face competitive pressures in certain regions, our ability to offer cutting-edge solutions and adapt to market demands positions us in making a substantial impact and drive growth in these crucial markets.

> Our focus will be on enhancing our position in the industrial segment of the power cable market and expanding Sterlite Power's presence in export markets.

Your GPS business secured cumulative orders worth Rs 6,500 crore in FY 2024, demonstrating strong performance with a 30 percent increase year over year. What are your projections for the next fiscal year, and what key areas would you focus on to maintain the growth momentum?

In FY 2024, the GPS business achieved a 30 per cent increase in order intake, securing cumulative orders worth Rs 6,500 crore. This unprecedented growth was driven by the finalisation of large TBCB projects, large volume export orders, and extraordinary capex by utilities which may not recur annually.

Looking ahead to FY 2025, we anticipate a more sustainable growth rate of 12-15 per cent in order intake. Apart from organic growth, our focus will be on enhancing our position in the industrial segment of the power cable market and expanding Sterlite Power's presence in export markets. The addition of new products, such as Solar Cables and Medium Voltage Covered Conductors (MVCC), will marginally contribute to order intake in FY 2025. By concentrating on these key areas, we aim to sustain

our growth momentum and capitalise on emerging opportunities.

Sterlite Power recently received approval for the demerger of its Transmission Infrastructure, and Global Products & Specialised EPC businesses. Kindly shed more light on this recent development.

The approval of our demerger scheme marks a significant strategic milestone for Sterlite Power. This demerger will create a pure play manufacturing entity, positioning us among the leading listed players in the industry. This strategic move aligns with global projections that anticipate the doubling of power transmission networks over the next eight years to accommodate the growing integration of renewable energy sources.

In terms of shareholding and restructuring, the demerger will streamline operations and create distinct, focused entities. The Transmission Infrastructure and Global Products & Specialised EPC businesses will now operate independently, each with a refined capital structure tailored to their specific growth trajectories and strategic objectives.

Overall, this demerger will empower both entities to carve their own paths, fostering increased specialisation and agility. It positions us well to leverage emerging opportunities in the market, drive sustainable growth, and enhance our capital investment strategies.

What role do government grants and subsidies play in your funding strategy for power transmission?

The power sector is largely self-sustaining from a supply standpoint, with no specific grants or subsidies. However, products such as high-end advanced HVDC and HVAC cables, for both onshore and offshore applications, in the coming future may benefit from government support due to their high import content. This support aligns with national goals to boost domestic manufacturing and reduce import dependence on critical infrastructure components.

Additionally, government initiatives supporting renewable energy generation have a positive impact on the transmission sector. As new renewable capacity is added to the grid, there is a need to create new transmission corridors and upgrade existing lines through reconductoring. This growing demand for advanced transmission solutions benefits from the broader government support provided to the overall renewable energy ecosystem.

Given the global push towards sustainable energy solutions, what steps is your company taking to ensure that power transmission projects are environmentally friendly and sustainable?

At Sterlite Power, we are deeply committed to advancing sustainability through our Global Products & Specialised EPC (GPS) business. Our factories are actively embedding Environmental, Social, and Governance (ESG) initiatives into our operations, ensuring that our power transmission projects are sustainable with responsible business practices.

Our factories have achieved certification for zero waste to landfill, worked towards minimising greenhouse gas emissions, and implemented metal scrap recycling and reuse of cable drums. We have also integrated rooftop solar systems and water harvesting technologies into our plants, further highlighting our

commitment to sustainability.

We focus on supporting our clients by supplying high-performance conductors and solar cables that play a crucial role in supporting our customers' decarbonisation goals. Our specialised EPC services through reconductoring solutions help governments avoid carbon emissions. These proactive measures not only contribute to reducing carbon emissions but also help our customers advance their sustainability objectives, fostering a greener and more sustainable future for all.

What are the biggest challenges you face in the power transmission sector in India and Brazil, and what opportunities do you see on the horizon?

In India, the transmission and distribution (T&D) sector is at a pivotal juncture, with decarbonisation efforts and government initiatives propelling it into an era of transformation. Despite the excitement, the sector faces significant hurdles, including complex integration, transition management, and security challenges.

Key issues include right-of-way (ROW) constraints for transmission lines, outdated infrastructure, surging energy demands, and the challenge of connecting remote locations to the grid. These factors place considerable strain on the existing infrastructure, necessitating substantial upgrades. While progress has been made in the 220 kV & 132 kV category, enhancing the distribution network remains critical. Reconductoring existing lines is a strategic approach that conserves both time and capital, and it is essential for utilities to incorporate the use of high-performance conductors during the planning stage, as these conductors significantly increase transmission capacity and are required to meet demand.

In Brazil, the challenges are somewhat similar, with the added complexity of navigating vast geographical distances and diverse terrains. The integration of renewable energy sources, such as hydroelectric power, which is widespread in Brazil, into the existing grid also presents unique challenges and opportunities.

Moreover, opportunities on the horizon include the potential for targeted incentives that would encourage substantial capital expenditure from private entities. Such incentives could catalyse investment and innovation, addressing the sector's challenges, including the need for modernisation to support the increasing adoption of renewable energy and the development of a more resilient grid. Additionally, there is a significant opportunity to leverage advanced technologies and solutions to improve grid efficiency and reliability.

What are your short-term and long-term future plans?

The manufacturing sector is a cornerstone of India's economy, contributing approximately 17 per cent to its GDP. Over the next 5 to 10 years, the market is expected to thrive with a projected Compound Annual Growth Rate (CAGR) of eight-ten per cent in India and six-eight per cent globally for both overhead and cable markets. Additionally, specialised EPC services in India are expected to experience an extraordinary growth rate of 20-30 per cent.

Our vision is to become one of the world's top-ten wire and cable companies. To achieve this, we are actively exploring opportunities to expand our international presence, pursue inorganic growth, and explore high-value product segments.

8TH EDITION

MILACRON®

Presents

ET NOW POLYMERS Global Conference on Plastics in Automotive

Co-powered By

covestro | HOT SOLUTION YUDO HOT RUNNER SYSTEM

INNOVATE, INTEGRATE, ACCELERATE: PLASTICS LEADING AUTOMOTIVE TRANSFORMATION

10h OCTOBER, 2024 | PUNE

OUR LAST YEAR PARTNERS

Presenting Partner: MILACRON®

Co-powered By: covestro

Supporting Partners: HOT SOLUTION YUDO HOT RUNNER SYSTEM | OSM OMEGA SEIKI MOBILITY | igus®

Exhibition Partner: PLASTFOCUS

For Sponsorship, contact

Ranjan Haldar | M: 9167267474 | ranjan.haldar@wwm.co.in

For Registration, contact

Yadnya Sawant | M: 7506531228 | yadnya.sawant@wwm.co.in

For Editorial and Panel Discussion Participation, contact

Nisha Shukla | M: 8830116335 | nisha.shukla@wwm.co.in

By Sumit Kumar, Chief Business Officer, TeamLease Degree Apprenticeship

INDIA'S ELECTRONICS INDUSTRY SURGES: CHALLENGING CHINA'S DOMINANCE AMIDST SKILL DEFICITS

The success of India's foray into electronics manufacturing hinges on infrastructural and policy support, along with the availability of a proficient workforce capable of driving innovation, efficiency, and competitiveness. The article underscores the importance of addressing the skill deficit and why it is essential to fully capitalise on the sector's growth potential and ensure its long-term sustainability.

With the recent elections securing a win for Government 3.0 under the leadership of Prime Minister Modi, India's strategic drive to position itself as the world's manufacturing epicentre is expected to gain ground. India is emerging as a formidable contender for the China+1 strategy, capitalising on a unique convergence of factors. But India is still grappling with critical policy gaps in its industrial strategy, compounded by a looming skill deficit. According to World Bank data, less than three per cent of global manufacturing currently occurs in the world's most populous country, a stark comparison to China's commanding 24 per cent share.

Sumit Kumar, Chief Business Officer, TeamLease Degree Apprenticeship

In alignment with its ambitious vision, the Indian government aims to augment the nation's share of global manufacturing to five per cent by 2030, with a loftier goal of 10 per cent by 2047. This aspiration underscores India's desire to solidify its status as an indispensable player in the global economic landscape. India's ascension as the world's fastest-growing major economy, buoyed by a burgeoning tech sector, is undeniable. However, juxtaposed with this economic dynamism is a traditional economy struggling to generate sufficient employment opportunities. The confluence of these dynamics presents both promise and peril, encapsulating the essence of the three Ds: de-risking, diversifying, and decoupling. In the wake of a reordering geopolitical situation with far-reaching ramifications on the geo-economic landscape, the imperative for de-risking, diversifying, and decoupling has assumed paramount importance. Today, pursuing a China+1 strategy reflects a broader global sentiment favouring a strategic pivot away from over-reliance on a single country and supplier. However, strong policies and a skilled workforce are needed to further this momentum.

SKILL DEFICIT: A HURDLE ON INDIA'S PATH TO MANUFACTURING PROGRESS

With the government's relentless pursuit to establish India as the hub for Electronics System Design and Manufacturing (ESDM) under the Make in India campaign, several initiatives have been set in motion. The National Policy on Electronics (NPE) 2019 serves as the guiding framework, complemented by strategic incentives such as the Production Linked Incentive Scheme (PLI), the Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), and the modified Electronics Manufacturing Clusters Scheme (EMC 2.0), alongside the PLI for IT Hardware. These initiatives aim not only to bolster the industry's competitiveness but also to catalyse its growth trajectory.

While the electronics manufacturing sector currently employs around 3.5 million professionals, its expansion promises to generate 3.3 million more employment opportunities in the next three years. However, it concurrently grapples with the persistent challenge of a skill deficit, highlighting the critical

and ongoing need for concerted efforts in building and enhancing a skilled workforce. The success of India's foray into electronics manufacturing hinges on infrastructural and policy support, along with the availability of a proficient workforce capable of driving innovation, efficiency, and competitiveness. Therefore, addressing the skill deficit is essential to fully capitalise on the sector's growth potential and ensure its long-term sustainability.

In addition to bridging the skill gap, India's ambition requires a focus on upgrading technology and ensuring product quality. Learning from China's strategy of leveraging partnerships for technology advancement is crucial. This emphasis on technology must go together with stringent quality control to avoid incidents involving substandard products that have previously tarnished the "Made in India" brand. The confluence of advanced technology, skilled professionals, and uncompromised quality will be critical determinants in realising India's manufacturing potential and ensuring sustainable economic growth.

BRIDGING THE SKILLS GAP

The development of skills is crucial for minimising risks, expanding diversity, and reducing dependencies in the electronics industry. India's goal of becoming a global electronics manufacturing hub depends on its ability to address skill shortages and enhance technological capabilities. The recent approval of $15 billion in investments for three semiconductor plants underscores the success of government schemes. The Production Linked Incentive (PLI) scheme, in particular, offers a $1.7 billion incentive package for companies establishing semiconductor manufacturing facilities in India, significantly boosting the industry's capacity and potential for job creation. The government's support is instrumental in creating a conducive environment for the industry's expansion and in addressing the talent gap.

According to our internal projections, the semiconductor industry may face a shortage of 250,000 to 300,000 professionals by 2027. In addition, there are expected to be 600,000-700,000 openings in EMS roles, 50,000-60,000 in the wearable technology sector, and a demand for 400,000-500,000 professionals in circularity and e-waste management roles across R&D, design, manufacturing, and advanced packaging. It is crucial to address this gap, as relying solely on technological advancements or infrastructure improvements will not be enough. The success of India's electronics manufacturing capabilities depends on the convergence of technology, skilled professionals, and quality. Therefore, strategic planning and collaborative efforts are essential to bridge the skill deficit and ensure sustained growth and competitiveness in the electronics manufacturing sector, especially considering the need for de-risking, diversifying, and decoupling in this context.

The Electronics Sector Skill Council (ESSC) has been actively offering over 35 apprenticeship courses under the NAPS scheme to address skill shortages at various levels of entry-level work. The number of apprenticeships in the electronics industry has surged from 7,517 in 2019-20 to 91,948 in 2023-24, marking a remarkable 12.2-fold increase. This surge in apprenticeship participation highlights the potential of such programs to contribute to the industry's growth and support the three Ds. By de-risking through a diversified skill base, India can reduce its dependency on a single skill set or workforce segment, thus enhancing its resilience against global market fluctuations.

Degree Apprenticeships and Work Integrated Learning programs can further accelerate the learning curve and bridge the skill gap while providing on-the-job training. The manufacturing sector has also experienced a remarkable 6x growth in the demand for apprentices. Data from the National Apprenticeship Promotion Scheme (NAPS) portal illustrates a consistent upward trajectory in apprenticeship enrollments across various sectors, reaching 900,000 in the last year alone and approximately 2.826 million over the past six years. This surge underscores a growing interest among both employers and individuals in leveraging practical training opportunities to bridge the gap between education and industry needs.

The success stories from India's PLI scheme include Taiwan's Foxconn, the world's largest contract electronics manufacturer, investing significantly in expanding electronics manufacturing within India, aiming to create 100,000 jobs with a $1 billion investment. Moreover, Apple's iPhone production in India is expected to increase to 1 in 4 by 2025. Furthermore, Tata Group is partnering with Taiwanese universities to train Indian labour in electronics. These strategic partnerships emphasise the importance of decoupling from overreliance on any single source of technology or labour and instead building a robust, self-sufficient ecosystem.

While India has significant potential to increase its share of the global electronics market, there is still a long way to go. Realising India's potential as a manufacturing powerhouse requires a multifaceted approach, including robust policy frameworks, infrastructure development, and, most importantly, skill enhancement initiatives. Only through sustained investment in skilling and upskilling endeavours can help India secure its position as a formidable player on the world stage.

By Saishree Mohanty

FROM TECH UPGRADES TO CYBER PARADES

With manufacturers embracing news age technologies such as AI, IoT, and robotics to their production processes, the need for robust cybersecurity measures has grown multi fold. Here's a study on the digital manufacturing revolution, the challenges of transitioning, the critical need for cybersecurity, and the future trends shaping the industry.

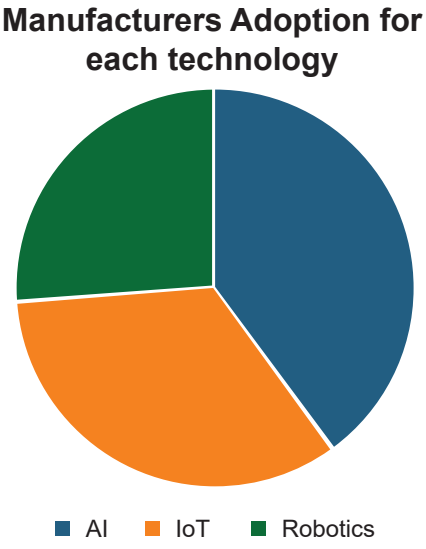
In a world where technological advancements dictate the pace of progress, the manufacturing sector is undergoing a revolutionary transformation. Digital manufacturing, characterised by the integration of advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), robotics, and additive manufacturing, is reshaping the landscape of production processes.

This shift promises unprecedented improvements in operational efficiency, product quality, and cost-effectiveness. However, with these advancements comes an increased vulnerability to cyber threats, necessitating robust cybersecurity measures to protect the digital infrastructure. This article delves into the digital manufacturing revolution, the challenges of transitioning, the critical need for cybersecurity, and the future trends shaping the industry.

THE DIGITAL MANUFACTURING REVOLUTION

Digital manufacturing is no longer a futuristic concept but a present reality that is transforming traditional production methods. By leveraging advanced technologies, manufacturers can achieve a level of efficiency and precision that was previously unattainable. AI-driven analytics allow for real-time decision-making, predictive maintenance, and optimised resource allocation, while IoT devices enable seamless communication between machinery, creating a highly interconnected and responsive manufacturing environment.

This transformation is driven by the need to remain competitive in a global market where customer demands are constantly evolving. The ability to produce high-quality products quickly and cost-effectively is a significant advantage that digital manufacturing provides. For instance, AI algorithms can analyse vast amounts of data to predict equipment failures before they occur, reducing downtime and maintenance costs. Similarly, IoT sensors can monitor the performance of machinery in real-time, allowing for immediate adjustments to ensure optimal operation.



Arvind Khanna, Director of Interiors Inc., highlights the tangible benefits of this transformation. "Production time for a batch of Wooden Planners has decreased by 35%, while the quality of each unit has seen a marked improvement. The reduction in material waste and labor costs has led to an overall decrease in production expenses by 18%."

The impact of digital manufacturing extends beyond traditional sectors. **Subin Mitra, Co-founder & CEO, Groyyo,** offers a compelling case study. "We developed technology that helps to gather shop floor data in vernacular languages, empowering our labor force to adopt and utilise digital tools effectively." Groyyo's partnership with Rue Fashion Private Limited exemplifies this impact. In just three years, the company tripled its production units, increased the number of machines from 40 to 400, and reduced rejections from buyers for quality reasons by over 50%. This showcases the significant improvement in product quality and reliability due to digital integration.

OVERCOMING TRANSITION CHALLENGES:

Transitioning from traditional manufacturing to a digital-first approach is fraught with challenges. Companies must navigate technological, organisational, and cultural hurdles to ensure a smooth implementation. One major obstacle is the integration of new technologies with existing, often outdated, machinery. This requires innovative solutions to ensure compatibility and seamless operation across the production line.


Subin Mitra, Co-founder & CEO, Groyyo

Technological integration involves retrofitting old machinery with new sensors and controllers or replacing them entirely with modern, digitally enabled equipment. This can be a costly and time-consuming process, but it is essential for achieving the benefits of digital manufacturing. Companies often face significant upfront costs for hardware, software, and training, but the long-term gains in efficiency and productivity make the investment worthwhile.

Rohit Saboo, President & CEO, National Engineering Industries Ltd., reflects on these challenges: "Our transition to a digitally driven factory, powered by Industry 4.0 technologies and the Industrial Internet of Things (IIoT), presented a very significant cultural and technological shift."

Cultural resistance is another significant barrier. Workers accustomed to conventional methods may be hesitant to embrace digital tools, fearing job displacement or struggling with new skill requirements. Overcoming this resistance involves comprehensive training programs and demonstrating the tangible benefits of digital manufacturing to the workforce. Clear communication and involvement of employees in the transition process can also help alleviate fears and build acceptance.

Mr. Manoj Kochar, President, ASPA, adds, "Navigating the integration of digital tools with existing processes requires a delicate balance between upgrading technology and managing the cultural shift within the organisation."

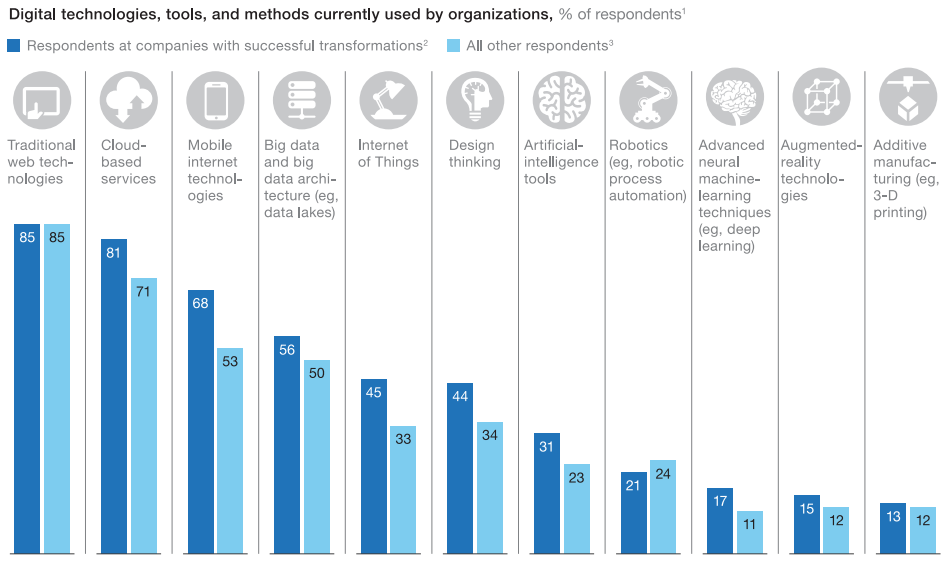
CYBERSECURITY IN DIGITAL MANUFACTURING

As manufacturing environments become more digitised, the threat of cyberattacks grows exponentially. Ensuring the security and integrity of digital manufacturing infrastructure is paramount to protect against data breaches, intellectual property theft, and operational disruptions.

Nathan Wenzler, Chief Security Strategist, Tenable, emphasises the critical need for comprehensive security solutions, "Manufacturers need preventive security solutions that offer total visibility of both IT and OT devices in the environment including broad asset inventory information as well as current configurations and security posture."

Cybersecurity in digital manufacturing requires a multifaceted approach. Preventive security solutions must offer comprehensive visibility of both IT and OT (Operational Technology) devices, including broad asset inventory information and

Organizations with successful transformations deploy more technologies than others do.



[1]Respondents who answered "other" or "don't know" are not shown.
[2]Respondents who say their organizations' transformations were very or completely successful at both improving performance and equipping the organizations to sustain improvements over time, n = 263.
[3]n = 1,258.

McKinsey&Company

real-time monitoring of security postures. Intrusion-detection capabilities provide early warnings of potential threats, while continuous assessment protocols ensure that any changes in device configurations are promptly identified and addressed.

Aricson Pereira adds, "Given the critical nature of our work in medical device manufacturing, cybersecurity is a paramount concern. We've implemented advanced firewalls, intrusion detection systems, and rigorous training to protect our digital infrastructure."

The importance of cybersecurity cannot be overstated. A successful cyberattack on a manufacturing facility can have devastating consequences, including production halts, financial losses, and damage to the company's reputation. Advanced cybersecurity measures involve not only technological solutions but also human factors, such as employee training and awareness programs. Regular security audits and updates to systems and protocols are necessary to keep up with evolving threats.

SUSTAINABILITY THROUGH DIGITAL MANUFACTURING

Digital manufacturing technologies also play a crucial role in advancing sustainability initiatives. By minimising waste, reducing energy consumption, and promoting sustainable practices, these technologies help manufacturers align with environmental goals while improving operational efficiency.

Sustainability in digital manufacturing is achieved through various means. AI-driven analytics optimise resource use, reducing material waste and energy consumption. IoT devices monitor and manage energy usage in real-time, ensuring that machinery operates at peak efficiency. Additionally, additive manufacturing techniques, such as 3D printing, enable the production of complex parts with minimal waste compared to traditional subtractive methods.

Rohit Saboo, President & CEO, National Engineering Industries Ltd.

Subin Mitra highlights, "We've integrated ESG practices into all our factories. This includes ensuring good working conditions and continuous skilling of our workforce, which not only aligns with our sustainability goals but also enhances our global competitiveness."

For example, AI can analyse production processes to identify inefficiencies and suggest improvements. IoT sensors can track energy usage and environmental conditions, enabling precise control over machinery and

reducing unnecessary consumption. Additive manufacturing allows for the creation of complex geometries with minimal material waste, making it a more sustainable option for producing certain parts.

Gaurav Bhagat, Managing Director, Consortium Gifts, notes, "Our adoption of digital manufacturing technologies has significantly reduced material waste and energy consumption, helping us achieve our sustainability targets while improving overall efficiency."

Mr. Manoj Kochar, President, ASPA

MEETING EVOLVING CUSTOMER DEMANDS

Digital manufacturing technologies enable companies to meet evolving customer demands for customisation, faster delivery times, and higher quality products. NEI's transition from traditional methods to real-time data access has revolutionised their operations. They can now quickly adjust production processes to meet specific customer requirements, streamline workflows to reduce lead times, and ensure that products meet the highest quality standards.

Arvind Khanna remarks, "Our ability to adapt quickly to customer demands has been greatly enhanced by digital manufacturing. It allows us to customise products more efficiently and meet tight delivery deadlines." Further **Suhas Tejaskanda, Founder & CEO, Flying Wedge Defence & Aerospace,** adds, "Robotic systems and real-time data access have enabled us to meet the precise needs of our clients in the aerospace sector, improving both product quality and delivery performance."

Visiting customers have praised NEI's digital initiatives, with some even collaborating to co-develop solutions. This collaboration has strengthened customer loyalty and satisfaction, demonstrating the direct impact of digital manufacturing on customer relationships.

PREPARING FOR THE FUTURE:

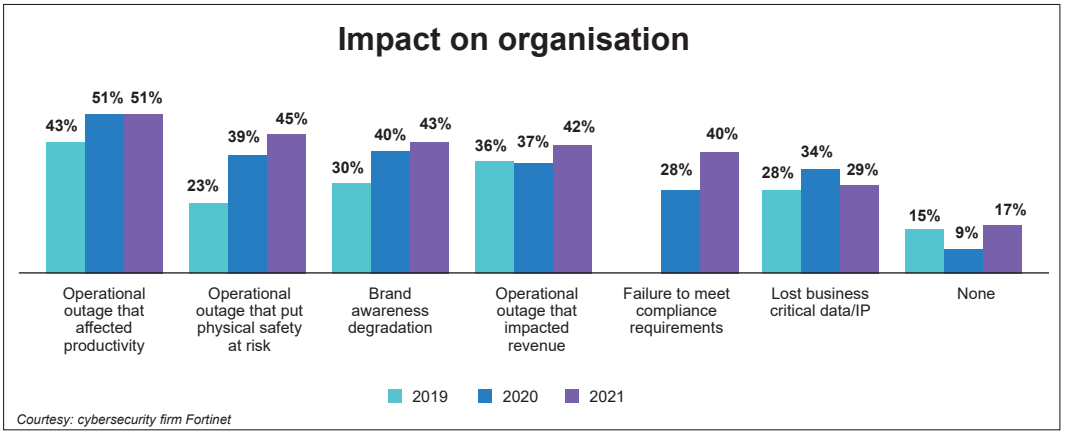
The future of digital manufacturing is poised to be reshaped by emerging trends such as Industry 4.0, Industry 5.0, robotics, cobots (collaborative robots), blockchain, and advanced data analytics. These trends will drive further advancements in efficiency, precision, and customisation of manufacturing processes.

Rohit Saboo emphasises, "Digital fluency will become non-negotiable, a basic requirement for participation in this evolving landscape. Staying ahead of emerging technologies will be crucial for maintaining a competitive edge."

Robotics and cobots are becoming increasingly prevalent in manufacturing environments. Cobots, designed to work alongside human workers, are particularly valuable in tasks that require a combination of precision and adaptability. These robots can handle repetitive and physically demanding tasks, allowing human workers to focus on more complex and value-added activities.

Aricson Pereira looks ahead, "The future of digital manufacturing will be shaped by the integration of emerging technologies such as AI and augmented reality. These advancements will enhance our capabilities and revolutionise how we approach manufacturing."

Blockchain technology offers promising applications in supply chain management, providing secure, transparent, and tamper-proof records of transactions. This can enhance traceability, reduce fraud, and streamline logistics. By using blockchain, manufacturers can ensure the authenticity of their products and the integrity of their supply chains.



Courtesy: cybersecurity firm Fortinet

COLLABORATIVE INNOVATION

Collaboration with industry players, technology providers, and academic institutions is essential for advancing digital manufacturing capabilities. By pooling resources and expertise, stakeholders can drive innovation, overcome challenges, and accelerate the adoption of new technologies.

Manoj Kochar underscores the importance of collaboration stating, "In this age of digitalisation, collaboration with ecosystem partners is crucial for success. It allows us to leverage each other's strengths and drive innovation collectively."

Nathan Wenzler, Chief Security Strategist, Tenable

Suhas Tejaskanda adds, "We have formed strategic alliances with technology providers and academic institutions to advance our aerospace projects. This collaborative approach has been vital for staying ahead in a rapidly evolving industry."

Academic institutions play a crucial role in this collaborative ecosystem by conducting research and developing new technologies. Partnerships between academia and industry facilitate the transfer of knowledge and the commercialisation of innovative solutions. Additionally, these collaborations provide opportunities for training and upskilling the workforce, ensuring that employees are equipped with the necessary skills to operate and maintain advanced manufacturing systems.

THE HUMAN ELEMENT IN DIGITAL MANUFACTURING

While technology plays a central role in digital manufacturing, the human element remains crucial. Skilled workers are needed to operate and maintain advanced machinery, analyse data, and make informed decisions. As manufacturing processes become more digitised, the demand for workers with technical expertise and digital fluency increases. **Subin Mitra** highlights, "The human element is indispensable in digital manufacturing. Skilled workers who can harness the power of advanced technologies are key to driving innovation and maintaining competitiveness."

Investing in employee training and development is essential for ensuring that the workforce can effectively utilise digital tools and technologies. Companies must provide opportunities for continuous learning and skill development to keep pace with technological advancements. This not only enhances the capabilities of the workforce but also improves job satisfaction and retention. **Gaurav Bhagat** adds, "Our success in digital manufacturing is a testament to the importance of investing in our workforce. Continuous training ensures that our employees are equipped to handle new technologies and drive our business forward."

THE ROLE OF GOVERNMENT AND POLICY

Government policies and regulations play a significant role in shaping the digital manufacturing landscape. Supportive policies can encourage the adoption of advanced technologies, promote innovation, and ensure the security and sustainability of manufacturing operations. Conversely, restrictive regulations can hinder progress and limit the potential benefits of digital manufacturing. **Nathan Wenzler** emphasises, "Government support and clear regulatory frameworks are critical for fostering innovation and ensuring the security of digital manufacturing operations." **Rohit Saboo** adds, "Clear and supportive government policies are vital for creating an environment where digital manufacturing can thrive. They help reduce barriers to adoption and encourage investment in new technologies."

Governments can support digital manufacturing through various means, such as providing funding for research and development, offering tax incentives for technology adoption, and establishing cybersecurity standards and guidelines. Collaboration between government, industry, and academia is also essential for developing and implementing effective policies.

CONCLUSION

The integration of digital manufacturing technologies is transforming the manufacturing industry, driving significant improvements in operational efficiency, product quality, and production costs. However, this transformation comes with increased cyber threats that require robust cybersecurity measures. Companies are at the forefront of this digital revolution, leveraging advanced technologies and collaborative efforts to secure their digital infrastructure and drive sustainability. As the industry continues to evolve, staying ahead of emerging trends and fostering innovation through collaboration will be key to maintaining a competitive edge.

The journey towards digital manufacturing is ongoing, with new technologies and trends continually reshaping the landscape. By embracing innovation, investing in cybersecurity, and fostering collaboration, manufacturers can navigate the challenges and seize the opportunities presented by the digital revolution. The future of manufacturing is digital, and those who adapt and innovate will lead the way in this transformative era.

EXPERIENCE UPGRADED DRILLING WITH KENNAMETAL'S NEXT GENERATION DRILL FIX PRO™

Drilling or holemaking is a metal cutting process used to produce circular holes of desired sizes, depths, quality, and tolerances via three types of drills - solid drills, modular drills, and indexable drills - each with their own unique advantages.

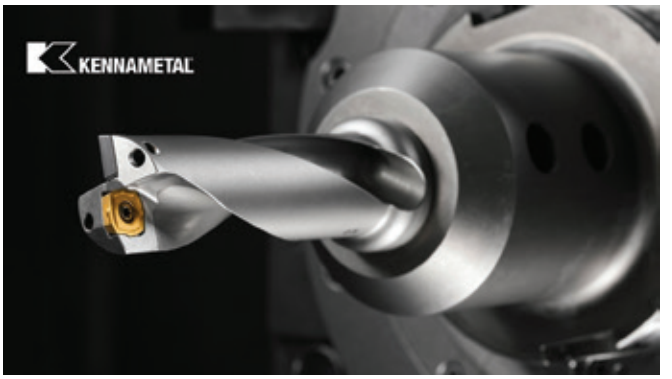
Solid drills are made of carbide/high-speed steel (HSS) and are a popular choice among manufacturers due to their unique combination of toughness and hardness. These drills are made especially for small diameters at high productivity and tight tolerances and are ideal for use in general engineering, energy, and aerospace operations. Kennametal offers a wide range of solid drills such as KenDrill™ HP drills for the highest metal removal rates and GOdrill™ for versatile applications.

Modular drills feature a replaceable head, typically made of carbide, which can be exchanged when the tool reaches the end of its life, and a locking mechanism for convenient head replacement. The option of replaceable heads offers cost efficiency for users and is fit for projects where cost per hole is critical, the material has feed limitations or there is insufficient machine power. Kennametal offers different modular drills such as KenTip™ FS for small holes, KSEM™ for medium-sized hole diameters, and KSEM PLUS™ for larger diameter holes.

In comparison with other types of drills, indexable drills utilise indexable inserts, mostly made of carbide, for hole creation. These inserts can be indexed or replaced after use or damage, making indexable drills a more cost-effective solution for holemaking. Driving the increasing popularity of indexable drilling tools across various industries is cost per part (CPP) optimisation. CPP is a key consideration for manufacturers aiming to remain competitive. Currently, DFR, DFT, and DFSP are the existing indexable drills offered by Kennametal.

Kennametal offers state-of-the-art solutions for all the major drilling portfolios mentioned above with easy tool setups, reduced costs, and improved operations overall, but to meet constantly changing manufacturing demands, Kennametal has recently developed a next-generation indexable drilling platform called Drill Fix PRO™.

Drill Fix PRO comes with four true cutting edges in every inboard and outboard insert, resulting in an



extended application range that makes it incredibly cost-effective. It also features larger coolant channels for higher-volume coolant flow, resulting in around a 12% reduction in energy use. This innovative design element delivers not only a strong, quiet drilling experience but also up to 200% longer tool life. Additionally, it comes standard with a wiper included in every outboard insert to deliver ideal surface quality.

The Drill Fix PRO platform offers a standard drilling diameter range of 12-65 mm with drilling lengths of up to a 5 length to diameter ratio. It is complemented by two new stainless steel and high-temp alloy indexable drilling insert grades KCMS35 and KCMS40, along with existing proven grades like KC7140, KCU25, KCU40, and KCPK10. While KCMS40 has a tougher substrate ideal for inboard inserts and KCMS35 comes with a substrate which is more wear-resistant and works best at high velocities for top MRR for outboard inserts, both utilise a smooth coating surface, optimum layer adhesion, and high depth-of-cut notching resistance to increase reliability and significantly extend tool life. Testing shows these new grades can double the length of a tool's life.

Additionally, Drill Fix PRO can be tailored to special drilling applications to offer any intermediate diameters and length to diameter ratio as per customer requirements along with any other shank styles apart from the standard offering of Weldon (WB), Flanged Shank (SSF) and KM Shank (KM). The WB and SSF shanks come with NPD thread for proper coolant connections from the back for older machine setups. This combined with overdelivering in tool life, productivity, and hole quality makes Drill Fix PRO the ideal choice for manufacturers looking for an innovative, high-performance indexable drilling solution.

HONEYWELL INTRODUCES EMISSIONS MONITORING SOLUTION FOR OFFSHORE OIL & GAS AND MARINE VESSELS

Offshore oil and gas assets can leak methane at much higher rates than land operations.

Honeywell announced that its Emissions Management Suite is now Hazardous Location (HazLoc) and marine certified, making it one of the industry's first end-to-end solutions for offshore oil and gas assets to measure, monitor, report, and reduce emissions. Within its Emissions Management Suite, Honeywell has also added new solar capabilities to the Honeywell Versatilis™ Signal Scout™ hardware, extending the lifespan of the gas detector by more than eight years with minimal additional maintenance requirements.

By helping the energy

industry reduce its environmental footprint, the Emissions Management Suite supports Honeywell's alignment of its portfolio to three compelling megatrends, including energy transition and automation.

Emissions management and monitoring are critical for shallow water offshore oil and gas platforms that can leak methane at much higher rates than land operations. For example, the methane loss rate of shallow water offshore oil and gas platforms in the Gulf of Mexico can range from 23-66%, compared to similar upstream land operations in the Permian Basin, which can range from just 3.3-3.7%, according to a study by Carbon Mapper. These unknown emissions can leave companies with offshore assets prone to regulatory hyperspectral satellite inspections, which could lead to large fines if a super-emitter event is detected.

Honeywell's optimised solution provides offshore oil and gas assets with near real-time visibility for platform operations, enabling quick event response and the ability to balance emissions performance with production. At an enterprise level, this can allow flexibility to drive production from low emissions platforms while reducing output from high emissions assets until repairs are completed, maintaining production while controlling emissions.

"By continuing to innovate, Honeywell is now able to provide an end-to-end solution that enables marine vessels and offshore platforms to accurately measure and report fugitive emissions when they happen," said Pramesh Maheshwari, President of Honeywell Process Solutions. "With the help of our Honeywell Forge Sustainability+ for Industrials software, we are moving the industry forward by helping companies reach net-zero operations, both on land and offshore."

Honeywell's Emissions Management Suite is an effective solution for companies to measure fugitive emissions levels and help take action to reduce them. The solution is available now for several verticals, including upstream and downstream oil and gas, refining, chemicals, utilities, and more.

LAPP INDIA TO SHOWCASE LATEST INDUSTRIAL COMMUNICATION SOLUTIONS AT AUTOMATION EXPO 2024

LAPP India, a leading provider of cable and connectivity solutions, will be showcasing its latest Industrial Communication solutions at the upcoming Automation Expo 2024. The event will be held from 21st to 24th August 2024, at the Bombay Exhibition Centre (BEC) in Mumbai.

LAPP India's products are designed to drive efficiency and productivity in modern manufacturing environments. Visitors to the LAPP India booth in Hall No. 1, Stall No. H-7, can explore a comprehensive range of Industrial Communication solutions. These include high-speed data cables for Ethernet and Fieldbus protocols, as well as advanced industrial connectors, accessories, and plug-and-play harnesses.

LAPP offers a wide array of industrial connectors for various applications, facilitating easy assembly and maintenance, which significantly reduces downtime and enhances operational efficiency. Additionally, LAPP's plug-and-play harnesses simplify installation processes, enabling quick deployment and easy modifications to existing systems.

By focusing on protocol-neutral communication solutions, LAPP ensures that its connectivity products can adapt to various communication standards, providing businesses with the versatility, flexibility, and reliability needed to thrive in an increasingly interconnected industrial landscape.

At the Automation Expo, LAPP India will present its innovative addition to its trusted connectivity solutions: predictive maintenance assured by ETHERLINE® GUARD, an advanced cable monitoring system for enhanced network reliability. Demonstrating its commitment to sustainability, LAPP India will also feature the ETHERLINE® FD bioP Cat.5e cable, which includes a partially bio-based sheath material. This product reflects LAPP's dedication to reducing environmental impact without compromising performance. Alongside the ETHERLINE® brand, LAPP will also showcase the UNITRONIC® product range.

Marc Jarrault, Managing Director of LAPP India, said, "Automation Expo provides an ideal platform for us to showcase our expertise in advancing Industrial Communication. Our solutions are designed to empower businesses by enabling seamless connectivity and data transfer. With our innovative product range, LAPP India is a trusted and preferred partner for integrated connectivity solutions. We look forward to engaging with industry professionals and demonstrating how LAPP can support their automation initiatives."

LAPP India: A Trusted Partner for Industrial Communication

Established in 1996, LAPP India has continuously expanded its presence in the country. LAPP India provides reliable connections, with its solutions acting as the industry's neural networks, ensuring systems operate smoothly and efficiently. LAPP's "Alive by LAPP" initiative reflects its commitment to being the lifeline of company operations, distributing power where required and bringing industries to life. LAPP goes beyond supplying products; it offers solutions for the future—from the Industrial Internet of Things to direct current, empowering businesses

to thrive in an increasingly connected world. With two manufacturing facilities in Bhopal and Bengaluru, as well as a strong partner network, LAPP India remains a trusted partner for industrial communication solutions.

Innovation Takes Centre Stage at Automation Expo 2024

Experience the latest in LAPP's Industrial Communication solutions at Automation Expo 2024. LAPP understands the crucial role Industrial Communication plays in modern manufacturing and automation. As the foundation for seamless integration and operation of various components, LAPP offers a comprehensive product range catering to diverse needs:

High-Speed Data Cables

- LAPP's brands, ETHERLINE® and UNITRONIC®, offer reliable Ethernet and Fieldbus connectivity for real-time applications and sensor/actuator communication, regardless of the harsh environments in which they operate.
- These high-performance cables minimise latency and maximise output—optimised for efficiency and supporting advanced applications.
- Standardised protocol cables provide unmatched flexibility, allowing businesses to adapt to evolving communication standards.

ETHERLINE® GUARD: Predictive Maintenance

- This proactive network monitoring solution by LAPP leverages advanced technology to continuously track cable performance and detect early signs of wear and tear.
- ETHERLINE® GUARD empowers businesses with predictive maintenance capabilities, minimising downtime and optimising operational efficiency.

ETHERLINE® FD bioP Cat.5e: Sustainable Choice

- Offering a partially bio-based sheath material, LAPP's ETHERLINE® FD bioP Cat.5e cables provide a sustainable alternative without compromising performance.
- This first-of-its-kind bio cable by LAPP is a testament to its commitment to eco-conscious solutions.

THE NEW OFFICECHAIN FROM IGUS

More and more people are using height-adjustable desks for ergonomic working. Organised cable guidance is essential to avoid tangled cables and tripping hazards. The new OfficeChain OCO.32.37.0 from igus is the perfect solution for this. Thanks to its easy handling and simple design, the chain blends unobtrusively into all kinds of office environments while providing organisation and structure.

Height-adjustable desks are experiencing a great boom and have become an integral part of modern office environments. Increasingly, people are opting for these desks to work more ergonomically and healthily. This is also reflected in the market: sales of adjustable desks have risen significantly over the last three years and are projected to increase by an average of 5 per cent every year until 2028. This growing demand reflects a stronger awareness of the health benefits of mobile working.

A dynamic workplace that allows users to switch between sitting and standing positions also increases productivity and general well-being. However, these movements are usually ideal for the cables leading to the computer, monitor or telephone. These cables can easily become tangled, get caught underfoot, or, in the worst case, become kinked.

Organised cable guidance is therefore the be-all and end-all. With the new OfficeChain OCO.32.37.0 from igus, cable organisation is child's play. Its simple handling and discreet design allow the chain to blend seamlessly into the office environment while keeping things in order. When straight, the OfficeChain impresses with its closed shape on one side, giving it a neat and tidy look. "It's one-piece design with a concealed pin/bore connection also gives it an appealing look from the side," explains Kira Weller, Product Manager for e-chains at igus. "Thanks to the tried-and-tested Easy design, the cables can be easily pushed into the chain and concealed."

Major order for American office furniture manufacturer

The development of OfficeChain began in 2019 with discussions between igus USA and a renowned global office furniture manufacturer. The latter was looking for a strong and appealing solution for its height-adjustable desks. The first samples from igus were convincing and led to good progress. The COVID-19 pandemic slowed down the project as the future of the office space was unclear. The office furniture manufacturer temporarily suspended the development process. However, igus continued to pursue the project and presented a refined concept at the end of 2022, which impressed the office furniture manufacturer.

Over the past two and a half years, several design iterations were carried out to optimise the size, strength and aesthetics of the chain and to test its functionality with the customer's cables inside. The final version of OfficeChain has brackets at both ends, which are either screwed or attached with special rubber-coated magnets to provide additional support on the work surface. "The OfficeChain OCO.32.37.0 is a real innovation for height-adjustable desks. It not only offers a functional solution, but also blends in perfectly with modern office environments," says Kira Weller.

Micromatic®

Micromatic 360
LIFE CYCLE SERVICES

COMPLETE MACHINE LIFE CYCLE SOLUTION

ANNUAL MAINTENANCE CONTRACT

PRODUCT KITS & SPARES

MACHINE UPGRADES RECONDITIONING & RETRO-FITMENT

AUTOMATION

MACHINE CALIBRATION

IIOT SOLUTION & VALUE ADDED SERVICE

AMG VALUE

IoT

Ace Micromatic® Group

micromatic360.com

We keep your industry alive

What does it take to keep your industry alive? It's the lifelines that transport energy and distribute power to where it's needed. It's the neural systems that synchronize the seamless interaction of machines, devices, and plants.

It's LAPP's powerful industry solutions. We offer the most in-depth expertise and the most reliable connections in the market. For every project, for every undertaking, for every industry.

To know more visit us at:
Automation Expo 2024 | 21st - 24th Aug 2024
BEC, Goregaon, Mumbai | Hall No. 1 | Stall No. H-7

alive BY LAPP

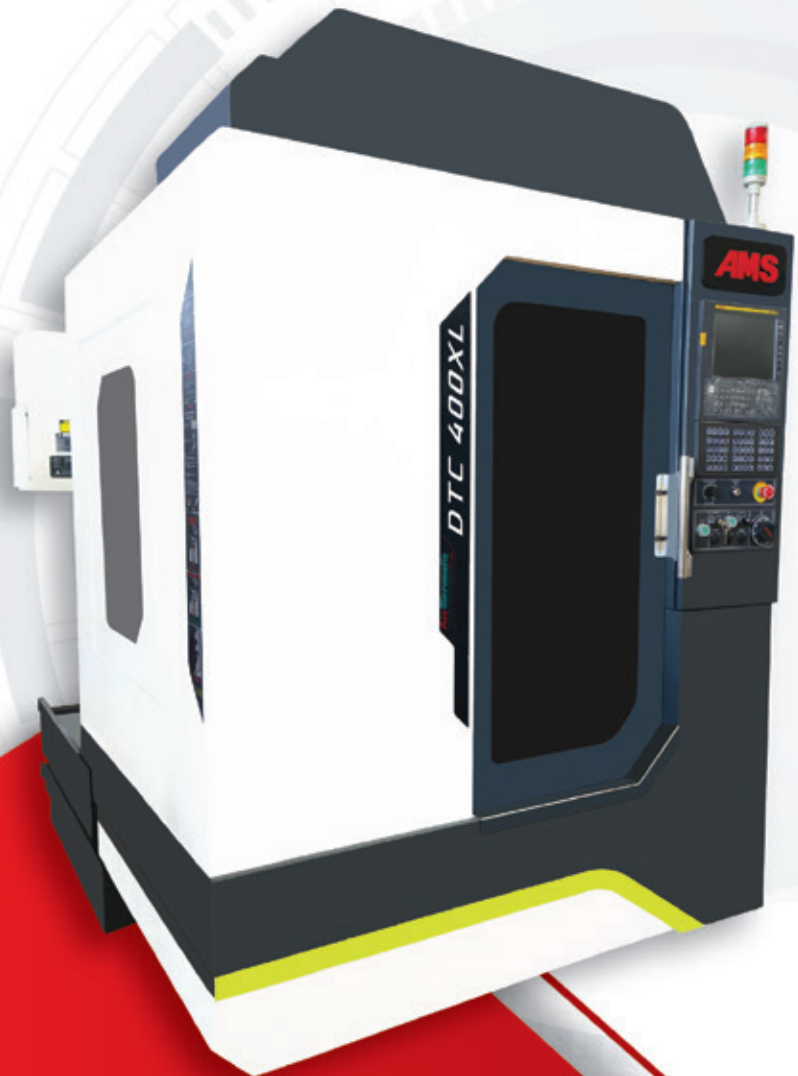
LAPP India Pvt. Ltd. Plot No.98, J & K, Jigani Industrial Area, Phase-II, Anekal Taluk, Bengaluru, Karnataka- 560105, India. For any queries reach out to us -

1800-309-1111 marketing.in.lib@lapp.com e.lapp.com/in

Ace Micromatic Group

AMS®
In Pursuit of Excellence

EMBRACE THE FUTURE OF ELECTRONIC MANUFACTURING WITH THE DTC-400XL



- Tool to Tool Time 1.1 sec
- High Acceleration 1.0 G
- Higher Spindle Speed up to 24,000 rpm
- Rapid Traverse X/Y/Z - 60/60/48 m/min
- CNC Control Systems
  - SIEMENS
  - FANUC
  - MITSUBISHI

KEY HIGHLIGHTS

- Compact Footprint
- Faster Tool Change
- Higher Rapids
- Higher Cutting Capabilities

WORLD CLASS
HIGH SPEED DRILL TAP CENTERS

DTC-350 XL
DTC-400 XL
DTC-400L XL
DTC-500L XL

Visit us on

ACE DESIGNERS LTD. - MACHINING CENTER DIVISION
Plot No. 467 - 469, 4th Phase, Peenya Industrial Area,
Bengaluru - 560 058. INDIA., E : helpdesk@amslindia.co.in