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45-DAY PAYMENT DILEMMA

Section 43B(h) - mandating payment to micro and small enterprises (MSEs) within 45 days - was welcomed when announced during the budget 2023-24. However, MSEs are now facing a peculiar problem of losing orders because of this section. So, what's the solution?



INSIDE

- Twin advantage of 3D printing and laser cutting 52
- Review of Hannover Messe 2024 82
- Nonconventional routes for MSME financing 96
- Interview: Madan Sabnavis, Chief Economist, Bank of Baroda 99
- Why are robot makers opting for integrated control? 105



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- Review of Hannover Messe 2024 82
- Nonconventional routes for MSME financing 96
- Interview: Madan Sabnavis, Chief Economist, Bank of Baroda 99
- Why are robot makers opting for integrated control? 105

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“When this provision was announced in Budget 2023, it was welcomed by MSEs, as it was intended to help them in tackling the problem of working capital.

Section 43B(h): Boon turning into bane

India is home to the world's biggest micro, small and medium enterprises (MSMEs) community (more than 60 million) who contribute around 29.7 per cent of the country's GDP. Despite being the vital cogs of the economy, MSMEs often struggle to access affordable finance necessary for their growth and sustainability. Low credit worthiness is a major stumbling block for MSMEs to secure loans as they do not have economic size to operate and often their models are not scalable, said Madan Sabnavis, Chief Economist, Bank of Baroda, in an interaction with this publication.

While complex regulatory procedures and lack of access to low-cost finance are some of the daunting obstacles faced by MSMEs in India, delayed payment by the buyers is another big obstacle in the growth of MSMEs, especially for micro & small (MSEs).

To promote timely payments to MSEs, the government introduced a new clause (h) in Section 43B of the Finance Act 2023 mandating the buyer to pay the MSE within 45 days of the supply. When this provision was announced in Budget 2023, it was welcomed by MSEs, as it was intended to help them in tackling the problem of working capital.

However, towards the end of FY 2023-24, the micro and small enterprises faced a peculiar problem. Buyers (large and medium enterprises) either started cancelling orders with the registered MSMEs and placing these orders with unregistered MSMEs, or forcing their MSE suppliers to de-register under the MSMED Act, 2006. This led to major loss of revenue to MSEs. As a result, the regulatory change, which was supposed to be a boon, turned out to be a bane for them.

Typically, the payment cycle varies between 60 to 180 days depending upon the industries. By applying the rule to all MSEs and industries, the government was forcing the buyers to change their entire payment and business cycle to 45 days at one stroke – a taunting task, virtually impossible given the current financial situation.

While a MSE (if they buy from another MSE) have to adhere to Section 43B(h), it is not applicable to government agencies (Union as well as states) like ministries, departments and PSUs, who account for a major share in MSEs' order book. So, while government agencies continue to follow their old payment cycle, it affects MSEs for whose benefit the section was added. As per the Samadhaan portal, under the MSME Ministry, central & state agencies account for about 37 per cent of the total outstanding amount (Rs 435.49 billion) payable to MSEs (who have approached the Samadhaan for resolution) by various entities, as of 30 May 2024. Also, Section 43B(h) only supports the micro and small manufacturers, not the medium sector.

While MSEs agree that reducing payment cycles is in their interest, they want government to include all segments (medium enterprises, traders, and government agencies) to ensure equitable treatment by buyers and the pay cycle should reflect the ground realities. With Finance Minister Nirmala Sitharaman, in a media interaction on 28 May 2024, hinting at the Centre's willingness to reconsider the 45-day payment rule for MSEs (if the industry wants it), one can expect some relief for MSEs in the July budget.

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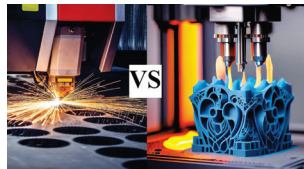
COVER STORY

- 43 45-Day payment dilemma**
Section 43B(h) of Income Tax Act - mandating payment to micro and small enterprises (MSEs) within 45 days of supply - was welcomed when announced in Budget 2023-24. However, MSEs are now facing a peculiar problem of losing orders because of it.
- 49 Compliance challenges: Probable solutions for MSMEs**
Rishi Agrawal, CEO, and Co-Founder of Teamlease Regtech



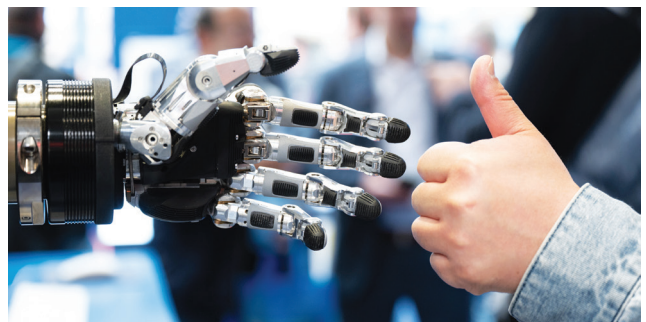
Focus: Machine Tools

- 52 Twin advantage of 3D printing and laser cutting**
"While the intersection of 3D printing and laser cutting remains a niche area, it is gaining prominence as it offers versatility."
- 54 Viewpoint:** Gururaj Patil, MD, EMAG India Pvt Ltd
"EMAG machines play a crucial role in meeting demands of EVs and lightweighting."
- 56 Viewpoint:** C S Shiva Shankaraiah, MD, Trishul Machine Tools Pvt Ltd
"The future of machine tools lies in smart, interconnected systems."
- 58 Viewpoint:** A V Srinivasan, CEO, Meiban Engineering Technologies Pvt Ltd
"We see the demand for sustainable automation solutions growing."
- 60 Viewpoint:** Umesh Pai, MD, Eplan Software Pvt Ltd
"The machine tool industry is a crucial customer base for Eplan."
- 64 United Grinding unveils automation solution at GrindingHub**
- 68 Pune Machine Tool Expo 2024 sets record with 15,000 visitors & 230 exhibitors**
- 70 Go zero lubrication: Igus' clean revolution with lubrication-free plastics**
- 74 Product Update**



Focus: Electrical & Electronics

- 76 Siemens India to invest ₹10 billion for expansion**
- 78 Viewpoint:** Vijay Chordiya, Designated Partner, Esbee Electrotech LLP
"Esbee Electrotech banks on innovation and sustainability for growth."
- 80 Rising digitalisation energising growth for Harting in India**
- 84 Hannover Messe 2024: Powering sustainable manufacturing**
- 91 Smart seals provide high security to smart meters**
Rajesh Kumar Banka, MD, Safcon Seals Pvt Ltd
- 94 Product Update**



Spotlight: SME Finance

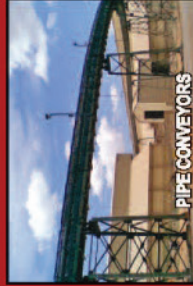
- 96 Nonconventional routes to MSME financing**
While micro, small and medium enterprises (MSMEs) struggle to access affordable financing necessary for their growth, there are some non-traditional routes to ease funding pressure on them.

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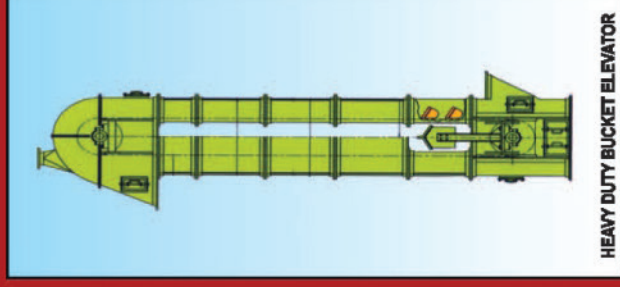
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99 Viewpoint: Madan Sabnavis,
Chief Economist,
Bank of Baroda
*"The major problem with SMEs is
their low credit worthiness."*



101 Embedded finance: Unlocking
working capital for MSMEs
Sachin Agrawal, CEO & Co-founder, Bizongo

Other Columns

Leaders Speak

103 Amit Gossain, MD, KONE Elevator India
*"KONE has the largest and fastest elevators in the
tallest building in India."*

AutoBotics

**106 Why are robot makers opting for
integrated control?**
Samantha Mou, Research Analyst, Interact Analysis



Process Industry Update

**108 Kluber Lubrication to invest ₹1.42 billion for
expansion in India**

Supply Chain & Logistics

**109 Reducing
manufacturers' carbon footprint
through port
efficiency**

Partha Dash, MD - New
Business and Growth, Moglix



Policy Matters

**111 Aatmanirbhar Gujarat 2022 scheme: The MSME
investment booster**
Saumil Soni & Jaideep Jain of Ernst and Young
LLP India

Automoti-EV

**114 Tata Motors celebrates 9,00,000th vehicle rollout
from its Lucknow facility**

Skill Management

115 Impact of talent war on industry & economy
Chandra Shekhar Singh, Director, Posterity Consulting



Communication Feature

118 Gandhi Automations: A Speedy Solution

Industrial News Briefs

- 20** Celebrating 20 years of INTEC!
- 20** Arc Forum 2024 to be held on 16-17 July
in Bangalore
- 22** Margo offers edge interoperability to unlock
industrial IoT
- 27** Jindal Aluminium achieves the highest production
of aluminium-extruded products

Regulars

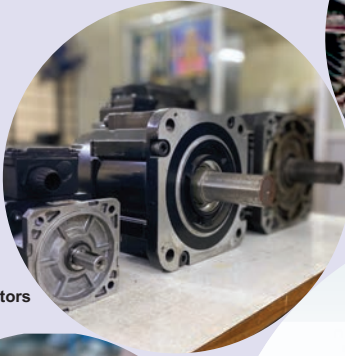
- 04** Editor's Note
- 10** Company Index
- 20** Industrial News Briefs
- 119** Hot Products
- 121** Product Release
- 127** Product Parade
- 131** Trade Fairs & Conferences
- 132** Product Index
- 138** Twit-Bits: What's trending on Social Media

Focus Of Next Edition

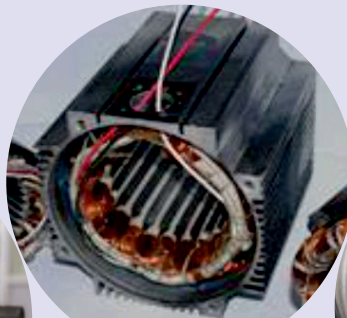
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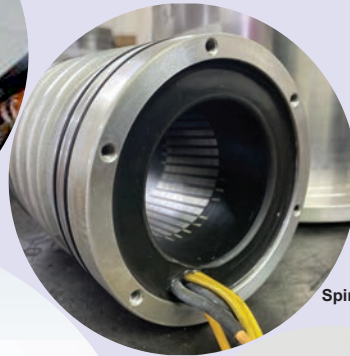
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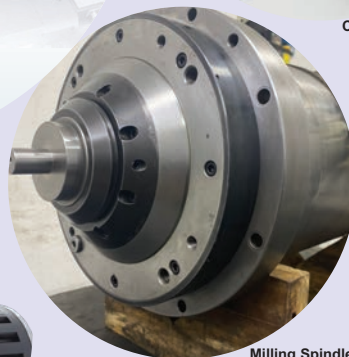
Hybrid Spindle



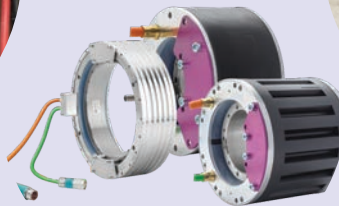
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A

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Ace Engineering & Chemicals Private Limited. . .	130
Akar Tools Ltd.	128
Ambika Trading Company	81
AQC Systems Pvt Ltd	128
ARC Advisory Group	20
Astute Synergies Private Limited.	41
Atul Machine Tools	75
Austenite Fasteners Pvt Ltd	127
Avians Inovations Technology Pvt Ltd.....	23

B

B R Precisions,	122
Bajaj Steel Industries Ltd.....	94
Balaji Switchgears Pvt Ltd	17
Berlin Machine Corporation.....	74
Best Power Equipments	38
Bhambra Engineering Works.....	21
Bharat Industrial Supplier.....	128
Bharat Machinery & Spares.....	75
Bizongo.....	101
Blum-Novotest Measuring & Testing	
Technology Pvt Ltd	59, 123
BVM Technologies Pvt Ltd	94
BXL Enterprise	5

C

Canco Fasteners	128
CECO Electric Company	77
Cee Dee Industries.....	37
Chen Ying Oil Machine Co Ltd	53
Clair Filter Systems.....	130
Classic Polymers & Resins	39
Connectwell India	87
Cummins India Ltd	95



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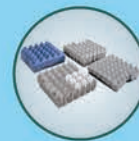
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D

D P Enterprises.....	75
Danfoss.....	40
Diamant Triumph Metallplastic Pvt Ltd.....	69
Dinesh Micro Waves & Electronics.....	129

E

EEPC India	85
Elektromag Joest Vibration Pvt Ltd	41, 121
Elektromag Methods	41, 121
Elmex Electric Pvt Ltd	86
EMAG India.....	54
Enerpac India Private Limited	126
Eplan India.....	60
Eplan Software Private Limited.....	73
Epsilon Carbon Pvt Ltd	35
Ereva Transformers & Switchgear	95
Esbee Electrotech LLP	78
Evergreen Exports.....	130
Excel Metal & Engg Industries.....	128
Excel Power Switchgear Pvt Ltd	122

F

FACTEQ 2024	68
Fanuc India Pvt Ltd.....	67
Faster Hydraulics Pvt Ltd	33
Fein Power Tools India Pvt Ltd	74
Flowjet Valves Pvt Ltd	120

G

Gandhi Automations Pvt Ltd.....	3, 118
Get Cutting Tools	74
Gujarat Plug - In Devices Private.....	94

H

Hakansson Saws India Pvt Ltd.....	74
Hann Kuen Machinery & Hardware Co Ltd ..	19
Hardware & Pneumatics	127
Harting India.....	80
Hexagon	89
Hima Engineering Works.....	74
Honeywell	39
HTM Hydraulics Pvt Ltd	121

I

IBK Engineers Pvt Ltd	119
Igus (India) Pvt Ltd	61, 70
IMTMA	15
INDIA STEEL EXPO	16
INTERNATIONAL STAINLESS STEEL EXPO ..	18
Inka Enterprise.....	95
InPhase Power Technologies Pvt Ltd.....	87
Interact Analysis	106

J

Jain Machine Tools	74
Jindal Aluminium.....	27
JVS Electronics Pvt Ltd	119, 123

K

K U Sodalamuthu And Co Pvt Ltd	11
Kalpar Engineers Pvt Ltd	31
Kalsi Engineering Company	129
Katariya Steel Distributors	127
Khanwalkar Industries	29
Klipco Pvt Ltd	27
Klüber Lubrication	108
Koyka Electronics Pvt Ltd	95
Kusam Electrical Industries Ltd....	93, 121 & 124

L

Lee Springs.....	Cover III
Leuze Electronic Private Limited.....	79
Lucsam Services Pvt Ltd	95

M

Machbow Products	29
Magnets India	35
Magnum Switchgear	94
Manomay and Co	127
Masyc Projects Pvt Ltd	7
Mehul Electro Insulating Industries.....	129
Meiban Engineering Technologies	
Pvt Ltd	55, 58 & 122
Micro Metals	127
Micro Spring Products	127
Minilec India Pvt. Ltd.	13

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Miracle Electronic Devices Pvt Ltd..... 83, 124

Moglix 109

Moulik Rubber Industries..... 27

N

Nakoda Steel 94

New National Hydraulics..... 130

Newtech Equipment 130

Nirmala Pumps & Equipments..... 120

O

OM International Machine Tools 75

Opel Energy Systems Pvt Ltd 89

P

Pai Kane Group..... 94

Patel Brass Turnomatics Pvt Ltd 127

PFERD.....119

Placka Instruments India Pvt Ltd 125

Power Pulse 129

Powerone Micro Systems PvtLtd..... 126

Powertech Pollution Controls Pvt Ltd.....123

PPI Pumps Pvt Ltd..... 33
Precision Industrial Co 37

Precision Machine Tool 75

Preci-Tech Engineering 128

Pro-Med Instruments (P) Ltd.....119

R

Rajamane & Hegde Services Pvt Ltd 9
Rajamane Industries Pvt Ltd 57

Ratnamik Metal (India) 126

Recons Power Equipments Pvt Ltd..... 95

RHI Magnesita India Limited 40

Rotodyne Fluid Technic 126

S

S Vagadia Innovatives..... 130

Safcon SealsCover IV, 91

Sanjay Technical Services Pvt Ltd 94

Sarveshwari Technologies Ltd 130

Schneider Electric 29, 117

Schunk Intec India Pvt Ltd123

Secon Technological Solutions Inc 125

Servokon Systems Ltd. 95

Shenoy Engg Pvt Ltd 120

Siemens India 76

SND Netsol Pvt Ltd 129

Solsons Exim..... 127

Sony & Siemens 33

Spangle Steel Products..... 129

Sparr Electronics Ltd 130

Sphoorti Machine Tools Pvt Ltd..... 63

Standard Spring and Metal Pressing Works 90

Sumip Composites Pvt Ltd 129

Supernova Engineers Ltd..... 94

Synergic Solutions..... 74

T

Tacklers Engineering Pvt Ltd Cover II

TeamLease RegTech 49

Techno Crafts 74

Techno Rise Industries..... 128

Technomech Machine Tools 75

Tecimequip Engineering 129

Teknic Electric India Pvt Ltd 89

TexelQ Engineering India 90

Toss Weldtronics 75

Trishul Machine Tools Pvt Ltd 56, 71

Trychem Metal And Alloys..... 128

U

Ultimaker eyes India 82

United Grinding 64

Universal Machine Tools Corporation..... 125

Urja Techniques India Pvt Ltd 95

V

VE Commercial Vehicles Ltd31

Vertex Engineering Works 35

Vijay Air Control 124

Vishwacon Engineers Pvt Ltd..... 75

W

Wendt (India) Limited 65

Z

ZF India 37



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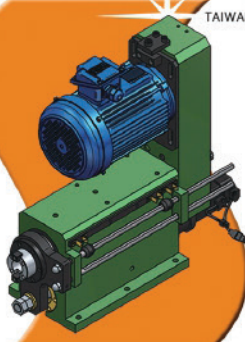
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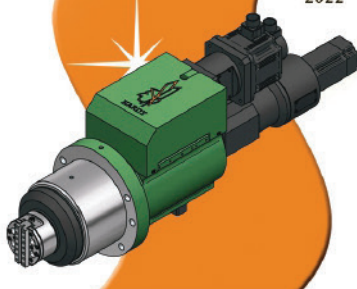
TAIWAN EXCELLENCE
2017



Servo Type Drilling / Tapping
Spindle Head Unit



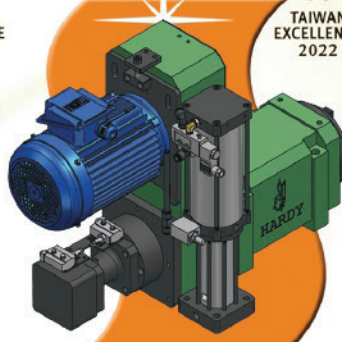
TAIWAN EXCELLENCE
2022



Built-in Motor Facing Head Unit - Flange Type



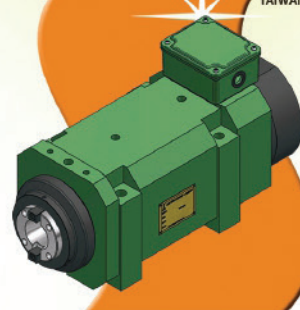
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Boring/Milling Head Unit with ATC



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Built-in Spindle



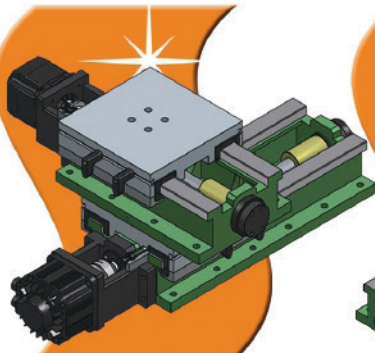
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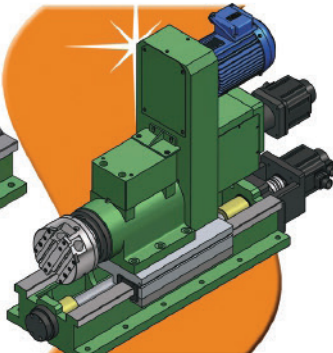
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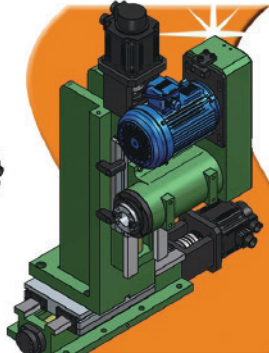
Direct Drive Spindle



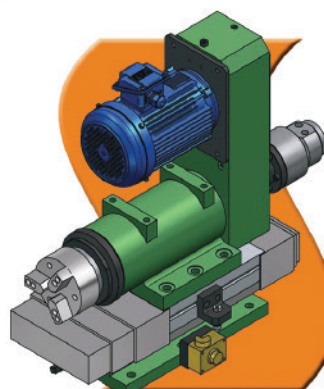
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Machine Tools

Celebrating 20 years of INTEC!

As the International Machine Tools & Industrial Trade Fairs (INTEC) prepares to commemorate its 20th anniversary, it prompts a moment of introspection into the remarkable achievements of its preceding 19 editions.

Organised by The Coimbatore District Small Industries Association, popularly known as CODISSIA, founded in 1969, INTEC 2024 is scheduled to take place from June 6- 10, 2024, at the CODISSIA Trade Fair Complex in Coimbatore.

Boasting over 100,000 business visitors, more than 600 exhibitors, 1100 booths, and spanning 200 product categories, INTEC has solidified its status as a cornerstone event in the industry.

The journey of INTEC has been marked by



overwhelming responses from industry stakeholders and trades alike. From the esteemed patronage of the German State of Bavaria to the steadfast endorsements from the Indian Government, INTEC has attracted participation from leading national and international organisations and

enterprises, affirming its global significance. Additionally, the steadfast support from media partners has propelled INTEC to an iconic stature, expanding its reach and influence with each successive edition.

As INTEC embarks on its milestone 20th Edition, it remains committed to providing a dynamic platform for industry players to connect, showcase cutting-edge technologies, and drive forward the future of manufacturing.

Technical Programmes

ARC Industry Forum Asia 2024 to be held in Bengaluru on 10-11 July

ARC Advisory Group - the leading technology market research firm for industry, manufacturing, infrastructure and cities - will be hosting its annual ARC Industry Forum Asia 2024 in three cities across the world with the theme of 'Accelerate Transformation in the Age of AI, Cybersecurity, and Sustainability'. The event will be held at Tokyo (Japan) on 4 July 2024, Bengaluru (India) on 10-11 July 2024, and Singapore on 1 August 2024.

Industrial leaders are confronting this challenge by harnessing transformational technologies like Generative AI. These innovative tools empower companies to refine their business models, prioritise competitive and operational excellence, anticipate workforce and work-related shifts, fortify cyber-resilient operations, and integrate energy transition and sustainability into their core strategies.

Driven by digital agility, successful companies are pursuing goals of competitive excellence and revenue generation while simultaneously enhancing production efficiency and operational excellence to safeguard their profit margins. These organisations are seamlessly



Annual ARC Industry Leadership Forum Asia
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July 10-11, 2024 – Bangalore, India

integrating digital technologies—including AI, cognitive analytics, digital twins, and predictive technologies—across their value chains.

The ARC Advisory Group's Asia Forum for process and discrete industries serves as an essential gathering for all stakeholders—technology solution providers, end users, industry analysts, decision-makers, policymakers, and media professionals. This forum offers a platform for robust discussions, valuable insights, and meaningful networking, fostering collaboration and innovation within the industrial sector.

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Industrial Automation

Margo offers edge interoperability to unlock industrial IoT

A recently established open standard interoperability initiative called 'Margo' aims to remove the main obstacles to digital transformation. ABB Process Automation and ABB Machine Automation (B&R) are among the founding groups of industrial automation solution providers; driving the initiative. Margo aims to unlock interoperability at the edge, a key layer of Industrial IoT ecosystems where plant data is transformed into AI-powered insights to drive efficiency and sustainability.

The Margo initiative draws its name from the Latin word for 'edge' and will define mechanisms for interoperability between applications, devices and orchestration software at the edge of industrial ecosystems. It will make it easy to run and combine applications from any ecosystem member on top of the hardware and runtime system of any other member. Margo aims to deliver on its interoperability promise



through a modern and agile open-source approach, which will bring industrial companies increased flexibility, simplicity and scalability as they undergo digital transition in complex, multi-vendor environments.

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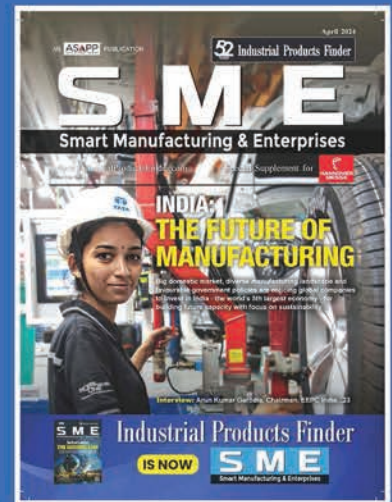


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Industrial Supplies

Jindal Aluminium creates highest amount of aluminium products

Jindal Aluminium, India's premier aluminium extrusion company has once again set a remarkable milestone by producing a record-breaking 115,920 metric tons (MT) of aluminium extruded products in the fiscal year 2023-24. This achievement marks a 10% growth in production compared to the previous fiscal year, reaffirming Jindal Aluminium's position as the country's largest manufacturer of aluminium extruded products and its commitment to meeting the increasing market demand. With over five decades of experience and expertise in manufacturing intricate aluminium profiles, the company is renowned for its quality products and prompt deliveries.

Operating three cutting-edge manufacturing plants located in Bengaluru, Dabaspet (Karnataka), and a newly acquired facility in Bhiwadi (Rajasthan), Jindal Aluminium boasts a total manufacturing capacity of 2.35 lakh tonnes per annum. This includes 160,000 tonnes of aluminium extruded products and 75,000 tonnes of aluminium flat-rolled products. The company houses in-house, eco-friendly surface coating facilities such as powder coating and anodising.

Speaking on occasion, Pragun Jindal Khaitan, Vice Chairman and MD, Jindal Aluminium Limited, said, "We feel humbled to contribute once again to the nation's requirement with the highest production of aluminium extruded products, our commitment to delivering top-quality products, backed by best-in-class technology and stringent quality standards, remains uncompromised. As we look ahead, we remain steadfast in pursuing innovation and value creation".

As a pioneer in shaping India's downstream aluminium industry, Jindal Aluminium is the sole aluminium extrusion company in India to receive aerospace (AS9100D) certification. Furthermore, the company's dedication to sustainability is evident through its use of 100% renewable energy at two of its manufacturing units in Karnataka. According to the latest report by IMARC, the aluminium extrusion market in India is projected to reach an impressive 1,288,202.3 tonnes by 2028, indicating a compound annual growth rate (CAGR) of 4.49% from 2023 to 2028. This positive trajectory underscores Jindal Aluminium's strategic positioning and promises a bright future for the aluminium extrusion sector.


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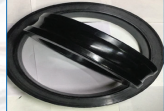




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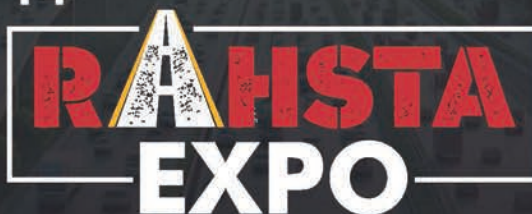


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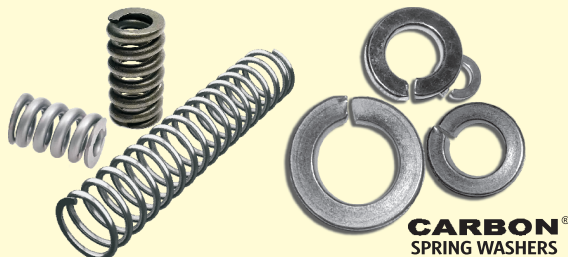
SE opens employee campus in India

Schneider Electric, the global leader in energy management and nextGen automation, today inaugurated one of its largest employee campuses globally, at Bagmane Solarium City, Bengaluru, also known as India's Silicon Valley.

This state-of-the-art campus covers an area of ~ 630,000 sq. ft and features a Global Innovation Hub, Training centre, R&D centre, Skill centre and Digital Hub with a capacity to accommodate over ~ 8000 professionals.

This new campus illustrates Schneider Electric's commitment to providing world class infrastructure for employees to collaborate, develop, and deliver industry leading solutions for customers. It also enforces the pledge to "Make in India for India and for the world," showcasing ongoing investments in manufacturing, innovation, people, R&D and skill building.

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VECV announces JV with iTriangle Infotech

VE Commercial Vehicles Ltd (VECV), a prominent joint venture between Volvo Group and Eicher Motors, has announced the establishment of a joint venture with iTriangle Infotech, a leading provider of telematics solutions. The purpose of this collaboration is to develop and deliver fleet management solutions for truck and bus customers operating in various applications. Definitive agreements have been signed to form the joint venture, which will focus on creating industry-leading telematics fleet management systems for VECV. These systems will operate on telematics hardware devices supplied by iTriangle.

The joint venture aims to strengthen VECV's surround-service portfolio for Eicher truck and bus customers, enhancing its ability to address the rapidly evolving people and logistics ecosystem in India and select export markets. VECV has been at the forefront of introducing advanced connectivity solutions, having pioneered 100% connectivity over five years ago. All Eicher Trucks and Buses are currently monitored 24/7 at VECV's industry-leading Uptime Centre, providing customers with unlimited access to advanced fleet management systems through the MyEicher App. The collaboration with iTriangle represents the next step in VECV's journey to provide comprehensive and innovative offerings to its customers.

Vadiraj Katti, CEO & Co-founder, iTriangle said, "As a company focused on building advanced telematics and mobility solutions, our endeavor has always been to provide innovative offerings to our customers to make public and commercial transport safe and more productive. VECV has been a pioneer in India to drive digitalisation and technology in the transport sector and we are excited to partner with them to develop and offer advanced Fleet Management Solutions to the industry."

Vinod Aggarwal, MD & CEO, VECV, expressed his thoughts on the joint venture, highlighting the company's commitment to connectivity and technology. He emphasised that the partnership with iTriangle signifies VECV's dedication to advancing its digitalisation efforts and leveraging technology in the transport sector.

The joint venture between VECV and iTriangle represents a significant step towards revolutionising fleet management in the truck and bus industry. By combining their expertise and resources, the partnership aims to deliver cutting-edge solutions.



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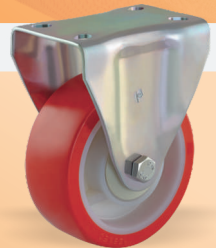
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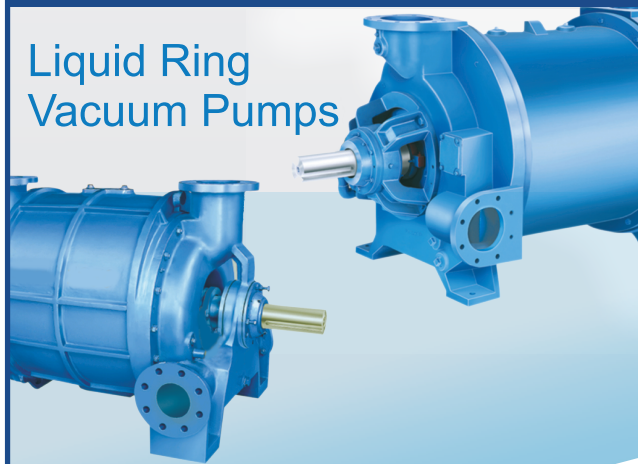
Smart Manufacturing

Sony & Siemens launch new solution

Siemens and Sony Corporation have announced a partnership aimed at introducing a new solution that combines Siemens' Xcelerator portfolio of industry software with Sony's new XR head-mounted display (HMD), SRH-S1. The SRH-S1 HMD was designed using Siemens' NX software, which is a core solution utilised throughout Sony for designing its industry-leading products.

During the Realise LIVE event in Las Vegas, **Seiya Amatatsu**, Head-XR Technology Development Division, Sony, highlighted the team's reliance on Siemens' NX software from the Xcelerator portfolio in developing the new HMD. The SRH-S1 features an XR head-mounted display with high-quality 4K OLED Microdisplays and intuitive controllers for interacting with 3D objects. Sony has been using Siemens' Xcelerator portfolio as its primary product engineering software since 2015.

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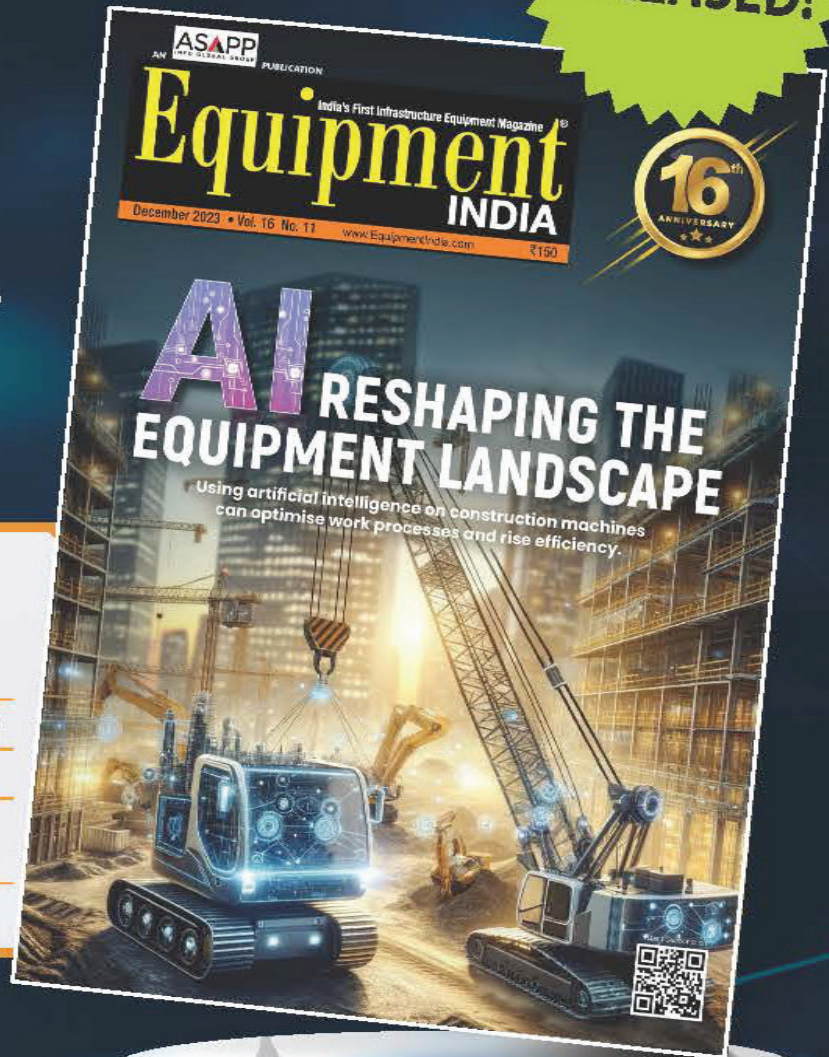
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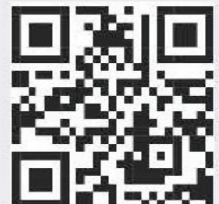


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Chemical Process

Epsilon Carbon bags SA8000 certification

Epsilon Carbon Pvt. Ltd., a prominent figure in the carbon industry, has attained the esteemed SA8000 certification from Social Accountability International (SAI), marking a remarkable achievement in prioritising social accountability and worker welfare. Being the inaugural Indian carbon black manufacturer to receive such recognition, Epsilon Carbon showcases its unwavering dedication to ethical conduct and bettering the lives of over 1,800 workers and their families in Vijayanagar, Karnataka.

This certification illustrates Epsilon Carbon's steadfast commitment to providing its workers with quality housing, elevated living standards, a pristine environment, and equitable wages in accordance with national standards, a step towards economic equity. Epsilon Carbon pro-actively participates in community-centric initiatives, benefitting their employees.

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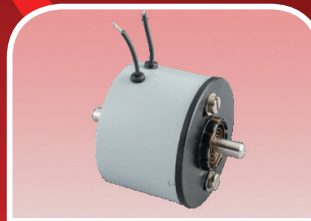
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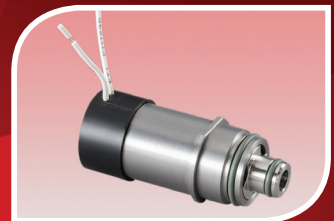
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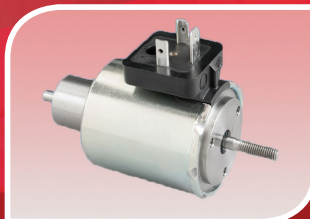
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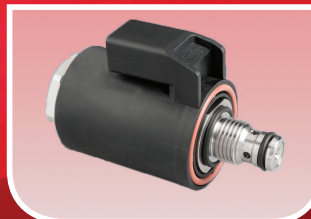
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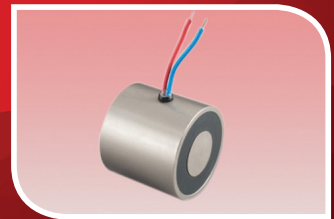
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Auto Components

ZF India launches metaverse platform

ZF Group India announced the launch of its Employer Branding Metaverse. This virtual environment is set to redefine the standards of talent acquisition and employer branding by merging innovative technology with interactive candidate engagement. Beyond reading about 'On the career website', candidates can now dive into a virtual world tailored to showcase the essence of the brand, the corporate culture, and the exciting opportunities that await them.

Akash Passey, President, ZF Group India noted, "We are pleased to announce the launch of our ZF Metaverse India Space – a virtual initiative to attract and develop talent. This immersive virtual space will allow potential candidates to experience ZF's company culture, work environment and services first-hand. In our virtual world, candidates will get a real-time glimpse into what it's like to work at ZF Group. They can virtually interact with hiring managers, understand the various positions and career options open to them, and get a feel of our collaborative work culture and innovative practices that impact the future of mobility. The Metaverse is a perfect example of how technology can create a truly unique and engaging experience for our future workforce."

"The ZF Employer Branding Metaverse offers a comprehensive and immersive experience, allowing potential candidates and existing employees to explore products and career opportunities and to engage in live events in an interactive, virtual world," remarked **Martin Maas**, Head of Employer Branding, ZF. "This initiative highlights our commitment to innovation, not only within our product lines, which already benefit from X-Reality solutions, but also in our recruitment and employee engagement strategies."

At the heart of the Metaverse lies a central hub, serving as a global space where visitors can explore comprehensive information about the company's objectives and worldwide presence. This core feature is complemented by five regional spaces, each dedicated to spotlighting specific countries and regions where ZF operates. These tailored zones are crafted to showcase the company's extensive footprint and inclusive culture, catering to local nuances and professional opportunities.

The Metaverse environment includes various interactive features aimed at enhancing user engagement, including, direct recruitment tools, employee spotlights and live events, an interactive coin game and more.

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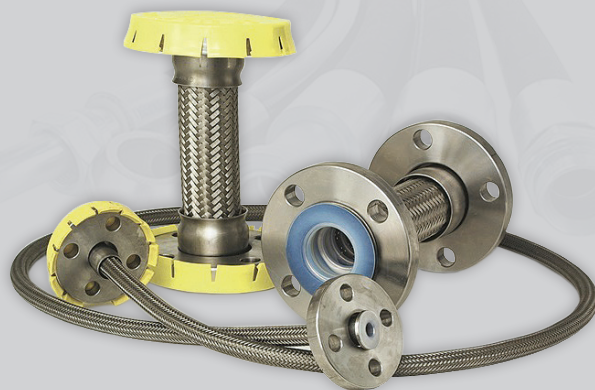
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Electric and Electronics

BPE installs 19 500kVA UPS systems at Foxconn's iPhone manufacturing plant

BPE (Best Power Equipments), a prominent Indian power solutions provider, has achieved a significant feat by installing 19 500kVA UPS systems at Foxconn's iPhone manufacturing plant in Chennai. This installation not only enhances the operational efficiency of the plant but also highlights BPE's contribution to the 'Make in India' initiative, showcasing cutting-edge technology achieving UPS efficiency of 97%.

Sushil Virmani, MD, BPE, with over 30 years of experience in the power industry, expressed confidence in BPE's future growth. He stated, "The acceptance of BPE by Foxconn for the Apple factory gives us enormous confidence and potential for presence. With India emerging as a preferred manufacturing hub, BPE UPS systems will see wider deployment, increasing our



visibility and growth potential."

BPE has already supplied over 10 MW of UPS systems to several leading government data centers, including Yotta Colocation DC. The company actively participates in exhibitions and data center events such as Wmedia, Chennai Dubai, and DCW Singapore, to showcase its products, positioning itself as a frontrunner in the power

solutions market.

Expanding its global reach, BPE has recently supplied UPS systems to Singapore Airport, 120KVA to Grasshopper Singapore, 20 units of 200kVA to Indonesia's Power System Department, and various universities in Malaysia. This international recognition underscores the competitiveness of BPE's 'Made in India' products against Chinese alternatives.



Smart Manufacturing & Enterprises



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Industrial Automation

Honeywell & VUAE to build first gigafactory

Honeywell (NASDAQ: HON) and Volts United Arab Emirates (UAE) announce plans to join forces for the construction of the first gigafactory in Abu Dhabi focused on delivering battery cells for Residential Energy Storage Systems (RESS). Building on sustainability discussions that took place at COP28 in the UAE, the gigafactory is slated for completion by the end of 2026.

As part of the collaboration, Honeywell will provide advanced solutions for equipment and software – with a focus on factory automation, digitalisation and closed loop control systems – while serving as a key technological partner for Volts.

George Bou Mitri, VP & GM, Honeywell Industrial Automation MENA, said, “There is a clear link between the UAE’s commitment to sustainability and Honeywell’s global focus on its three megatrends, in this instance specifically the energy transition.”

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Smart Manufacturing

Messe Stuttgart India mourns MD & CEO, Sachin Patil

It is with sadness that the Messe Stuttgart India family announces the sudden passing of its esteemed Managing Director and CEO, **Sachin Patil** on May 21, 2024.

Patil's unexpected demise leaves a deep void within the organisation. His leadership and unwavering dedication to Messe Stuttgart India were instrumental in shaping the company's trajectory in India and propelling it towards continued success.

As a true visionary leader, Patil possessed an unparalleled understanding of the Indian trade fair industry. His passion and enthusiasm were contagious, inspiring not only his colleagues but also the wider business community. Under his guidance, Messe Stuttgart India established itself as a leading force within the industry, consistently exceeding expectations and forging strong relationships with exhibitors, visitors, and partners alike.



Patil's commitment extended far beyond the walls of Messe Stuttgart India. He was a champion for collaboration and innovation, actively contributing to the advancement of the trade fair industry. His absence will be deeply felt not just by our company but by the entire industry he so

passionately served.

In this time of immense grief, our thoughts and heartfelt prayers are with the family and loved ones. We offer them our deepest condolences and unwavering support. May his soul find eternal peace.

Roland Bleinroth, CEO & President, Messe Stuttgart, Germany expressed his condolences, “The passing of Sachin Patil is a significant loss to the industry and all who had the privilege of working with him. Our thoughts are with his family during this difficult time.”

Industrial Supplies

RHI Magnesita India reports 8% Y-o-Y rise in Q4 FY 23-24 revenue

RHI Magnesita India Limited, the leading manufacturer and supplier of high-grade refractory products, systems and solutions, has reported consolidated financial results for the quarter and year ended March 31, 2024. The company registered 8% growth in revenue compared to the same quarter of the previous financial year. The Q4 FY 2023-24 revenue stood at Rs 9.43 billion, as compared to Rs 8.74 billion during the Q4 FY 2022-23. The PBT(excluding one-time exceptional items) stood at Rs 950 million during Q4 FY24.

Commenting on the results, **Parmod Sagar**, MD & CEO, RHI Magnesita India Ltd said, “Our fourth quarter results underlined again the attractive growth and resilient results of our business. We have excelled by



RHI MAGNESITA

strategically enhancing our operational efficiencies, driving remarkable and sustained growth. The seamless integration of recent acquisitions has unlocked significant synergies, reflected in the impressive rise in profitability. Our EBITDA and revenue saw substantial year-on-year growth of 49% and 39% respectively.

Our rigorous cost optimisation initiatives have led to outstanding year-on-year margin improvements this quarter. As we expand our strong presence in iron-making, pellet, and DRI, we are set to continue leveraging our extensive market reach, diverse product portfolio, and exceptional expertise in total refractory management and services.”

Industrial Supplies

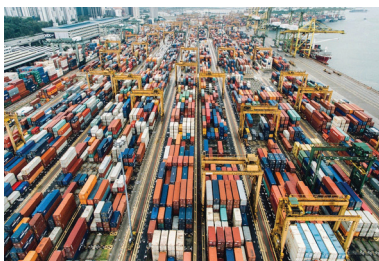
Danfoss to develop energy-efficient cold chain infrastructure for Africa & India

Approximately 14% of the world’s food is lost annually due to inadequate refrigeration, an amount sufficient to feed 1 billion people. Danfoss is urging greater focus on establishing sustainable and energy-efficient cold chain infrastructure to address this issue.

In Sub-Saharan Africa, where as much as 40% of food is lost between farms and markets, with two-thirds of this occurring in the initial stage, the necessity for investments in sustainable cold chains becomes even more apparent.

Similarly, in the Indian context, recent findings from a Food and Agriculture Organisation (FAO) study reveal comparable 40% food wastage due to insufficient cold storage solutions. This includes the staggering loss of 30% of fruits and vegetables, left to decay in inadequate facilities.

Addressing these concerns, the International Energy Agency’s (IEA) 9th Annual Global Conference on Energy Efficiency, held in Nairobi, Kenya, will prioritise spurring global action on energy efficiency.



Factors such as increasing temperatures, population growth, urbanisation, and rising incomes are fuelling the demand for cooling. The inaugural Global Cooling Watch Report, introduced at COP28, forecasts a potential tripling of cooling demand by 2050, resulting in a doubling of greenhouse gas emissions equivalent to the entire annual emissions of the United States.

According to the report, enhancing efficiency in cold chain and refrigeration, through measures like minimum energy performance standards and passive cooling, can contribute to 30% of the required energy savings by 2050, while significantly reducing food loss and waste.

Astrid Mozes, President, Regions, Danfoss concludes, “The good news is that near zero emission cooling is possible. In fact, emissions in 2050 could be cut by 97% with readily available technology including state-of-the-art energy efficiency. Kenya is one country where sustainable business models and financing solutions are key to delivering sustainable and reliable cold chains.”

Chemical Process

Astute Synergies to shake CBG market with 40% cheaper solutions

Astute Synergies Private Limited, an energy-tech startup, is set to disrupt the biogas industry by tackling the critical challenge of high CBG plant installation costs.

According to the Petroleum Planning and Analysis Cell, India's gas production is 29,769 million metric standard cubic metres (mmscm), while consumption is 55,256 mmscm, resulting in a shortfall of 25,488 mmscm, or 46.12% of total consumption, which is currently met through imports. CBG can help bridge this gap, but high installation costs and methane loss during production are major challenges. Astute Synergies is addressing these issues with its advanced state-of-the-art membrane technology, which aims to transform the biogas industry by significantly reducing these costs.

Commenting on the initiative, **Utkarsh Gupta**, Founder & CEO, Astute Synergies, said, "The company is focused on the manufacturing of cost-effective biogas upgradation systems, targeting to achieve a remarkable 40% reduction in the costs, leading to overall savings in the installation of these plants. Our cutting edge technology will minimise methane loss during purification, and reduce this loss from over 10% to a mere 2-3%. It will significantly bring down the overall cost leading to sustainability. With this, we are not only addressing climate change but also fostering economic growth through a sustainable solution that transforms the CBG market."

A recent report by the International Energy Agency emphasises the urgent need for cost-effective renewable energy solutions to combat climate change and promote sustainability. Astute Synergies' innovative approach aligns perfectly with these global energy goals, promising to contribute significantly to a Greener India by making clean energy more accessible and affordable.

"Driven by innovation, we aim to be the best and most advanced solutions and equipment provider for new CBG projects. We promise to deliver optimised and smart products to our clients", adds **Vinayak Kashyap**, Co-founder, Astute Synergies.

"Astute, with its various technology collaborations and advanced solutions in the CBG sector shall lead the industry in offering valuable and sustainable alternatives to its customers, said, **Prashant Bahirgonde**, Co-founder, Astute Synergies.

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India Inc. drives EV innovation for World Environment Day

World Environment Day is a vital occasion to spotlight the critical environmental challenges facing our planet and to celebrate the progress being made towards sustainability. In India, businesses are at the forefront of this movement, with India Inc. playing a pivotal role in driving eco-friendly initiatives. Companies across various sectors are implementing green technologies, reducing carbon footprints, and championing renewable energy solutions. From electric vehicle innovation to sustainable manufacturing practices, India Inc.'s commitment to environmental stewardship is helping to create a greener, healthier future. This collective effort not only addresses climate change but also inspires global action towards a more sustainable world.

Manjula Girish, Business Head-EV Charging and Photovoltaic Inverter Division, Delta Electronics India



commented, “Electric Vehicles (EVs) are a transformative force in the fight against climate change. At Delta Electronics India, we are committed to advancing EV technology and infrastructure, contributing to a cleaner, more sustainable future.”

Hyder Khan, CEO, Godawari Electric Motors said, “At Godawari Electric Motors, our goal is to provide eco-friendly transportation options that contribute to cleaner air and a healthier planet, while also addressing the mobility needs of a growing population.”

Akash Gupta, Co-Founder & CEO, Zypp Electric remarked, “Electric Vehicles (EVs) have a transformative impact on climate change, and Zypp Electric is leading this charge in India. As the country’s premier tech-enabled EV-as-a-Service platform, we are committed to achieving zero emissions and carbon neutrality.”

Industrial Automation

Global cobot market exceeds \$1bn in 2023; strong growth forecast 2024-28

In 2023, the global collaborative robot (cobot) market surpassed \$1 billion in revenue, although the overall demand recovery post-pandemic was slower than expected, as per recent data from Interact Analysis. Looking ahead, the market specialist forecasts a 22% increase in cobot shipments in 2024, with similar growth levels (>20%) projected annually until 2028. Despite manufacturing challenges, economic hardships, and supply chain disruptions, cobot revenue saw a growth of approximately 11.9% in 2023.

While demand remained robust in the automotive and new energy sectors, it declined notably in electronics and semiconductors, resulting in a small V-shaped trajectory from 2022 to 2024. Expectations suggest a rebound in orders from the semiconductor and logistics sectors in 2024, although high interest rates may dampen overall order intake this year.



Maya Xiao, Research Manager, Interact Analysis, says, “The global cobot market is becoming more refined, as end-users seek out holistic solutions rather than purchasing large pieces of equipment. Over the coming year, we expect to see major cobot vendors target large customers, which could impact capacity and resource allocation.

“Moving forward, China will dominate the global cobots market in the medium term, but it is also the region where average revenue per unit (ARPU) is expected to fall most sharply, as competition in the market increases.

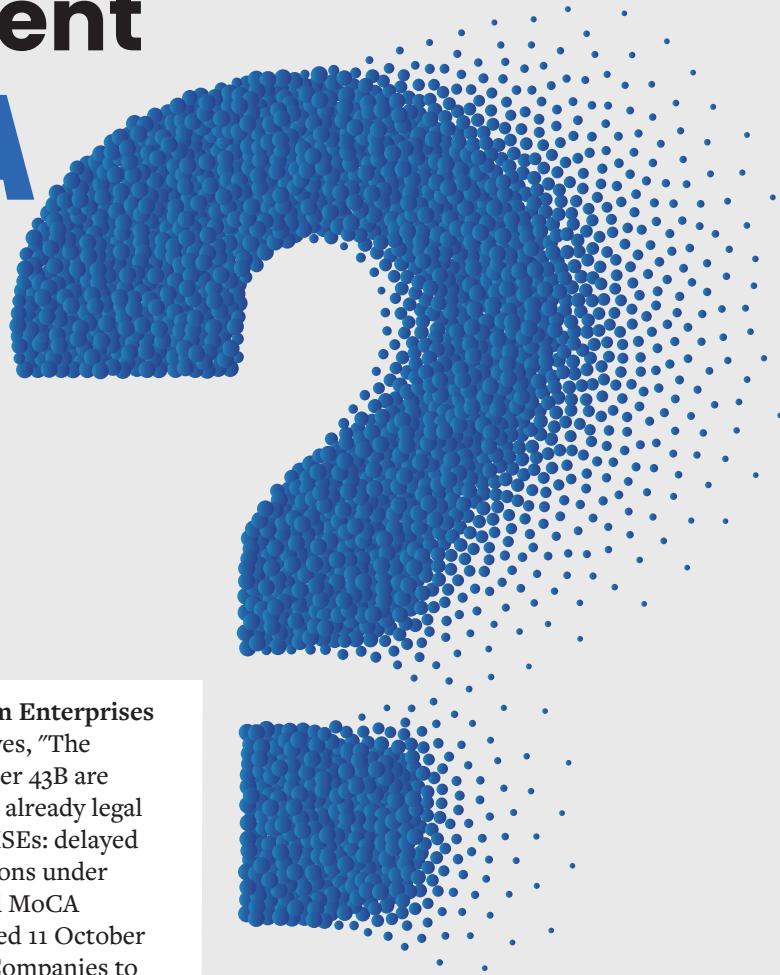
The cobot market growth rate in regions other than China will approach that of China after 2025 and the global average market price for cobots is expected to increase slightly between 2023 and 2028 as demand grows for collaborative robots capable of handling larger payloads.”



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45-Day Payment DILEMMA

Section 43B(h) of Income Tax Act - mandating payment to micro and small enterprises (MSEs) within 45 days of supply - was welcomed when announced in Budget 2023-24. However, MSEs are now facing a peculiar problem of losing orders from large firms because of it. Rakesh Rao explores more on this issue and the road ahead.



On 6 May 2024, Micro and Small Enterprise (MSE) traders received a setback when the Supreme Court declined to hear their plea against the new Income Tax provision, allowing MSEs to pursue their case in the High Court. The petition sought an interim stay and quashing the amendment in the Income Tax Act prescribing that companies not making payments to micro and small enterprises during a fiscal year will have to wait for a full year for deductions under the IT Act.

To promote timely payments to MSEs, a new clause (h) in Section 43B of the Finance Act 2023 was inserted to provide that any sum payable by the assessee (the buyer) to a MSE beyond the time limit specified in Section 15 of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006 shall be allowed as deduction only on actual payment. The Union Government has repeatedly stressed that the amendment is meant to ensure timely payment to micro and small businesses and to help them. **Anil Bhardwaj, Secretary General, Federation of Indian Micro and**

Small & Medium Enterprises (FISME), observes, "The amendment under 43B are additions to two already legal provisions for MSEs: delayed payment provisions under MSMED Act and MoCA Notification dated 11 October 2018 requiring Companies to 'disclose' outstanding payments separately under MSE and other heads in Schedule VI of Balance sheet. Companies have been already dealing these requirements. The new



“The apprehensions some people have about Section 43B(h) are absolutely unwarranted. The Income Tax Amendment gets triggered on balance sheet date i.e. 31st March. The transactions during the rest of the year have nothing to do with the amendment.”

Anil Bhardwaj, Secretary General, FISME

amendment, Section 43B(h), requires payment to be made within 15 days without any agreement and within 45 days with agreement. In case it not adhered, the outstanding amount would not be allowed as expenses and treated as income."

The provision was announced in Budget 2023 to take effect from FY 2023-24. "This was perceived to be a welcome step by micro and small enterprises, as it was intended to help them in tackling the working capital crunch. However, towards the end of FY 2023-24, the micro and small enterprises started finding themselves dealing with a peculiar problem. The large and medium enterprises (buyers) either started cancelling orders with the registered MSMEs and placing these orders with

unregistered MSMEs, or forcing the micro and small enterprises to forsake their registrations as micro or small enterprises under the MSMED Act, 2006, exercising their financial influence. This is leading to major loss of revenue to the micro and small enterprises,” states **Yogesh Kale, Executive Director, Nangia Andersen India.**



“Though the buyers are now in a way compelled to pay the MSEs in the prescribed time, there is no assurance of timely collection from customers, unless the buyers are registered MSEs themselves.

Yogesh Kale, Executive Director, Nangia Andersen India

Boon turns into a bane

In the interim budget on 1 February 2024, companies were expecting the government to change or postpone the rule for 2023-24. However, nothing was announced. “Many were expecting a relaxation of the payment terms before the budget. However, after the budget was announced with no changes, panic ensued,” says **Baljit Singh Bedi, Chairman, Association of**



“The MSE sector is experiencing significant difficulties, as they are losing orders and their customers are also facing challenges. This creates a complex situation for both buyers and sellers.

Baljit Singh Bedi, Chairman, Association of Entrepreneurs

Basics of Section 43B(h)

According to Palak Ratwani, Legal Associate, SRGA Global, Section 43B(h) strutted onto the tax scene with the swagger of a debt collector on a mission with its key objectives as:

- **Timely payments to MSEs:** Section 43B(h) aims to ensure Micro and Small Enterprises (MSEs) receive payments promptly for goods and services provided to businesses, thus safeguarding their financial interests.
- **Enhanced compliance:** By imposing stricter payment timelines and disallowing deductions for delayed payments, the provision seeks to enhance compliance with the timelines specified under the MSMED Act, 2006.
- **Protection of MSEs:** The introduction of Section 43B(h) serves to protect MSEs from cash flow disruptions and financial strain caused by delayed payments, fostering a more equitable business environment.

Entrepreneurs (AOE).

Another issue is the interest on delayed payments. “If payments are not made on time, interest will accrue. Many are unaware of this clause. Auditors will need to highlight this, and ask companies to make provision for the interest (if any),” adds Bedi.

It is no doubt that the MSEs are now feeling the squeeze from Section 43B(h). **Palak Ratwani, Legal Associate, SRGA Global, observes,**



“The tighter payment deadlines are throwing a wrench into their cash flow plans. The new rule could impact relations between suppliers and buyers who often work with these small businesses on a credit system.

Palak Ratwani, Legal Associate, SRGA Global

“The tighter payment deadlines are throwing a wrench into their cash flow plans. The new rule could impact relations between suppliers and buyers who often work with these small businesses on a credit system. Industries like textile, automobile, agro-based sector, etc, which are largely dependent on

micro and small businesses, may face severe financial and regulatory challenges. Considering the implications, businesses may tend to prefer medium enterprises, resulting in a loss of business for MSEs. Many MSEs may be willing to work with a larger credit period, with a commercial interest of big business opportunities and business volume. However, the regulatory change, supposed to be a boon, is turning out to be a bane for them.”

The reason why concerns are being voiced now, as opposed to earlier, is due to the enhanced understanding and clarity businesses have gained through detailed clarifications. “As these clarifications provided a clearer picture of the practical implications of Section 43B(h), more MSEs recognised the potential negative impact on their operations,” she informs.

Rahul Mehta, Chief Mentor, The Clothing Manufacturers Association Of India (CMAI), adds, “This move by the government, to implement Section 43B(h), was intended to protect MSMEs and benefit them by reducing their buyers’ payment cycles, thereby improving their financial positions. However, the government failed to consider that payment cycles vary from industry-to-industry and took a uniform approach, applying this rule to all MSMEs and industries. For example, in the textile industry, the

Why “No” to Section 43B(h)?

According to Palak Ratwani, MSEs are dissatisfied with Section 43B(h) is due to following reasons:

- It imposes stricter timelines for payment, potentially disrupting their cash flow and business operations.
- MSEs may prefer flexibility in payment terms to accommodate their cash flow needs, which might not align with the rigid payment timelines mandated by the amendment.
- The provision could strain relationships between MSEs and buyers who traditionally operate on credit systems, impacting their business dynamics.
- It heightens credit risk and creates challenges for distributors and middlemen, who require extended credit periods to manage the purchasing and distribution process effectively.
- The short implementation period left small business owners with inadequate time to understand, adopt and comply with the new provisions.



**Implementa
tion of Section
43B(h) has resulted
in massive returns,
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order cancellations,
and a shift from**

**micro and small to medium
and large enterprises. Thus,
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more than benefited.**

Rahul Mehta, Chief Mentor, CMAI

typical payment cycle is between 90-180 days. For garment retailers, changing their entire payment and business cycle from 120 to 45 days at one stroke was an enormous task, virtually impossible given the current financial situation. A phased payment schedule, reducing it to 90 days in the first year, 60 days in the second year, and 45 days in the third year, is recommended by CMAI and supported by various associations and industry bodies.”

MSEs wholeheartedly welcome the government’s commitment to fostering an ecosystem where payments to MSEs are made promptly. However, the stringent section is deterring buyers from doing business with MSEs and are instead buying from medium & large

enterprises. “While our issuer does not classify under MSME, the general sense, after discussion with issuers, who have longer payment cycle, is that these issuers may replace MSME with non MSME suppliers which will let them enjoy longer payment cycle and also helps avoid compliance related cost in this aspect,” observes Abhash Sharma, Senior Director & Head - Emerging Corporates, India Ratings & Research.

Baljit Singh Bedi adds, “The MSE sector is experiencing significant difficulties, as they are losing orders and their customers are also facing challenges. This creates a complex situation for both buyers and sellers. Buyers, who are accustomed to longer payment cycle, now find it



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Abhash Sharma, Senior Director & Head - Emerging Corporates, India Ratings & Research

difficult to make payments within one and a half months.”

According to **Rajiv Chawla, Chairman, IamSMEofIndia**, section 43B(h) is not applicable to government agencies like Indian Railways, Ministries and municipalities/corporations, etc who account for a major share in MSEs’ orderbook. “On the other hand, MSE buyers (if they are sourcing products/ services from other MSEs) also come under it. So, while government agencies continue to follow their old payment cycle, it affects MSEs for whose benefit the section was added,” he says.



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Rajiv Chawla, Chairman, IamSMEofIndia

As per the Samadhaan portal, under the MSME Ministry, GoI, outstanding amount payable to MSEs (who have approached the Samadhaan for resolution) by various entities, as of 30 May 2024, stood at Rs 435.49 billion. Central & state agencies (including ministries, departments and PSUs) account for about 37 per cent of this total outstanding amount, which is a cumulative figure since the start of Samadhaan portal in 2017.

K E Raghunathan, National Chairman, Association of Indian Entrepreneurs, opines, “After this order came into force many orders on MSMEs especially ancillary units have been withheld or cancelled. Many corporates are forcing suppliers to cancel their MSME

Table 1: Amount payable to MSEs (who have approached SAMADHAAN portal for resolution) by various entities, as of 30 May 2024

Entities	Amount Payable (in Rs billion)
Central Ministries & Departments	15.3235
Central PSU	52.5479
Railways	4.4273
Ordnance Factory	1.0668
Statutory Bodies	0.0154
State Govts & PSUs	88.3088
MSME Unit	25.3724
Individual	6.3997
Proprietorship	38.9196
Other	203.1035
Total	435.4849

Source: Samadhaan portal, Ministry of MSME

registration. Traders have been excluded from this act, even though they are part of MSMEs. The supplier whose payment is delayed doesn't get any relief and instead the GoI gets additional revenue from the Income Tax receipt from the defaulter. A buyer, who has received a service or supply from an MSE in April this year but pays only by March next year, is not on the radar as a defaulter. This amendment must be scrapped as it



The government must make bill discounting as mandatory on regular supplies between the buyer & the seller. As per the agreed time frame, the buyer bank can make the payment to the supplier bank on the due date.

K E Raghunathan, National Chairman, Association of Indian Entrepreneurs

doesn't resolve the main issue at all."

Challenges before the buyers

It is not that only micro and small enterprises are facing problems, there is another side of the coin. "While this amendment aims to instil financial discipline, and safeguard micro and small enterprises against delayed payment, its impact is felt hugely by the buyers who are classified as large or medium enterprises. The amendment places added pressure on the buyers, particularly the ones that are operating on thin margins and constricted working capital, to manage their cash flow effectively. Though the buyers are now in a way compelled to pay the MSEs in the prescribed time, on the other side, there is no assurance of timely collection from customers, unless the buyers are registered MSEs themselves," explains Yogesh Kale.

For example, manufacturing companies heavily reliant on MSMEs for raw materials and ancillary services may experience disruptions in an attempt to avoid additional tax liability that may be triggered by virtue of section 43B(h). "Similarly, service industries, including IT and hospitality, may encounter cash flow constraints, impacting their ability to meet operational expenses and invest in growth initiatives," he says.

Section 43B(h) of the Income Tax Act poses significant challenges for medium and large companies, particularly in how they manage and process invoices related to the purchase of goods. It stipulates that any sum payable to a supplier must be paid within 45 days from the date of the invoice. However, this timeline does not always align with the practicalities of business operations, especially in industries like manufacturing.

"One major challenge is the discrepancy between the invoice date and the actual acceptance of goods. In a manufacturing setup, the process

often involves a delay between the delivery of goods, the generation of the invoice, and the acceptance of the goods after passing quality checks. Typically, a manufacturing company might receive goods and an invoice simultaneously, but they only consider the goods officially received and accepted after a rigorous quality check. This quality check could take several days or even weeks, creating a gap that Section 43B(h) does not account for," observes Palak Ratwani.

She adds, "Furthermore, the entire supply chain involves substantial time in moving goods from the manufacturer to the end seller. During this period, various logistical and procedural steps need to be completed, each taking time and potentially delaying the acceptance of goods."

Also, Section 43B(h) only supports the micro and small sectors, not the medium sector. Rahul Mehta explains, "Retailers now prefer buying from medium or large enterprises because they cannot afford to pay within 45 days. Consequently, while the payment cycle may have become faster, overall business has shrunk. This has led to a significant number of MSMEs deregistering themselves before 31 March, as buyers want to deal with non-registered MSEs. Implementation of Section 43B(h) has resulted in massive returns, a large number of order cancellations, and a shift from micro and small to medium and large enterprises. Thus, the MSME sector has been hurt more than benefited."

In addition, some buyers, to adhere to the new payment rule, are asking MSE manufacturers to route their supply through distributors or traders. In this case, though MSEs are getting payment on time, distributors/traders are charging a premium thus increasing their cost. This is further complicating the situation.

Contrary views

Federation of Indian Micro and Small & Medium Enterprises (FISME) holds a contrary view and has strongly welcomed the implementation of Section 43B(h). Anil Bhardwaj elaborates, "The apprehensions some people have about Section 43B(h) are absolutely unwarranted. This particular provision applies only at the close of the balance sheet on 31st March. I would suggest all companies to review their balance sheets by 15th February and settle their dues. If they lack funds, it's not a significant issue; some tax will be charged, and they will receive reimbursement when the payment is made. This provision benefits the industry, although some traders might face challenges." According to him,

- The Income Tax Amendment gets triggered on balance sheet date i.e. 31st March. So only those bills that are pending for payment on that day are covered. The transactions during the rest of the year have nothing to do with the amendment. Therefore, whether

somebody has delayed payment will be treated under existing provisions of MSMED Act as in past. No change.

- In case the company fails to adhere payment to MSE criteria in March (15 or 45 days as the case may be), the company will make provision for Income Tax as applicable. But in that case also, once it pays the supplier next year, it could claim refund.
- Traders are not covered under MSMED Act provisions other than priority sector lending, the amendment should not affect them.

"While there may little bit of adjustment required, there is no need of panic whatsoever. The doomsday scenario on social media is totally unwarranted," he adds.

There is no penalty for delaying the payments to MSEs during the financial year if the payments are settled by March 31, 2024. It means buyers must clear all invoices received from MSEs from 1 April 2023 till 16 February 2024 (where agreement exists) and upto 17 March

2024 where no agreement exists. "In a nutshell, delay allowed on purchases in the first three quarters and timely payments only for the purchases made in the last quarter. Overall, still very much in favour of buyers," said Rajiv Chawla, in his post on 19 February 2024.

New government, new modifications

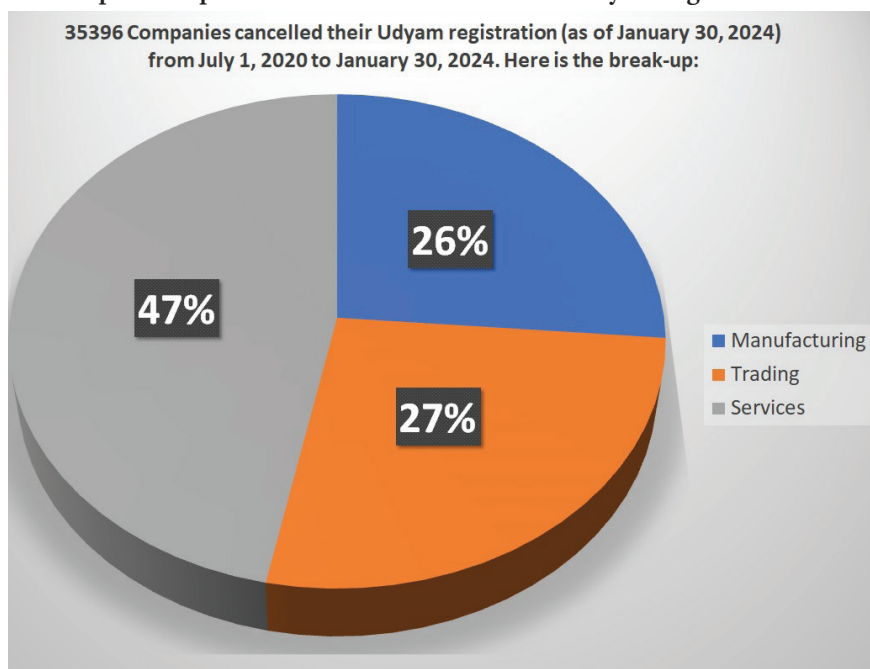
The industry associations have approached the government with their grievances and they expect some measures to be taken to mitigate the challenges posed by Section 43B(h) and to lead to smoother operations and better compliance. Palak Ratwani informs, "From the policy perspective, a modification in Section 43B(h) may provide a more practical solution. The government could revise the rule to allow the 45-day period to begin from the date of acceptance or acknowledgment of goods and services, rather than from the invoice date. This change would better reflect the realities of business operations and ensure that companies are not penalized for procedural delays that are beyond their control."

She suggests following modifications to Section 43B(h):

- Providing flexibility in payment timelines while still ensuring timely payments to MSEs. Extension of compliance timeline to further one year.
- Conducting a comprehensive review of the amendment's impact on businesses of all sizes to inform any modifications effectively.
- Consider extending the payment timeline under Section 43B(h) from 45 days to 60 days to accommodate operational realities and ease compliance burdens for businesses.

Rahul Mehta opines, "At CMAI, we believe this move is beneficial in the long run. However, two issues

Break-up of companies who have cancelled their Udyam registration





need to be addressed: all segments (including medium enterprises and traders) should be covered, and the implementation should reflect ground realities. We hope that once the new government is in place in June 2024, we can advocate for adjustments to ensure a more phased implementation. It is in our interest to reduce payment cycles.”

Raghuathan wants the government to make bill discounting as mandatory on regular supplies between the buyer & the seller. “As per the agreed time frame, the buyer bank can make the payment to the supplier bank on the due date and also report defaulter to the government directly. This will save the MSME owner being exposed for such complaints,” he observes.

Some experts believe that laws, including Section 43B(h), should allow buyers and sellers to determine their own payment terms. “Each trade has unique needs. For instance, in the case of capital goods supply, a buyer and seller might agree on an initial 50 per cent advance payment, followed by the balance after 6 months of trials and testing.

Therefore, legal frameworks should accommodate flexible payment terms, considering market dynamics and sector-specific variations. These laws should be robust and swift in addressing breaches of agreements rather than deciding payment terms and tenure,” says Rajiv Chawla.

He wants to extend the applicability of the 43-B Amendment to payments made to medium enterprises. “This will ensure equitable treatment of micro, small, and medium enterprises by buyers, preventing a preference for medium enterprises solely due to payment terms, he explains.

It is clear that the introduction of Section 43B(h) has disrupted the status quo and the new Union government may need to revisit the provision with a myopic eye after the elections.

With Finance Minister Nirmala Sitharaman, in a media interaction on 28 May 2024, hinting at the Centre’s willingness to reconsider the 45-day payment rule for micro & small enterprises (if the industry wants it), one can expect some modification or relief in the July budget.

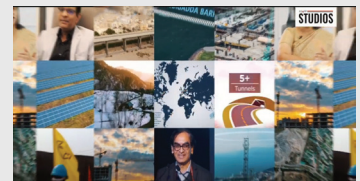
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COVER STORY: GUEST ARTICLE 

The Compliance Complexities!

Micro, small and medium enterprises (MSMEs) constitute a significant portion of India's economic landscape, employing millions and contributing substantially to GDP and exports. However, the sector grapples with a disproportionate regulatory burden hampering its growth, says **Rishi Agrawal, TeamLease RegTech**.



It is reasonable to predict that the Indian economy will soon surpass Germany and Japan to become the third largest within the decade. However, GDP of the \$10 trillion mark within this time frame needs reimagining the country's manufacturing capabilities, particularly in the MSME segment. There is a broad consensus that MSMEs are an engine of economic growth. They account for approximately 30% of the GDP, 36% of the manufacturing output and over 40% of the country's exports. There are over 63 million MSMEs in India, employing more than 190 million people. However, a staggering 98% of these are micro-businesses. A deeper dive into the data reveals that MSMEs bear a disproportionately high regulatory burden stunting their growth and forcing them to stay small and informal.

Complexity of regulatory obligations

It is observed that as a business transitions from an

informal one to formal, there is a sudden and steep rise in its regulatory obligations and cost of compliance. The current system unleashes a large number of compliances across seven broad categories of the law including Labour, Finance & Tax, Environment Health and Safety, Commercial, Secretarial, Industry Specific and General. The compliances include a variety of licences, registrations, permissions, consent orders, periodic returns, registers, challans, displays, payments among others. Many of them require interpretation of complex laws, deep knowledge of compliances, physical visit to the department, dealing with inspections among others.

For instance, an MSME pharmaceutical manufacturer deals with 998 unique compliances in a year. Approximately 50% of them carry clauses of imprisonment ranging between a few months to 10 years for contraventions. Similarly, a chemical manufacturer operating in a single state must deal with an average of

635 unique compliances. An automotive component manufacturer operating out of a single state deals with 489 compliances. Breaking down these compliances on the basis of their nature, type, and category can further unravel the inherent complexity of the regulatory framework.

Within the pharmaceutical industry framework, compliances stemming from central acts and rules make up the majority (57.5%) of the obligations. Among the 998 compliances, more than 200 regulations are around the maintenance of registers and records. Returns, filings, disclosures and display requirements add up to another 100+ obligations. The employer must further obtain and maintain 47 licenses, registrations, certificates, approvals, etc., to stay on the right side of the law. Categorising these compliances among the 7 broad categories, we gain a deeper insight into the regulatory cholesterol present within the ecosystem. Labour compliances alone account for 45% of the regulatory requirement. The manufactory must also abide by 287 industry-specific regulations. Manufacturing units are central to the business operations of SMEs and require the most time and effort to ensure compliance.

Understanding the burden

The Factories Act, 1948 and its subordinate state rules constitute the major part of the regulatory framework for these factories. Going back to the state of affairs within the pharmaceutical industry, they account for 164 of the 412 compliance requirements. These obligations include the maintenance of workers and wage registers, inspection books, and records of whitewashing/colour washing/varnishing, among others, is essential for regulatory compliance and accountability. Additionally, ensuring a steady supply of cool drinking water and whitewashing latrines and urinals every four months are critical measures for maintaining hygiene standards. Regular examinations of pressure plants, vessels, belts, hoists, and lifts are conducted to prevent accidents and ensure workplace safety. Annual checks on noise levels help mitigate potential hearing damage among workers. Health check-ups and record-keeping for employees handling hazardous substances are crucial for their well-being. Lime washing the internal walls of the canteen and restricting working hours contribute to a healthy and comfortable work environment. Proper treatment of wastes and effluents from manufacturing processes is necessary to minimise environmental impact. Regular cleaning of factory floors, canteens, latrines, and urinals maintains cleanliness and hygiene standards. Finally, conducting regular safety audits ensures that all safety protocols are followed and any potential hazards are identified and addressed promptly.

Factory owners must prioritise environmental protection and worker safety by placing fire extinguishers visibly, conducting regular maintenance, and maintaining records. They must also adhere to emission norms, properly manage waste disposal, and conduct environmental audits. Additionally, mandatory fire safety measures, including certifications, are required to prevent fire and explosion hazards within factory premises, consistently across industries and sectors.



As a business transitions from an informal one to formal, there is a sudden and steep rise in its regulatory obligations and cost of compliance.

Critical areas

Enterprises with just a single manufacturing unit face about 50 display requirements. These include displaying registrations, abstracts of legislations, standing orders, employee-related social security rules, safety signboards, labels on hazardous substances, and identification marks on equipment, among others. Employers are also required to maintain wage registers, muster rolls, leave and attendance registers, temperature registers, and records of waste disposal, among at least 40 other unique registers in various formats. SMEs must also wade through the swamp of the 21st-century licence raj. On average, enterprises have to obtain at least 30 different licenses, registrations and approvals from various authorities. These include EPF and ESI registrations, land registrations, trade licences, environment clearances, factory licences, permanent power, water and sewerage connections from municipal corporations, and vehicle registrations, among others.

Furthermore, over half of the business regulatory laws carry imprisonment clauses, with 2 out of 5 compliances imposing jail terms for violations. This high intensity of criminalisation stems from the blanket application of criminal penalties without adherence to principles of 'necessity' and 'proportionality'. Failure to provide adequate drinking water facilities in a factory under the Factories Act, 1948 can attract a punishment equivalent to death due to negligence under the Indian Penal Code, 1860. 'The Jan Vishwas' (Amendment of Provisions) Act, 2023 was another momentous milestone in the journey of decriminalisation. However,

the business regulatory framework is still fraught with imprisonment provisions that continue to worry employers.

SMEs grapple with multifaceted regulatory challenges spanning various categories, types, and levels, compounded by a constantly evolving regulatory landscape with over 8,300 updates annually across 2,000 websites. Navigating compliance is further complicated by the absence of tailored regulation lists, with sectors like chemicals, automotive, and pharmaceuticals facing unique obligations. SMEs often lack the capacity to manage licenses and approvals efficiently, relying on manual processes that hinder compliance. Cultivating a culture of compliance within senior management is vital for instilling accountability and collective responsibility among employees.

Another complexity that affects the capabilities of SMEs in addressing their compliance needs is scale. While they have lower compliance requirements because of the smaller scale and size of operations, they are not able to afford large teams to handle their compliance needs. As such, they end up outsourcing their compliance operations to labour consultants, direct and indirect tax consultants, EHS consultants, and practising Company Secretaries. These consultants continue to rely on manual, people-dependent, paper-based processes, with the majority of the work being done on an ad-hoc basis. Furthermore, these consultants also possess a large amount of sensitive personal information related to employees and customer data. Without a robust data protection protocol in place, this data becomes vulnerable and an easy target.

The recently introduced Digital Personal Data Protection Act, 2023 addresses this regulatory arbitrage around data protection. It lays down the obligations and responsibilities of entities that collect, store, and process large amounts of personal data. Once the regulations and rules under the act are introduced, these consultants and SMEs, by extension, will be required to adhere to the stricter data protection framework.

Building a compliant culture

In such a complex regulatory environment, the onus lies on SMEs to strengthen their compliance management. Going digital is the most critical step towards safeguarding against lapses, delays and defaults. Digitalisation gives employers better visibility

Fact File

- The disproportionate burden of regulatory compliance on MSMEs, with micro-businesses constituting 98% of the sector, highlights the need for reimagining the regulatory framework to foster growth and formalisation.
- The staggering number of compliance requirements faced by SMEs, such as 998 unique compliances for a pharmaceutical manufacturer and 635 for a chemical manufacturer, highlights the complexity and scale of regulatory obligations they must navigate.
- The transition from manual, paper-based compliance processes to digital solutions is a critical step for SMEs to enhance visibility, control, and efficiency in compliance management, ultimately reducing the risk of lapses, delays, and penalties.

and increased control over compliance functions. Compliance technology has replaced traditional manual compliance processes with unique features, including customised checklists, real-time regulatory updates, automated alerts and reminders, and periodic analytics. SMEs can now track and manage their compliance requirements and any changes brought about by regulatory updates. These solutions are helping enterprises to shift from ad-hoc, manual, paper-based, and people-dependent compliance to paperless, presence-less, and cashless compliance processes. Technology is reducing the cost of compliance for enterprises and the instances of poor compliance, consequently reducing their exposure to fines.

There needs to be a concerted effort to establish collective responsibility by decentralising compliance tasks. By 2047, India will be the home of every 1 in 5 working-age individuals worldwide. We are in our 'Amrit Kaal', and marching towards becoming the 'Factory to the World' and a \$40 billion economy.

SME

About the author:

Rishi Agarwal is the Co-founder and CEO of TeamLease RegTech, leading India's Regulatory Technology (RegTech) landscape, revolutionising compliance management for over 1500 companies. He champions tech-driven solutions, envisioning a reimagined regulatory environment for India, where compliance becomes seamless and effortless. Prior to

his entrepreneurial journey, Rishi spearheaded technology initiatives at The Bank of New York Mellon, with over five years of experience in global technology leadership roles.





The Twin Advantage

The intersection of 3D printing and laser cutting remains a niche area. However, it should gain prominence when people learn about use cases that demonstrate versatility and viability, says **Emily Newton**.

Although 3D printing and laser cutting are two distinctive manufacturing methods — the former is additive and the latter is subtractive — some people have developed creative ways to use both in their projects. Which possibilities have they explored so far and what makes this a winning combination?

Creating user-customised products

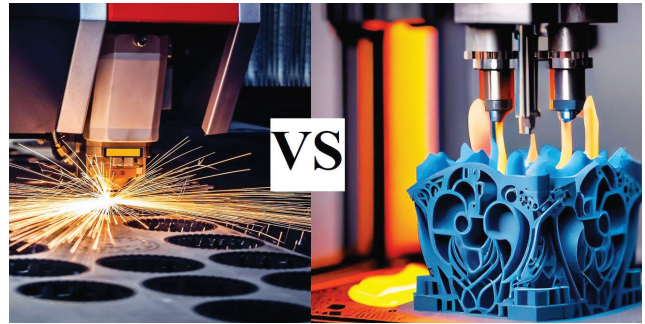
Traditional methods of manufacturing customised equipment are often prohibitively expensive, and require specialised equipment or skills. 3D printers dramatically changed that because they provide quick ways to create personalised products. Then, professionals can manufacture specialized items much faster and more economically. Some 3D printing companies also offer in-house prototyping of custom medical items, filling gaps created when conventional products do not meet patients' needs.

Combining 3D printing with laser cutting gives further customization options. In one recent example, Nils Sorger used the two methods to make an elbow brace during an internship at a German product design agency. This project relied on a scripted algorithm that creates the wearable product based on a user's measurements and other individualized data. Sorger found combining 3D printing and laser cutting made complex shapes and structures that were difficult to recreate with conventional methods.

Manufacturers have already recognised how 3D printers help them use multiple materials in single projects. That capability was especially desirable for this elbow brace since laser cutters do not always have the same adaptability. While searching for optimal materials, the designer tested more than 70 fabric types, searching for those best suited to the laser cutter. The ultimately chosen option was a four-material blend that provided ample stretchiness for prolonged user comfort.

Additionally, the design process involved creating small, shaped pads with fused deposition modeling. This 3D printing method supported efficiently making accessories for inside the brace, facilitating comfort and movement.

An app walks people through taking their measurements, and then those parties can either create the brace on their 3D printers or order it for delivery.



The option to make it at home reinforces the convenience tabletop printers and laser cutters provide.

Fabricating satellite sensors

Manufacturing on an industrial scale requires precise conditions, which people often achieve with specialised equipment. For example, industrial laser chillers provide heat management for cutting equipment, preventing beam fluctuations and facilitating cleaner results for better quality control.

Researchers are eager to learn new ways of reliably creating equipment for mission-critical use cases. Finding the right setups and techniques could allow fabricators to boost output and reduce errors. One case of combining 3D printing and laser cutting originated at MIT and involved creating satellite sensors for orbiting spacecraft.

The hardware was economically and efficiently produced, and performed as well as cleanroom-manufactured sensors. Those usually have production timelines of weeks and are expensive. However, experts can make these for less than \$100 in a few days.

3D printing was the main manufacturing method, and the team used a glass-ceramic material more durable than traditional sensor materials. They applied a technique typically used when working with plastics to make their sensors in complex shapes while ensuring the creations could withstand the demanding conditions of their anticipated use cases.

The sensors also have electrically charged perforated mesh. As plasma passes through it, the process strips away electrons and other particles, leaving only ions that create an electric current for the hardware to measure.

This hardware requires electrically insulated housing

to keep the mesh aligned. The researchers used laser cutting to make the mesh with unique shapes that would line up perfectly with other sensor components once positioned.

The method's speed and cost-effectiveness allowed the team to make and test four designs.

They also envisioned that other researchers could use this approach to streamline similar iterations.

Combining manufacturing methods in single machines

Some companies offer machines that can handle 3D printing, laser cutting and more. These options are especially attractive to professionals who regularly use multiple methods or do not have enough space to accommodate several equipment models. One such machine includes a dual-extrusion 3D printer, CNC router and diode-based laser engraver, complete with quick-change hardware to support seamless transitions between the three methods.

Another option is a 3D printer and laser engraver that attracted significant attention during its crowdfunding campaign. A switchable module allows people to go from 3D printing to laser engraving.

These possibilities cater to serious hobbyists who do not produce items on the industrial scale but are ready to branch out beyond one method. They also expand options for making products requiring 3D-printed and laser-cut components. Alternatively, if someone already knows one of these manufacturing methods and feels curious about trying the second, these machines give an accessible option.

Pushing manufacturing forward

Manufacturing has always relied and thrived on people willing to explore and push the boundaries of current methods. These pioneering examples show how strategically using laser cutting and 3D printing can pay off in convenience, cost savings and efficiency.

The intersection of 3D printing and laser cutting remains a niche area. However, it should gain prominence when people learn about use cases that demonstrate versatility and viability.

SME

About the author:

Emily Newton is a tech and industrial journalist and the Editor-in-Chief of Revolutionized magazine. Subscribe to the Revolutionized newsletter for more content from Emily.

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“EMAG Machines Play a Vital Role in Meeting EV Demands.”

EMAG India Pvt Ltd, a part of the Germany based EMAG Group that covers the entire spectrum of machining processes in the metalworking industry, has made significant strides in enhancing its service offerings in the recent years. In conversation with Rakesh Rao, **Gujuraj Patil, Managing Director, EMAG India**, explores trends in the machine tool industry and new opportunities for EMAG.

How do you see the journey of your company since its inception?

EMAG India has evolved alongside the manufacturing landscape of our nation. Starting as machine tool traders, we have transformed into a manufacturing partner for our clients. From a spare part warehouse in Bengaluru, to the introduction of an application engineering facility, we have strengthened our customer support teams, and enhanced the re-tooling capabilities of our teams



machine combines turning and grinding operations within a single enclosed machine. This was unthinkable a few years ago.

Which non-automotive industries are driving the demand for your products & solutions?

Non-automotive sectors like defence, aerospace, railways, and electronics are significant drivers of demand. Additionally, components for infrastructure and agriculture sectors, such as pump and off-road vehicle parts, contribute to our market growth.

Could you please share with us some of the new developments in your company in the last two years?

We have inaugurated a state-of-the-art spare part facility in Bengaluru, to address critical spare part needs promptly. Additionally, we have installed a live mock-up of our VL2 machine at our tech centre, allowing customers to experience our machining capabilities first-hand. We have also expanded our portfolio to include EV and Non-EV transmission parts.

What are key trends in the machine tools industry, particularly in your segment?

The machine tools industry, especially in our segment, is witnessing notable trends. There is a discernible shift in focus within the auto component sector, transitioning from IC engines to electric vehicles (EVs). There is a growing demand for tighter tolerances in non-auto industries, driving the need for advanced machining solutions.

How is the demand from the automobile and auto component industry?

Currently, one needs to produce high quality parts for all the OEMs, India or abroad. The EMAG GT

How are factors like automation and sustainability influencing customer demand and your product offerings?

Automation is becoming increasingly crucial, with EMAG offering it as a standard feature. Post-COVID, automation has gained momentum, aligning with our philosophy of reducing human error in the manufacturing process. Sustainability is also a key focus. We support eco-friendly manufacturing practices.

What are some of the key challenges faced by SMEs like yours?

While the ease of doing business has improved, SMEs still encounter hurdles, especially concerning high taxation, compliance, and regulatory frameworks. Simplifying these processes would aid in SME growth and development.

What are your growth plans for the future?

We are focused on expanding our capabilities in application engineering, re-tooling, and machine retrofitting. Our aim is to streamline processes and reduce turnaround times for our customers, ensuring seamless operations and continued growth.

MURATEC Automated Turning Solutions

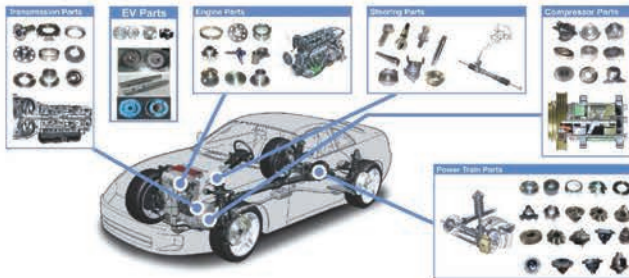
Muratec has been a global leader in supply of Turning machines with advanced automation solutions. It is fully prepared to provide the most appropriate level of automation solution to meet the growing demand in India for single piece flow to medium to high volume global supply market combined with high precision standards.

Our MW/MS Series Twin and Single spindle automated turning machines and MT series Turn - Mill centers have more than 10,000 installations worldwide. We are proud to say that, "MURATEC MOVES YOUR CAR".

MURATEC Machines are available in wide range of chuck sizes: capacities ranging from 6" to 15" chuck size. These advanced, precision turning machines come with highly reliable, integrated, intelligent CNC 3 axis servo controlled gantry loader for smart, fully automated, flexible workpiece load/unload operations. Complete solution includes machine plus peripherals and options to achieve full automation for unmanned operations on 24 x 7 basis, standardized and customized units to JUST-FIT the customer's productivity needs.

Machines for Automotive and Non-Automotive Applications

Turnkey Solutions for Automotive Parts



MT200

High Productivity
Multi-Tasking
Machine



New



MURATEC Solutions for Sheet Metal Punching

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MOTORUM

MOTORUM series punch presses are available in various models to meet diversified needs of sheet metal industry. These machines are worldwide popular for its design features, rigidity, high speed productivity, environment friendly design features of minimum power consumption, low noise and high profitability to customers. MURATEC the leading name in automation is fully prepared to offer sheet metal automation solutions to meet the growing production demands in India.

M3048TG with FS2512

The new 300kN Solution Latest Technology from the Inventor of the Servo Turret Punch Press



BB4013

Muratec Ball Screw Press Brake BB4013 is driven by AC servo motor & ball screw mechanism



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“The Future of Machine Tools Lies in Smart Systems.”

The Bengaluru (Karnataka) based Trishul Machine Tools Pvt Ltd is known all over India and world for manufacturing advanced polygon turning machines. In a candid conversation, **C S Shiva Shankaraiah, Managing Director, Trishul Machine Tools Pvt Ltd**, delves into the company's journey and emerging prospects for its future growth.

How do you see the journey of your company since its inception?

Since our establishment in 1994, Trishul Machine Tools Pvt Ltd has experienced significant growth, now producing approximately 60 - 80 polygon turning machines annually. We began with TPT 2S and TPT 5S models and have expanded into ball turning machines. Our reach extends to 14 countries globally, and we continually upgrade our machinery with advanced controllers for enhanced monitoring and production efficiency.



Could you please share with us some new developments in your company?

Recognising the market demand for improved ball turning machinery, we have developed a robust and highly efficient machine, setting new industry standards. Additionally, we have integrated advanced controllers into our latest machines to stay at the forefront of technology.

What are the key trends in the industry?

The future of machine tools lies in smart, interconnected systems with reduced error rates. We are witnessing a trend towards incorporating advanced software through IoT 4.0 modules.

How is the demand for your products & solutions from the automobile and auto component industry?

The automobile industry, particularly post-COVID, has shown increased demand for our polygon turning machines, especially the TPT 5S model, due to the introduction of new car designs and components. We anticipate further demand as the industry shifts towards electric and lightweight vehicles.

Which non-automotive industries are driving the demand for your products & solutions?

The aerospace industry has emerged as a significant driver of demand for our products, fuelled by the post-COVID resurgence in travel and the aviation sector. This growth presents new opportunities for expansion into diverse sectors.

How are factors like automation and sustainability leading to changes in the

industry?

Automation and sustainability are reshaping customer expectations, necessitating remote monitoring capabilities and rapid issue resolution. Our adoption of advanced controllers enables us to meet these demands while enhancing sustainability efforts.

What are the key challenges faced by SMEs like you?

Competing with global MNCs for skilled labour and managing rising costs pose significant challenges. Compliance with regulations, including taxes, GST, licenses, and environmental standards, further adds to the complexity of SME operations.

What are your growth plans?

A: Post-COVID, Trishul Machine Tools aims to capitalise on market opportunities by expanding domestic manufacturing capacity, particularly for in-demand products like ball turning machines. We also plan to venture into new sectors such as EV manufacturing, while prioritising automation and the integration of AI, IoT, and machine learning technologies.



► **Machining**

Flooding | Circulating | Grinding |
Chip Conveyor | Filtration

► **High Pressure Cooling**

Through Tool | Washing | Filtration

► **Oil Skimming**

Belt | Disc

► **Refrigeration / Temperature Control**

Printing | Packing | Welding | Mold Temperature

► **Media**

Water | Coolant | Chemicals | Oil |
Ink | Varnish | Washing Solution

► **Pump with BLDC Motor**



“The Demand for Sustainable Automation is Growing.”

Established in 2004 in collaboration with Muratec, Meiban Engineering Technologies Pvt Ltd boasts a proud legacy of 17 years in the industry. Specialising in automation and turnkey projects for manufacturing automobile and sheet metal components, Meiban offers a comprehensive range of solutions. **Rakesh Rao** interviews **A V Srinivasan, CEO, Meiban Engineering Technologies Pvt Ltd** as he delves into the company's journey, its association with Murata Machinery and future growth plans.

How has the journey been since the beginning of the company?

Meiban has commenced 20 years this month, and is happy to achieve this milestone. In the last fruitful 19 years, we have grown from a team of 3 to 45 members. Beginning from a small office in Bangalore to now having; headquarters, a tech centre and unit-2 in Bangalore, offices in Chennai and Delhi and engineers based in Mumbai, Pune, and Ahmedabad. Our footprint has increased from 200 machines to 1000 machines in both metal cutting and metal forming put together. The journey has been very challenging, yet extremely fulfilling. Thanks to our customers and steadfast support from Muratec, during all these years, Meiban has grown region wise, customer wise and application wise.

How has Meiban's association with Murata Machinery benefited customers and industry?

Murata is a highly customer focused company, where the customer is the centre of every decision. Meiban, being an associate company of Muratec Japan, follows the same philosophy. Working hand in hand with Muratec Japan our goal of growth is customer satisfaction as well. This reflects in terms of numbers, as 70 per cent of our sales come through repeat orders every year. Indian industries have also benefited with our close working with Muratec Japan, as we bring a lot of solutions for some demanding production requirements. These solutions to Indian industries have made them more competitive and technically advanced to compete globally.



What are some of the new developments in your company in the last two years?

Meiban is continuously trying to improve the localisation percentage in the products, and has strengthened the engineering team not only in Bangalore but elsewhere as well.

In addition to this, we are able to offer automation for sheet metal machines more effectively and economically, especially to suit the Indian market. Meiban has also recently forayed into non-automotive markets.

What are some of the key trends Meiban has observed in the Indian machine tools industry?

The Indian manufacturing industry is growing faster than before, and they are able to compete globally. This requires the machine tool industry to raise to the standards required by the manufacturing industries.

We observe that the machine tool industry is more focused on providing end to end solutions to customers, rather than selling the stand alone machines. Meiban also sees a larger focus on automation for various applications. The Indian machine tool industry is adapting very fast.

How is the demand for your deliverables from the automobile and auto component industry? How is Meiban preparing for trends like electric vehicles and light weighting in this segment?

The demand for our products is still quite good in the automotive industry, especially for internal combustion

engines. However, the future is electric and we recognise that. Hence, Meiban is closely working with our customers to develop new solutions for EV parts. We are committed to innovation and are confident that we can continue to be a leader in the automotive industry, regardless of the type of engine that powers the vehicles of the future.

Which non-automotive industries are driving the demand for your products' solutions? How do you see sectors like railways, defence & aerospace, electronics, etc as the potential growth propellers?

Non-automotive applications like hydraulics, pneumatics, valves, off-road, construction equipment, medical, aerospace are the sectors which are driving demand.

At the same time, several infrastructure sectors like railways, defence, aerospace and electronic white goods are also growing. We expect good growth close to double digits percentage for next few years at least.

How are factors like automation and sustainability leading to changes in customer demand and solutions offered by Meiban?

Meiban has always been ahead of the industry when it comes to offering automation solutions for our customers. The early adoption of these futuristic solutions is helping us in the present situation.

We are also seeing that the demand for these sustainable automation solutions are increasing day by day.

Muratec too looks at this challenge as a great opportunity and is currently working with customers for solutions which meet their needs.

What are some of the key challenges faced by SMEs? Is compliance in relation to various regulations such as taxes, GST, licences, environmental, quality control, one of the major hurdles for the growth of SMEs?

There are hurdles in every industry. We as SMEs see greater benefits after the introduction of GST in India. We are able to sell anywhere in India without needing to deal with a lot of paperwork. Moreover, The machine movements have become both, better and quicker.

What are Meiban's growth plans?

We are working with Muratec Japan for the next 3-5 years and are aiming to achieving a double digit CAGR every year. This goal is in line with the growth rate in our industry.

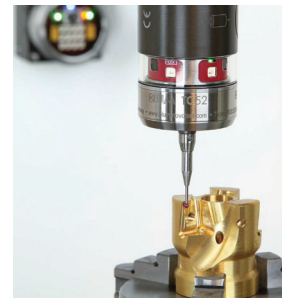
SME



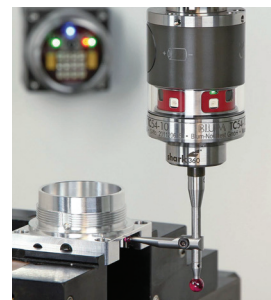
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“Machine Tool Industry is a Key Customer Base for us.”

While the machine tool industry offers a huge growth opportunity, it also faces various challenges. With its advanced solutions, Eplan Software Pvt Ltd (Eplan India) has been helping the industry to handle these issues successfully, enhancing its competitiveness globally for sustained growth. In this interview with **Rakesh Rao, Umesh Pai, Managing Director, Eplan India** explores recent developments and the effect of emerging trends on the Indian machine tools industry.

How has Eplan’s journey in India evolved?

Our journey in India has been remarkable. Since our early presence in the 2000s, we have seen steady growth, but establishing our direct entity in 2017 was a pivotal move. This decision led to phenomenal growth, almost tripling our business in six years, showcasing robust strategies and dynamic market potential.

A key driver of this growth has been our subscription-based model, offering customers flexible, cost-effective solutions while creating a steady revenue stream. Coupled with our focus on customer centricity, we have built strong, lasting relationships by understanding customer needs and delivering value.

Expanding our domestic footprint has been a significant focus, broadening our reach across India and making us more accessible. We have also started offering services to Eplan’s global subsidiaries, leveraging India’s exceptional engineering talent and showcasing it globally.

Our product and solution offerings continually evolve to meet market needs. We enhance existing products and develop new solutions, addressing emerging industry trends and challenges. Diversifying the end-user industries we serve has been crucial; we have expanded from manufacturing and automotive into sectors like energy, aerospace, and construction.

Strategic collaborations with global players have brought cutting-edge technologies and practices to our Indian customers, helping them stay competitive.

We are incredibly optimistic with the strides we have made. The focus on innovation, customer satisfaction,



and strategic growth, are promising about the future opportunities that lie ahead.

What are some of Eplan’s recent developments?

In response to the pandemic, Eplan has advanced the transition to a subscription-based business model. Since August 2021, we have fully embraced this model, aligning with the broader software industry trend. This shift has been transformative for both, us and our customers.

The subscription model offers unprecedented flexibility. Customers can on-board our solutions at their own pace, scaling usage based on immediate needs and long-term goals. This adaptability has been valuable during uncertain times, providing assurance without significant upfront investments.

This model also enhances our accountability for customer success. We are committed to continuous improvement and delivering on-going value, ensuring our solutions evolve to meet changing needs. This customer-centric approach has strengthened our relationships and built greater trust.

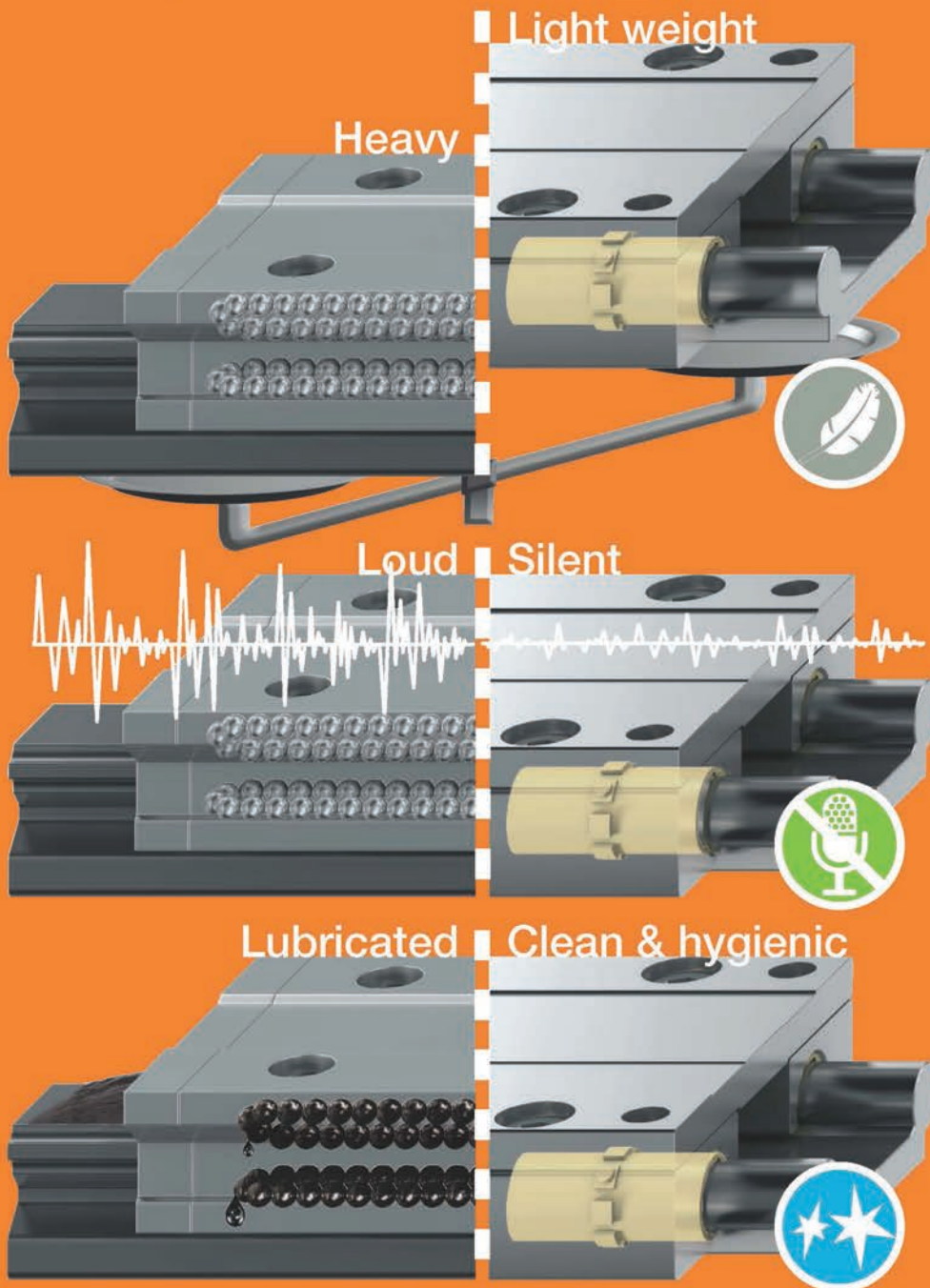
We have expanded our product offerings and services, introducing new features and enhancements to our software. Our focus is on improving the user experience, increasing efficiency, and integrating cutting-edge technologies to keep customers at the forefront of innovation.

Additionally, we have leveraged exceptional engineering talent in India. Our Indian team supports Eplan subsidiaries worldwide, showcasing the quality and reliability of Indian engineering globally.

The pandemic posed challenges but also spurred us

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to innovate and adapt. With our subscription model, enhanced offerings, and global reach, we are well-positioned for sustained growth and success. The future holds numerous opportunities, and we are excited to continue our journey of innovation and customer-centric growth.

How have recent industry trends affected business?

While Eplan isn't directly involved in the machine tool industry, it is a crucial customer base for us. Key trends like innovation, standardization, and custom-built machines, along with additive manufacturing, are reshaping the sector.

Our offerings extend beyond software packages. We are committed to sharing global best practices with Indian customers, enhancing their competitiveness. Our solutions boost efficiency, accuracy, and integration, keeping them ahead in a fast-evolving market.

A major challenge is the scarcity of trained manpower, especially in the Indian industry. High attrition rates disrupt operations. We address this by working closely with the industry, employing comprehensive consulting practices like Knowledge-Based Engineering (KBE). This allows clients to capture and reuse expert knowledge, lessening dependency on individuals and mitigating the attrition impact.

Our training programs up-skill the workforce, providing the latest tools and techniques. A well-trained workforce is vital for industry success, and we are committed to contributing through our initiatives.

In summary, while challenges exist, the machine tool industry offers growth and innovation opportunities. Eplan is strategically positioned to support this sector with advanced solutions and by addressing the critical issue of skilled manpower shortages. We are confident in the future and dedicated to helping our customers navigate successfully, ensuring sustained growth and competitiveness globally.

How are factors like automation and sustainability leading to changes in customer demand and solutions and products offered?

The automation industry stands on the brink of a profound transformation, propelled by the swift integration of cutting-edge technologies such as AI, AR/VR, and more. This industry is our forte, with global automation giants among our key clientele, alongside close collaborations with start-ups to fuel innovation. In India, we are witnessing a notable upsurge in robotics technology, warehouse and intra-logistics automation, port automation, and other advanced automation solutions.

Factors like automation and sustainability are reshaping customer expectations dramatically. Our clients increasingly seek solutions that not only bolster operational efficiency and trim costs but also champion sustainable practices. The surge in robotics and smart automation is spurring demand for sophisticated, integrated systems capable of optimising workflows and curbing human error. Moreover, there is a burgeoning emphasis on sustainability, driving customers to favour eco-friendly and energy-efficient products that minimise environmental footprints.

These shifts in automation and sustainability are precipitating substantial changes in customer demand and, consequently, our product offerings. At Eplan, we stand to tackle these challenges head-on, armed with a suite of innovative, efficient, and sustainable solutions primed to propel our clients to success.

How is Eplan gearing up for trends in the automobile and auto component industry?

While Eplan doesn't directly position its products within the automotive or auto component industry, these sectors are of strategic importance to us, particularly concerning their plant and operations ecosystems.

What is Eplan's vision for the future?

As a technology provider, we see significant growth prospects in India, driven by the country's dynamic economy and emerging opportunities. We have aggressive investment plans in sales and support, aiming to triple our business in the next decade. We believe India is at an inflection point, presenting abundant opportunities for both Indian and multinational companies.

Our approach is not just about numbers; it is about people. We see ourselves as enablers, here to support both Indian companies and multinational giants in navigating this exciting journey of growth. That means not just selling products, but also providing the knowledge and support needed to thrive in this rapidly evolving landscape. This includes adding new product ranges, targeting new sectors, and investing in R&D.

We are committed to leveraging our expertise and resources to support India's growth trajectory and contribute to its economic development. By aligning our growth plans with the evolving needs of the market, we aim to play a pivotal role in shaping the technological landscape and driving innovation across industries.

Our growth plans are driven by a vision to create value for our customers, partners, and the broader ecosystem. We are expectant about the journey ahead.

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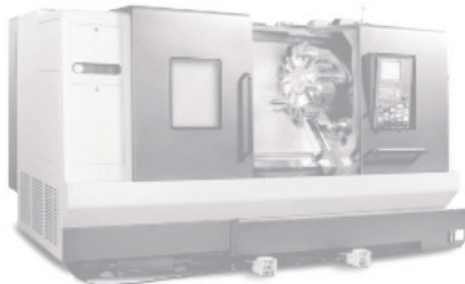
More than 4.0 lakh static holders in field

A N Y	CNC TURNING
	CNC TURN MILL
	MAKE / MODEL
	TURRET
	TOOL HOLDER



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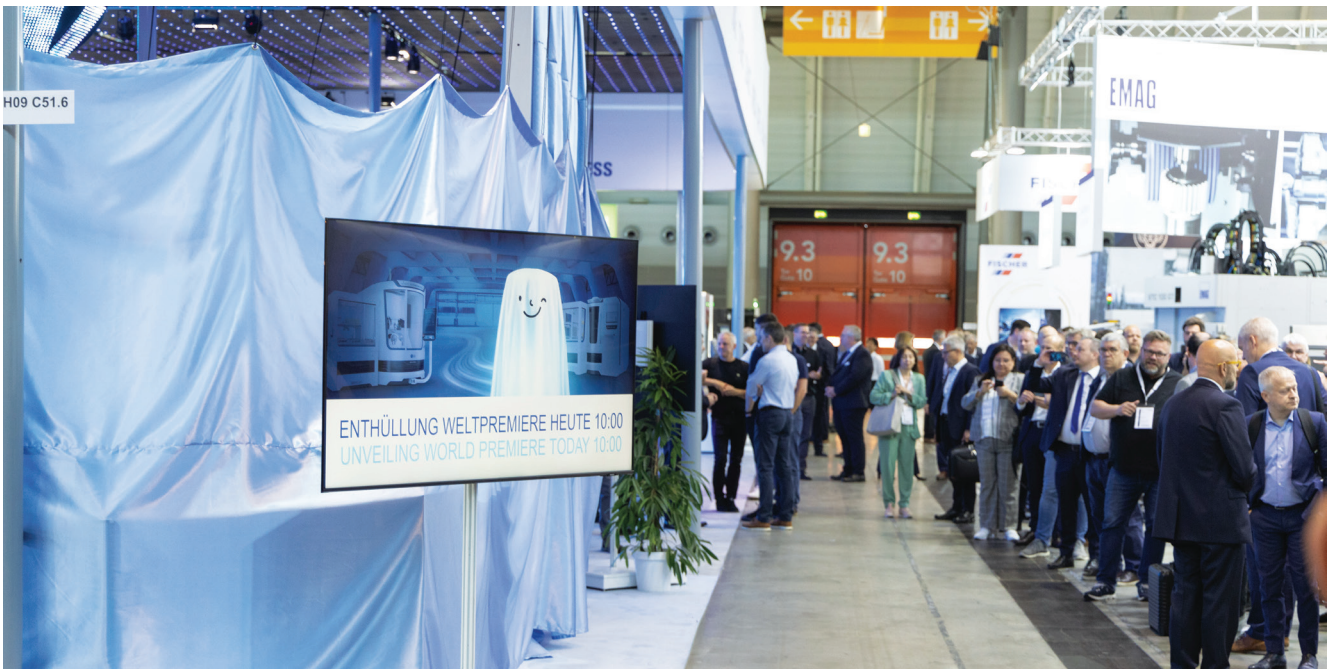
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United Grinding: Showcasing excellence in grinding!

At GrindingHub 2024, the United Grinding Group unveiled a mobile transport robot that effortlessly maneuvered between the Helitronic Vision 400 L high-end tool grinding machine and the fully automatic Helicheck Plus measuring machine.



The GrindingHub trade show provided an ideal platform for visitors to explore the group's latest technological advancements, showcased across an impressive array of 12 machines encompassing the realms of grinding, eroding, lasering, measuring, and additive manufacturing.

The United Grinding Group unveiled a groundbreaking automation solution in the field of tool machining at the prestigious GrindingHub trade show, held from 14 May to 17 May, 2024 in Stuttgart, Germany. Under the theme 'Stay Connected', the company captivated visitors with a host of innovative connectivity solutions.

A significant highlight of the event was the introduction of the Walter innovation by the United Grinding Group. On the opening day, a multitude of eager attendees flocked to the group's trade show booth, eagerly anticipating the unveiling. At precisely 10 a.m., the covers were ceremoniously removed, revealing an awe-inspiring sight—a mobile transport robot that effortlessly maneuvered between the Helitronic Vision 400 L high-end tool grinding machine and the fully automatic Helicheck Plus measuring machine. This

revolutionary automation solution, aptly named 'Automated Tool Production' (ATP), enabled the seamless loading and unloading of cylindrical precision tools.

Technological Advancements

Boasting a front-accessible robot cell and a mobile transport robot responsible for ferrying workpiece pallets and individual components between storage and processing stations, this cutting-edge system seamlessly integrated into existing setups, including machines from third-party suppliers.

In addition to the ATP system, Walter astounded attendees with another game-changing innovation—the introduction of laser technology through the all-new Vision Laser machine. This remarkable machine was primarily designed for machining cutting tools with

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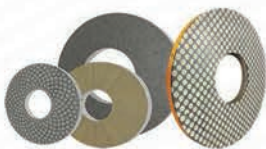
- For super finishing operations.
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inserts and harnessed the power of an innovative, highly reliable, and industry-proven laser system. Equipped with encapsulated optical modules, the Vision Laser machine ensured exceptional machine availability and performance in day-to-day operations.

The GrindingHub trade show provided an ideal platform for visitors to explore the group's latest technological advancements, showcased across an impressive array of 12 machines encompassing the realms of grinding, eroding, lasering, measuring, and additive manufacturing. BLOHM, a prominent brand within the United Grinding Group, captivated the audience with its unveiling of the tool changer for the Planomatxt. This unique and cost-efficient solution revolutionised the automatic changing of grinding wheels in the surface and profile grinding market segment. Meanwhile, STUDER showcased its cutting-edge automation system, insertLoad, which masterfully combined the advantages of standardisation and flexibility. The insertLoad facilitated the automated loading and unloading of the S31 and S33 cylindrical grinding machines. Simultaneously, IRPD made waves with its revolutionary machine development in the field of additive manufacturing—the Impact 4530. Hailed as the first industrial additive machine tool 'Made in Switzerland', this ground-breaking creation boasted remarkable attributes such as high repetition accuracy, user-friendliness, and the ability to manufacture metal parts. The IMPACT 4530 set new benchmarks in terms of accuracy, quality, and scalability within its market segment.

Connectivity Solutions

Under the overarching theme of 'Stay Connected', the trade show appearance went beyond showcasing cutting-edge innovations. Visitors were also treated to a comprehensive overview of the group's connectivity solutions. These included an assortment of digital customer care solutions, the state-of-the-art digital assistance systems offered by United Grinding Digital Solutions™, and the universal, manufacturer-independent umati data interface. The umati interface served as a pivotal tool for connecting the group's machines, as well as third-party machines, with their respective production environments, unlocking new levels of efficiency and productivity.

Interactive Activities

Amidst the electrifying atmosphere, a touch of excitement was added to the proceedings as four fortunate individuals emerged victorious in a C.O.R.E. panel game, earning themselves a coveted PlayStation PS5. Congratulations were in order for the winners, who not only revelled in the group's innovative technologies

but also walked away with a much-coveted gaming console.

In addition to the grand showcase of technological advancements, the United Grinding Group took the opportunity to hold a press conference at GrindingHub. During the conference, **Stephan Nell**, CEO, provided valuable insights into the company's business performance. Nell astounded the audience, comprising representatives of the international trade press, by stating that the previous year had been one of the three most successful in the history of the group. Despite the challenging economic and geopolitical climate, the group not only maintained its market-leading position in 2023 but also expanded it. However, Nell cautioned that the industry should brace for a potential decline in sales in the current year, aligning with the broader trends observed in the machine tool industry. Nell attributed this uncertainty to external factors and the intricate dynamics within different regions and industries. While acknowledging the difficulty of making accurate forecasts given the unpredictability of global events, he expressed optimism regarding an upswing in incoming orders towards the end of the year, offering a cautiously positive outlook for the future.

Commitment and Impact

During his presentation, Nell highlighted a notable regional shift in machine tool market volumes, drawing from an external market analysis. "As a group, we are also very aware of these shifts in volume and demand. In addition to our traditional home markets of Europe, particularly the DACH region, North America, and China, we are therefore intensifying our activities in South East Asia and have established a group branch office in Singapore. Eastern Europe has also moved into our strategic focus. We already intensified our sales activities there some time ago. We will gradually expand the regional diversity of our group, which has always been one of our great strengths, to remain close to our customers in the future and maintain the group's stable base. Based on how we are underway, I am optimistic about the future."

The United Grinding Group's remarkable presence at GrindingHub underscored the company's unwavering commitment to innovation, connectivity, and the agility to adapt to evolving market demands. With a strong emphasis on automation solutions and technological advancements, the group showcased its ability to remain at the forefront of the tool machining industry. The awe-inspiring innovations presented during the event, coupled with the comprehensive range of connectivity solutions, affirmed the group's position as a global leader in its field. The United Grinding Group left a lasting impression on attendees at the end of the GrindingHub.

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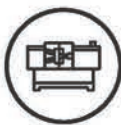
FA



ROBOT



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ROBOCUT



SERVICE



IOT



ACADEMY



PMTX 3.0 sets record; 15,000 visitors & 230 exhibitors

The third edition of the Pune Machine Tool Expo (PMTX) and the inaugural Factory Equipment Expo (FACTEQ), organised by the Indian Machine Tool Manufacturers' Association (IMTMA), drew significant attention at the Pune International Exhibition and Convention Centre.

Around 230 exhibitors and 15,000 visitors attended the third edition of Pune Machine Tool Expo (PMTX) and the first edition of the Factory Equipment Expo (FACTEQ), organised by the Indian Machine Tool Manufacturers' Association (IMTMA).

The event was inaugurated on May 25, 2024.

Farrokh N. Cooper, Chairman & MD, Cooper Corporation Private Limited, and **Amol Nagar**, Executive Director - Global Supply Chain GE Aerospace, Cincinnati OH, were the Guests of Honour. **S. S. Survase**, Joint Director of Industries- Directorate of Industries, Government of Maharashtra was the Special Guest. **Rajendra. S. Rajamane**, President, IMTMA, **Mohini Kelkar**, Vice President, IMTMA, **Rajesh Mandlik**, Chairman - IMTMA Regional Council (West), and **Jibak Dasgupta**, Director General & CEO, IMTMA also presided over the inauguration.

The expo, held at the Pune International Exhibition and Convention Centre, concluded on May 28, 2024. The event featured exhibitors from various regions of India showcasing technologies and solutions in metal cutting, metal forming, and factory equipment.

Speaking at the inauguration, Survase said, "Maharashtra is currently the largest GDP state as it contributes more than 15% to the Indian economy. The Government of Maharashtra is working towards the development of MSMEs, and a special cell is being set up for facilitating large and small investments including



foreign investments. There are about 18,000 industrial units that are exporting and there is big potential for industries to invest, the state government would extend all possible support."

"GE is a major player in the aerospace manufacturing segment having a market share of more than 60%. He added that the aviation industry's best practices could be emulated by manufacturing industries, especially on safety, quality, EHS, etc.", commented Nagar.

Talking about the legacy of Cooper Corporation, their long-term association with the Indian machine tool industry, and how the company has evolved from component manufacturing to engines and tractors over the years, Cooper commended IMTMA for its exceptional contributions to India's growth.

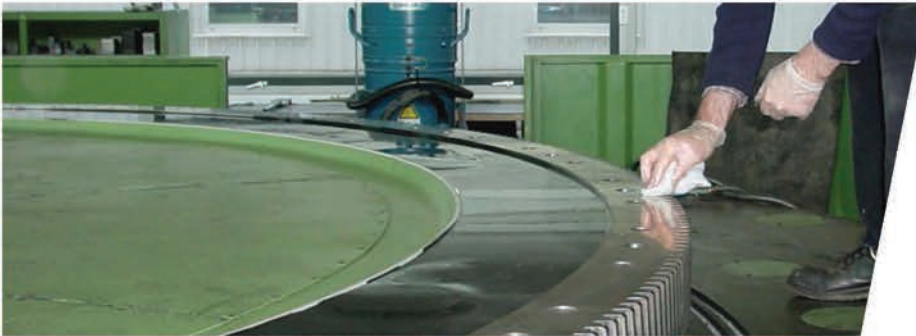
Speaking about the expo, Rajamane commented, "The Pune Machine Tool Expo is held to connect with industries at the regional level so that the cutting-edge technologies are taken to the doorsteps of the industries for their sustainable development. IMTMA has a significant presence of members in the Western region, specifically in Maharashtra and the Association works closely with the government to support the growth of industries in the state."

Comparing to the previous years, he concluded, "The expo has doubled in size and this is the largest machine tool show in the region."

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Go Zero Lubrication!

With \$990 billion spent on lubrication per year worldwide, igus, at Hannover Messe 2024, demonstrated who can do without lubricants immediately and the role AI plays.

Lubricants are as much a part of everyday industrial life as a cup of coffee every morning. Every year, \$ 240 billion are spent on lubricants across the globe. In addition, studies have shown significantly higher costs for maintenance personnel. Nevertheless, machine downtime worth \$ 750 billion occur every year due to inadequate lubrication. Igus now combines 60 years of motion plastics expertise with hundreds of thousands of test data and millions of applications in an AI that immediately takes users to lubrication-free movements in their systems. From excavators and agricultural tractors to water turbines, everything has already been successfully tried and tested. A study by RWTH Aachen University demonstrates the explosive nature of the topic. At the Hannover Messe, the plastics specialist presented 247 new products, showing that everybody can achieve 'zero lubrication'.

People discussing the most important innovations of the future rarely mention a lubrication-free world. However, a study by RWTH Aachen University is the first to prove the positive impact that lubrication-free plastics have on companies' profitability and sustainability. One example of a world-renowned beer-bottler shows: by using lubrication-free polymer bearings in all conveyor belts at its 160 sites, the company was able to save Euro 6 million a year otherwise spent on lubricant and staff. The positive environmental impact is also considerable: At the same time, annual CO₂ equivalents totalling 28,814 kg could be saved. At Hannover Messe 2024, igus showcased hundreds of proven applications that operate completely without lubrication for as long as the machines were designed – and often even longer. New products are constantly expanding the industry's possibilities, whether for linear guides, rollers, gears or gearboxes.

A clean revolution with AI

"Igus, make my excavator lubrication-free!": The prototype's new version of the igusGO app, which was presented for the first time last year, makes this possible. By voice, photo or text, users are now immediately shown the proven solutions for various points in their excavator and 600 other applications. If they cannot find their application, they can request it via AI chat in the app and are guaranteed to receive an answer. The



Revolution in industry: At this year's Hannover Messe, igus showed who can immediately do without lubricants and role played by AI in this.

artificial intelligence (AI) is based on data from millions of applications of igus products over the past decades. It also provides functions for determining the application's service life in their individual scenario - based on hundreds of thousands of test values from the in-house laboratory, which igus describes as the largest of its kind in the world. "Today's role of AI is overwhelming. All of a sudden, we can turn all the 'zero lubrication' proof of the last decades into a safe and simple tool for everyone in the industry," said Tobias Vogel, CEO of Plain Bearings and Linear Technology at igus.

Another brand-new feature is the calculation of saved lubricant in the igusGO app, which is indicated when users select a plain bearing or gear, for example. The "Next Best Catalogue Part" AI service is also new. If customers upload the CAD file of a plain bearing they have designed, which is to be installed in a bicycle without lubrication, for example, the AI automatically displays the catalogue part that comes closest to the special part. By using the catalogue part, the customer not only saves costs, but also benefits from fast delivery times. For even greater functional reliability, igus is now extending its 4-year guarantee for chainflex cables to all other motion plastics products with an online service life calculation.

247 innovations for zero lubrication

In total, igus launched 247 new products in time for Hannover Messe 2024 - many of them in line with the

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principle "Go Zero Lubrication". Igus offers a further three product series of high-load plain bearings for construction machinery, cranes and agricultural machinery, all of which have been tested and proven in practice. One of them is based on regranulated igus plastics from production waste. The new PTFE- and PFAS-free materials for plain and linear bearings as well as a new slewing ring bearing made of 50 per cent wood and 50 per cent high-performance plastic are also important components for real sustainability. New, separable igubal flange mounted bearings reduce the time it takes to replace lubricated ball bearings by up to 80 per cent, for example in conveyor belts with bearings close to the motor. New 3D printing materials and liners combine freedom from lubrication with explosion protection ("ESD capability").

In the same way, a new series of linear systems in

hygienic design merges food suitability with 'zero lubrication'. In terms of intelligent condition monitoring, an abrasion sensor for spherical bearings now complements the existing smart plastics solutions for bearing technology. The final innovative example is a completely new evoloid gearbox. It works with electric drives with an 18:1 transmission in one stage, requires less installation space, costs 70 per cent less than metallic versions and requires no lubricating greases or oils. "We are looking forward to the dialogue with users at the Hannover Messe, where they can experience all of this live and try it out for themselves. We are certain that we can already avoid at least 10 per cent of global lubrication costs. And the 'Zero Lubrication' journey continues - we still have a lot of development work to do," said Tobias Vogel at the start of Hannover Messe 2024.

SME

News Snippet

Space scientists win igus' golden vector award 2024

The champagne corks are popping in Portugal, more precisely at the Institute of Astrophysics and Space Sciences (IASS) at the University of Lisbon. The researchers won the golden vector award 2024 for their MOONS spectrograph. Every two years, igus honours the most spectacular energy chain applications with this award - this year among 328 entries from 37 countries. The silver vector goes to the company TDK RF Solutions, which has developed a test rig for driver assistance systems, the bronze vector to MECAoctet for their movable nightclub ceiling. Bear Machines GmbH was delighted to receive the green vector for particularly sustainable energy chain applications for a machine that automatically recuts tyres.

How were galaxies formed? Where do exoplanets with life-friendly conditions exist? Answers are provided by the Very Large Telescope (VLT), one of the world's most advanced telescope arrays in the mountains of the Atacama Desert in Chile. It could look even more closely into space in the future. With the help of MOONS, a so-called multi-object and near-infrared spectrograph developed of the MOONS Consortium, where the Institute of Astrophysics and

Space Sciences at the University of Lisbon is part of.



The winners of the 9th vector award

The spectrograph has a field of view the size of the moon and can simultaneously observe over 1,000 objects in the visible and near-infrared wavelength range. It is the result of a long development process with various design challenges.

One of them was the safe guidance of the sensitive optical fibres that transport the light from a rotating front end to the

spectrograph. According to the engineers, the energy chains fulfil this important task reliably even at an altitude of 2,670 metres and when exposed to high ozone levels. The independent jury of the vector award 2024 is therefore convinced that the spectrograph from Portugal is the most spectacular energy chain application of the last two years. The Institute of Astrophysics and Space Sciences at the University of Lisbon therefore receives the golden vector award 2024 and prize money of €5,000.

The vector award, which will take place for the ninth time in 2024, honours the boldest and most exciting projects with energy chains. The competition is a global joint initiative launched by igus. A jury of experts from research, specialised press and industry guarantees a well-founded evaluation of the applications submitted. 328 applications from 37 countries were submitted for the vector award 2024.

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BANDSAW BLADE FOR CUTTING TOOL

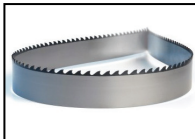
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Get Cutting Tools provides a wide range of CNC cutting tools. These are offering their clients an extensive array of CNC cutting tools to cater to their various needs. The cutting tools are designed for CNC turning centres, VMC, turnmill centres, HMC of various capacities for automation of metal.

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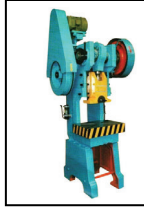
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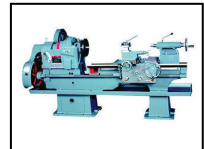


Contact:

*D P Enterprises, New Delhi
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Email: fbjaswinder@gmail.com*

LATHE MACHINE

Atul Machine Tools is a manufacturer and importer of conventional lathe machine. The machines are fabricated using high grade materials and components and are especially designed to do medium size work.



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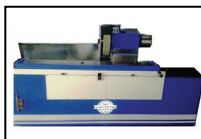


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Siemens India to invest ₹10 billion for expansion

The company aims to meet the growing demand in critical sectors such as industry, infrastructure, and power distribution by expanding two of its factories. This strategic move includes the establishment of a state-of-the-art metro train manufacturing facility in Aurangabad and the expansion of the Smart Infrastructure Operations in Goa.

Siemens Limited, a leading technology company, has announced plans to invest over ₹10 billion in expanding its operations in India. The company aims to meet the increasing demand in the industry, infrastructure, and power distribution sectors by expanding two of its factories. These expansions are in addition to the capacity expansions of the Power Transformer factory in Kalwa and Vacuum Interrupter factory in Goa, which were announced in November 2023.



The company will invest ₹3.33 billion in this project, making it the largest investment by Siemens in Goa.



“Over the past few years, India has made rapid strides as a preferred destination for manufacturing and business. We believe that with the latest investments, our largest in recent years, we will be able to better address customer requirements with a stronger portfolio and go-to-market. It is further evidence of the strong commitment of Siemens towards India and will help leverage the full potential of the fast-growing Indian market.”

Sunil Mathur,
MD & CEO, Siemens Limited

The first expansion will take place in Goa, where Siemens Limited's Smart Infrastructure Business will increase its factory footprint. The company will invest ₹3.33 billion in this project, making it the largest investment by Siemens in Goa. The expanded factory will introduce state-of-the-art Gas Insulated Switchgear and Clean Air GIS (Blue GIS) technologies to the market. These products will enable customers to achieve their sustainability goals.

The second expansion involves the establishment of a metro train manufacturing facility in Aurangabad with an

investment of ₹1.86 billion. Siemens Limited's Mobility Business aims to address the demand for metro rail networks worldwide. The facility will be equipped with the latest technologies, locally procured components, and a skilled technical workforce. It will also serve as an export hub for Metro Turnkey projects, contributing to the growth of sustainable transportation and cities.

Both expansion projects align with the Indian government's initiatives, such as 'Make in India' and 'Aatmanirbhar' programs, by promoting localisation and manufacturing within the country. The factories will also adhere to LEED Gold standards. They will incorporate various sustainable technologies such as PV solar, micro grid, EV charging, battery energy storage systems (BESS), and rainwater harvesting. The construction will also utilise recycled materials and circular construction techniques.

Sunil Mathur, MD & CEO, Siemens Limited, said, “Over the past few years, India has made rapid strides as a preferred destination for manufacturing and business. We believe that with the latest investments, we will be able to better address customer requirements with a stronger portfolio and go-to-market. It is further evidence of the strong commitment of Siemens towards India and will help leverage the full potential of the fast-growing Indian market.”

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“Esbee Electrotech Banks on Innovation & Sustainability.”

Established in 1974, Esbee Electrotech LLP is a pioneer in industrial products, switches and solutions for the white goods industry, as well as safety products for elevators. Esbee’s push buttons, stations and LED indicators are one of its kinds in the Indian market. In this interaction with Rakesh Rao during Hannover Messe 2024, **Vijay Chordiya, Designated Partner, Esbee Electrotech LLP**, highlights growth opportunities and importance of sustainability.

Esbee Electrotech has a rich history. Can you tell us about the company’s journey?

Esbee Electrotech is an innovative Indian company with nearly 30 years of experience. Despite starting small, our strong focus on innovation has been the key to our growth. Initially known for switches, we have expanded into electronic and electrical products, including those based on the Internet of Things (IoT). Today, Esbee focuses on three core areas: lighting, switches, and sound.



What sets Esbee Electrotech apart in product development?

Unlike many small & medium enterprises (SMEs), we do not chase after every market opportunity. We believe in core competencies and a forward-thinking approach. Every product has a life-cycle, and we aim to introduce new, innovative products before the existing ones decline. In the past 23 years, we have successfully revamped our product range three times. We see a product lifecycle of roughly one and a half years for launch and growth, followed by decline after six to seven years. This cycle prompts us to constantly develop new products. Our current focus is on heavily digitalising our existing product range and transitioning from mechanical to wireless solutions.

How significant are exports to your company?

Exports contribute around 15 per cent to our entire turnover. Our exports are growing steadily across all sectors. We have a diversified portfolio catering to automobiles, industries, FMCG, and elevators. This will help us achieve our export growth goals and position us well in the global market.

How does Esbee Electrotech expand its business globally?

We focus on more than just business growth. We value innovation, customer satisfaction, and ethical practices. Working closely with customers to deliver high-quality products with faster turnaround times is our priority. Additionally, we want to expand our core product lines and develop solutions for other startups.

How does Esbee Electrotech prioritise sustainability?

Esbee has always been proactive regarding environmental safety and sustainability. In 2006, we voluntarily adopted the EU’s RoHS concept (even before it became mandatory in India), demonstrating our commitment to protecting our environment. All our products are designed with an eco-friendly approach. Our factory utilises solar power for 60-70 per cent of its energy needs. We also have a sewage treatment plant, a triple irrigation system, and water reservoirs for conservation purposes. We are committed to achieving carbon neutrality and are future-ready to meet the demands of global companies with similar environmental goals.

Can you elaborate on your long-term planning?

We operate on a five-year planning horizon. In 2009, we formulated our first expansion plan, which was implemented by 2013-2014. This plan ensured long-term sustainability. We began working on another five-year plan in 2019, with a slight delay due to Covid. Our recently expanded facility will meet our needs for the next five years. We’ll revisit our plan again in 2025. We take a systematic and strategic approach to long-term growth. 

New laser distance diffuse sensor with TOF technology - ODT3CL1-2M



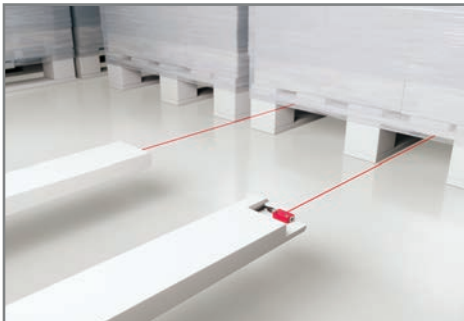
Compact diffuse sensor for detection and measurement tasks with high operating ranges



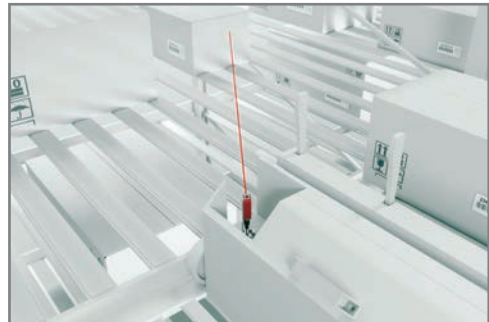
The ODT3CL1-2M solves detection tasks and supplies the machine control with distance information. The sensor also detects colored structured objects at a distance of up to two meters.



Thanks to the extremely small and space-saving housing (11.4 mm x 34.2 mm x 18.3 mm), the ODT3CL1-2M can be used in many different applications.



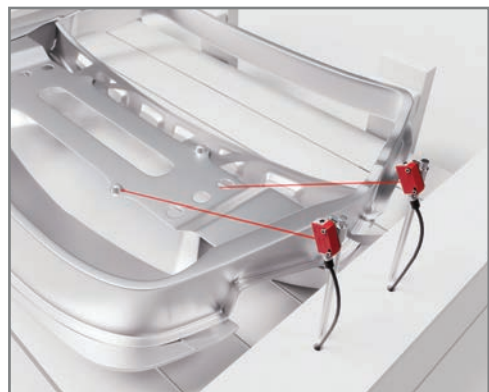
On automated guided vehicles, the ODT3CL1-2M optical sensors monitor that pallets are correctly received and transferred, for example.



The diffuse sensors are ideal for compartment occupation checking with shuttles. They detect whether a space to be occupied is free.

Advantages for you

- 2-in-1 sensor: The detection and output of measurement values using just one sensor saves time and money during procurement, installation, commissioning and operation
- TOF technology: High operating range up to 2 meters makes applications over large distances possible
- Small, visible light spot thanks to laser light source
- Compact housing: Use in applications with limited installation space
- Integrated object test: Mode with brightly flashing light spot to check the function reserve
- Degree of protection IP69K: Allows use in harsh conditions
- Output of process data via IO-Link: Extensive diagnostic data from the device, e.g. temperature value, signal quality and warning



In addition to detecting the presence of a component, the ODT3CL1-2M laser diffuse sensor can also detect defined reference points on the component and thus check the quality. Here the sensors work reliably even with different surface structures.

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Harting: Energising Digitalisation!

With plans to expand production in India, Harting is all set to actively contribute to the country's digitalisation drive, says Rakesh Rao.

In an era where connectivity is paramount and the demand for sustainable energy solutions is at its peak, the Germany-based Harting Technology Group, a global leader in connectivity solutions, is spearheading a transformative journey towards a sustainable, digitalised, and electrified future, with a significant focus on India.

“With the motto of ‘Connecting the old electric society to a sustainable digitised electrified future’, Harting emphasises the critical importance of seamless transmission of both power and data. As the world increasingly relies on digitalisation for its operations, ensuring uninterrupted access to power and data becomes indispensable for progress,” commented **Detlef Sieverdingbeck**, GM - Corporate Communication & Branding, Harting Stiftung & Co KG, during his interaction with SME at Hannover Messe 2024 (HM2024).

This year, Harting is placing a special emphasis on energy, particularly hydrogen, which is touted as a powerful fuel source for the future that holds immense potential in revolutionising the energy landscape. At HM2024, Harting showcased its expertise in this domain with powerful fuel cell modules connected in a stack-by-stack configuration, delivering robust and reliable energy solutions.

In India, a burgeoning market with a rapidly growing economy, Harting has a manufacturing plant in Chennai, which it intends to expand further. With the company deeply involved in various sectors crucial for India's development, from energy production to transportation, the German technology firm is actively contributing to India's digitalisation drive.

“India for us is a fast growing market. We have been expanding production capabilities at our plant in Chennai over the years. We are presently focusing on energy production and transportation (from north to South). Digitalisation of India is also driving the demand for our products. We do have an innovation hub in Bangalore, so we are near the digital specialists in India. So, for us it's a very booming and important market,” stated Sieverdingbeck.

Furthermore, Harting plays a pivotal role in facilitating connectivity for data firms such as Microsoft



L-R: Jacob Chandy, MD, Harting India, and Detlef Sieverdingbeck, GM - Corporate Communication & Branding, Harting Stiftung & Co KG

and Amazon, highlighting its significance in India's digital transformation journey. Thousands of connectors from Harting are integral to the seamless transmission of data, powering the nation's digital infrastructure.

Recognising the growing demand for hydrogen energy in India, Harting is poised to capitalise on this emerging market. Leveraging its expertise in high-voltage solutions and power transmission, the company sees immense potential for growth in this sector. Additionally, Harting believes in the future of green energy and is committed to driving innovation in this space. It also aims to further its contribution to India's green mobility revolution.

Jacob Chandy, MD, Harting India Pvt Ltd, sheds light on the company's strategic focus on the railway business in India. “The whole market is moving with the Government's Make in India policy. We have more and more manufacturing companies coming into India and then exporting outside. In addition to the railway business, we are focusing more on electric vehicles, and wind energy which are booming now. We are also gearing up to produce more in India.”

Place For Industrial Automations



AC INDUCTION MOTORS & GEARED MOTORS

- AC Induction Motor Single Phase & Three Phase
- AC Worm Reduction Gear Motor Single & Double
- AC Inline Gear Motor
- AC/DC Universal Motor
- AC Motor with Hollow Shaft Gear Box



DC MOTOR & DC GEARED MOTORS

- DC Shunt wound Motor 1/8 HP to 7.5 HP 220 Volts
- DC Shunt Motor with worm Gear Box 220 Volts DC
- Low Voltage DC shunt Geared Motor
- PMDC Motor 1/8 HP to 3 HP 12/24/48/90/110/180 Volts DC



TEMPERATURE CONTROLLER & THERMOSTAT

- Digital Temperature indicator cum-controller upto 1600°C
- Capillary Type Thermostat 0-50, 30-100 & 50-300 Deg
- Thermal Cutouts & Fuses
- Bimetal Type Thermostats
- Thermistors
- J & K type Thermocouple and RTD



DIGITAL TIMERS & COUNTERS

- Electronics Timers Plug in / Panel mounting type interval On / Delay On equal & unequal On/Off
- Mechanical Timer 15, 30, 60 & 120 minutes.
- Digital Timers & Counters.
- 24 Hours Program me timers with & without battery backup



INSTRUMENT COOLING FANS & BLOWERS

- Instrument cooling fan 4", 6", 8" Bush & Ball Bearing
- Centrifugal Blowers
- Cross Flow Fans
- Axial Flow Fans 8", 10", 12"



AC SYNCHRONOUS MOTOR & GEAR MOTORS

- AC Synchronous Motors
- DC Stepper Motors
- AC Synchronous Gear Motors
- AC Servo and DC Brush less Motor



AC SHADED POLE MOTOR & GEAR MOTOR

- AC Shaded Pole Motor 9-45 watts
- AC Shaded Pole Motor with 3" 4" & 6" Al Blade
- AC Shaded Pole Gear Motor 5-140 RPM



MOTOR SPEED CONTROLLER DRIVES

- AC Drive VFD
- Stepper Motor Drive
- DC Drive
- AC / DC Motor Controller



SWITCHES & SENSORS

- Micro Switches & Limit Switches
- Mercury Switches
- Foot Switch
- Proximity Sensors 6-30 mm
- AC & DC Diffusion - Color Mark - Through Scan - Temperature Sensors
- Solid State Relay



DC MICRO MOTOR & DC MICRO GEAR MOTOR

- DC Micro Motor 3, 6, 12 & 24
- DC Micro Gear Motor 12 & 24 V, 1-300 RPM



MOTOR

AC INDUCTION MOTOR,
AC INDUCTION BREAK MOTORS

GEAR BOX
HALLOW SHAFT WORM GEAR BOX,
HELICAL GEAR BOX,
HELI BEVEL GEAR BOX,
PARALLEL SHAFT GEAR BOX



COMPACT AC/DC GEARED MOTOR

COMPACT AC/DC GEARED
MOTOR WITH SPEED CONTROLLER



Encoder



AC & DC Solenoid



SSR



Vacuum Blower



Break



SMPS



Variac



Linear Actuator



Limit Switch



Clutch

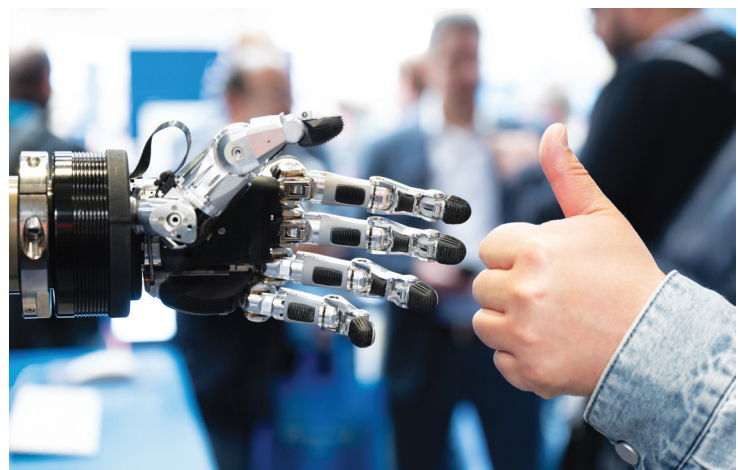


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HM 2024: Powering Sustainable Manufacturing

At HM 2024, 4,000 exhibitors from all over the world presented their innovative, futuristic solutions to more than 130,000 visitors from 150 countries. The event offered a comprehensive picture of technologies that are crucial to drive the agenda of sustainable manufacturing, reports **Rakesh Rao**.



Hannover Messe 2024 once again demonstrated its ability to bring together the world's best technology innovations, business partners and policy-makers on one platform to drive the global agenda of sustainable manufacturing. More than 130,000 visitors from 150 countries witnessed the innovative, futuristic solutions of 4,000 exhibitors and 300 start-ups from all over the world. Over 40 per cent of visitors came from abroad. Apart from the host nation of Germany, the top visitor nations were China, the Netherlands, South Korea, the US and Japan.

Participants were able to know how to profitably take advantage of automation, additive manufacturing, artificial intelligence, hydrogen and many other high-tech solutions in their factories, thus making them fit for the future. "It has been a future-oriented technology trade fair, since the innovations that drive industrial competitiveness and sustainability were on display here," remarked Dr Jochen Köckler, Chairman of the Managing Board, Deutsche Messe AG, during at the closing press conference for Hannover Messe 2024.

Like every year, Smart Manufacturing & Enterprises (SME) witnessed some of these impressively innovations first-hand and spoke to a few of them to know how they

are gearing up to tap the mega trends of electrification, digitalization and automation.

Ultimaker eyes India with industrial grade 3D printer

Ultimaker, the Netherlands-based 3D printing leader, created waves in the manufacturing industry with the launch of its industrial-grade 3D printing machine, the UltiMaker Factor 4.

"Ultimaker Factor 4 is an end-to-end 3D printing solution for light industrial applications. Its capabilities extend beyond traditional manufacturing. Factor 4 boasts impressive features and can be used for applications like



Chevy Kok, VP APAC at Ultimaker



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small-batch shoe production to large parts manufacturing with high efficiency and reliability,” said **Chevy Kok**, VP Asia Pacific (APAC) at Ultimaker.

Ultimaker focuses on empowering companies to adopt local, on-demand parts production using 3D printers. This approach optimises supply chains by eliminating the need for outsourcing and shipping finished goods. “Compared to traditional methods, 3D printing offers substantial cost savings. For instance, a €1500 application purchased off the shelf can be produced at a significantly lower cost using a 3D printer. Additionally, 3D printing drastically reduces lead times, enabling part creation within a day and a half compared to weeks or months with outsourcing. While currently manufactured in the Netherlands, Ultimaker Factor 4 machines are shipped across Asia. This centralised production ensures quality standards while optimised costs allow us to cater to the European, US, and Asian markets,” he stated.

Ultimaker goes beyond just hardware, it offers a comprehensive ecosystem encompassing materials, software, and bespoke services to cater to the diverse needs of manufacturers. While automotive is a strong application area for 3D printing in China and parts of India, the Indian market primarily utilises the technology for manufacturing jigs and fixtures to streamline assembly processes. This highlights the need for a tailored approach to drive 3D printing adoption in different regions. Chevy Kok explained, “In India, currently we sell our machines through the Mumbai-based Imaginarium, which is a pioneer in 3D printing in the country. We have been working with them for the last couple of years to introduce the technology to the India market. The collaboration, which started in 2022, is going strong. India’s booming economy and manufacturing sector present a significant growth opportunity for Ultimaker. The company is optimistic about the market response, considering the potential for cost and time savings through 3D printing.”

Speaking about the potential of the new 3D printer in India, he said, “The Ultimaker Factor 4, with its modularity and competitive price point, holds immense potential for various applications in the Indian market. While commercially launched, the machine awaits shipment, and its arrival is sure to create a stir in the Indian manufacturing landscape.”

Uttar Pradesh uses HM2024 to draw global investors

Uttar Pradesh (UP), which had a big booth at Hannover Messe 2024 (HM2024), used the platform to promote the state as a premier investment destination for global firms. “Under the visionary leadership of Honorable Prime Minister Narendra Modi and Chief

Minister Yogi Adityanath, Uttar Pradesh (UP) has undergone a remarkable transformation in recent years, emerging as a prime destination for investment and economic growth. At Hannover Messe, we are focusing on key sectors like manufacturing, automobile, electric vehicles, battery manufacturing, tech-based, AI and robotics to name a few. We managed to sign four MoUs on the first day of HM2024 attracting investment from the motor sector of almost \$ 13 million. Companies, who are looking for better investment opportunities or expansion, are approaching us as they see the potential in UP,” stated **Abhishek Prakash**, Secretary IIDD & CEO Invest UP, Government of Uttar Pradesh.

A key factor contributing to UP’s attractiveness for investment is its robust law enforcement, ensuring a safe and secure environment for businesses to thrive. Moreover, the state boasts a stable policy framework, with over 25 sectorial policies and industrial policies offering incentives aimed at fostering growth across

various industries. He added, “Notably, UP stands out as the only state in the country with a dedicated policy to attract Foreign Direct Investment (FDI), extending benefits to global Fortune 500 companies. The policy offers upfront land subsidies ranging from 25 per cent to 80 per cent, in addition to capital subsidies, making it highly lucrative for investors.”

Facilitating ease of doing business, UP has implemented a streamlined governance system through initiatives like Nivesh Mitra and Nivesh Sarathi websites, serving as the largest single-window platforms for investment. They have over 1.3 million applications processed.

Abhishek Prakash commented, “Under the dynamic leadership of Chief Minister Yogi Adityanath, UP has successfully hosted prestigious events like the Global Investor Summit in February, 2023, where MoUs worth ₹33,000 billion were signed, showcasing the state’s immense investment potential. Additionally, initiatives like participation in the Hannover Messe 2024 and groundbreaking ceremonies for over 14,400 projects



Abhishek Prakash, Secretary IIDD & CEO Invest UP, Government of Uttar Pradesh

further highlight UP's commitment to industrial growth and infrastructure development."

Furthermore, UP has strategically established defense corridors to attract investors in the defense sector, with nodes in Lucknow and Kanpur witnessing notable production ventures by industry giants like Reliance and Adani. In addition to large enterprises, UP offers attractive incentives for Small and Medium Enterprises (SMEs), including 20-25 per cent capital subsidies, concessional land rates, and stamp duty exemptions, further fostering an environment for entrepreneurship and economic growth.

"UP's proactive approach to investment promotion, coupled with its robust policy framework and governance reforms, positions the state as a premier destination for investors seeking lucrative opportunities in India's rapidly growing economy," he said.

EEPC sees global gain for India's engineering sector



Mukesh Gulab Samtani, Sr Assistant Director, EEPC India

With global companies looking for an alternate sourcing destination (due to their China Plus One policy), India is in a good position to increase its share in the global trade as it offers dual advantage – a big & growing domestic market and a platform to exports. "Because of the

China Plus One policy, India stands to gain significantly as global attention shifts towards diversifying supply chains. With India's emergence as a preferred destination, there's a surge of interest in Indian products and manufacturing capabilities. Prime Minister Narendra Modi's 'Make in India' initiative has further boosted this perception, positioning India as a viable alternative for international businesses seeking to ease risks associated with over-dependence on China," observed **Mukesh Gulab Samtani**, Sr Assistant Director, EEPC India.

EEPC India, established by the Ministry of Commerce in 1955 to promote Indian exports, has evolved its mission to foster trade beyond traditional export-import activities. Now, it actively cultivates overseas partnerships and participates in prestigious exhibitions worldwide, with substantial support from the Ministry of Commerce.

SMEs benefit greatly, receiving up to 40 per cent cost

coverage for exhibition space, airfare reimbursement, and sometimes even accommodation assistance. Additionally, EEPC India hosts the Indian Engineering Exhibition (INDEE), an impactful platform showcasing Indian engineering prowess to global buyers, reversing the exhibition model to attract international visitors to India.

Samtani added, "The current global environment is not favourable. Most of the countries are under recession right now. India is booming, but the countries elsewhere are in a really bad state with all the wars and recessions taking place. The plan forward that we fight it out and see how we can move forward."

Karkhana.io digitalising contract manufacturing sector

Karkhana.io, an innovative digital platform, is reshaping India's sourcing and contract manufacturing sector. Boasting a network spanning over 500 suppliers nationwide, Karkhana.io is dedicated to enhancing productivity and optimising capacity utilisation within India's vibrant supply ecosystem.

Founded by Sonam Motwani from IIT Bombay five years ago, Karkhana.io has evolved from offering prototyping services to providing comprehensive contract manufacturing solutions. Their current customer base exceeds 200; the platform has emerged as a pivotal player in India's manufacturing landscape.

Karthik MC, Chief Revenue Officer, Karkhana.io, elaborated, "The platform caters to a diverse array of sectors, including electric vehicles (EVs), battery packs, medical devices, aerospace and drone components, IoT devices, and consumer electronics. These burgeoning industries present unique challenges, necessitating agile and dependable solutions. Over the past half-decade, Karkhana.io has meticulously assessed its suppliers' capabilities to ensure readiness to meet evolving manufacturing demands."

Karkhana.io's suppliers primarily consist of MSMEs. These businesses vary in turnover, ranging from ₹70 million to ₹2-2.5 billion. Majorly, the suppliers are family-run enterprises.

"The adoption is quicker because



Karthik MC, Chief Revenue Officer, Karkhana.io

you have lot of suppliers with underutilised capacity which is around 30-40 per cent. If one looks at most of the MSMEs their capacity utilisation is around 30-50 per cent and they also have the risk of overdependence on one or two customers. When any one of their customer's account gets shut, they have no plan B. So these are the kind of suppliers we can support the most. Since we aggregate demand, so in some sense we are like a mutual fund, we de-risk. If one customer drops we still have a basket of customers to help their capacity utilisation. Depending on the industry the kind of project management skills required, may not be a competence they can completely build in. For example the aerospace industry, the documentation requirement is extremely stringent, they may not have the capability or the business may not have that kind of team. Since we aggregate for the industry, we can help them out with quality management, documentation, onboarding requirements and more. We are able to offer a complete solution,” explained Karthik.

At Hannover Messe 2024, Karkhana.io showcased India as a premier sourcing destination, offering reliability and efficiency in the process. Karthik informed, “The customer base primarily comprises medium-sized family-run businesses or well-funded startups. These companies because they have quick decision-making processes, and turnovers ranging from ₹15-20 billion. Since their supply chains may not always adhere to the highest professional standards. Karkhana slips in to help out.”

Looking ahead, Karkhana.io aims to expand its global footprint, targeting 10 per cent of its turnover from exports by 2024. The company visions to establish a robust presence in the United States, leveraging existing positive sentiments towards Indian manufacturing as well as Germany for the strong industrial ecosystem present. As the platform continues to innovate and collaborate, it remains committed to driving growth and sustainability across India's manufacturing sector.

Elmex Electric targets international markets for growth

At Hannover Messe 2024, Elmex Electric Pvt Ltd showcased their broad solutions across different segments, spanning power generation, transformation, distribution, and specialised sectors like mobility and mining. The company intends to increase its international business, which currently accounts for about 30 per cent of its \$27 million turnover.

“To a larger extent it aligns to the storyboard we are trying to put forth. So we are looking at specific industry segments to expand our reach. We don't want to be looked upon as a component manufacturer but truly a solution offering company with our standard



L-R: Bhairav Joshi, VP - International Business, and Vipul Ray, MD, of Elmex Electric Pvt Ltd

components. For any Indian manufacturer, the Gulf is the first footprint where we establish, but now we are spread across 50 countries. We are looking at different markets, on the Micom countries, the far east side of India, also Latin America are some of the major places we are setting our eyes on at the

moment,” explained **Bhairav Joshi**, VP - International Business, Elmex Electric Pvt Ltd.

Elmex Electric, established in 1963, is a leading player in electrical connectivity. Initially focusing on terminal blocks, they have expanded into photovoltaic and energy transformation connectivity. The diverse product range includes solutions for metering, site protection, and low to medium voltage equipment. With recent expansion into the photovoltaic sector, Elmex offers comprehensive connectivity solutions for various applications. The family run business incorporates vertically integrated infrastructure, including an in-house product testing laboratory, ensuring adherence to international standards and versatility across applications.

Joshi added, “Elmex Electric regularly updates the facilities to enhance capacities, including a new factory that will increase production of injection-moulded components, vital for manufacturing all of Elmex's products.”

Connectwell unveils ambitious growth plans for future

Connectwell, headquartered in Dombivli (near Mumbai), is aiming to redefine the landscape of connectivity and automation with ambitious plans for its future. The company stands as a beacon of innovation and reliability in the realm of manufacturing. Established in 1978, Connectwell has continuously evolved, cementing its position as a leading provider of terminal blocks and a diverse array of interfacing solutions. The company has subsidiaries in Brazil, China, and Croatia, and sales offices in Dubai, Saudi Arabia, and Indonesia, Connectwell boasts a global footprint that resonates across 85+ countries.

“Terminal blocks serve as Connectwell's flagship



L-R: Manohar Suvarna, VP - International Business & Product Management, and Sandeep Saheta, MD, of Connectwell

product, boasting the widest range in the industry. From power utilities to rail transportation, machine building automation to infrastructure projects, the blocks are used across diverse sectors. The firm has garnered a core position in the domestic market, with India remaining a pivotal focus,” stated **Manohar Suvarna**, VP - International Business & Product Management, Connectwell.

While terminal blocks remain the cornerstone, Connectwell’s product portfolio also encompasses relay and relay products, interfacing solutions, and a range of switchboard power supply products; the latest innovation: the fan monitoring and control device.

This microprocessor-based device emerges as a game-changer, particularly in high-temperature applications where precise control and monitoring are important. Designed to regulate fans within control panels, this device ensures optimal temperature maintenance, crucial for safeguarding sensitive equipment. Equipped with an RTD sensor and cutting-edge technology, it communicates real-time data, allowing efficient panel management.

“More than 45 per cent of the company’s total revenue comes from exports. Post Covid the company has seen a phenomenal growth in both imports and exports. We have an extremely high double digit growth in our exports market. We will continue to invest in manpower, resources, as well as in geographic expansion. As a group, the turnover would be around \$50 million and we expect for exports to increase their contribution to our turnover in the future,” opined Manohar Suvarna.

InPhase to power exports growth with quality solutions

InPhase Power Technologies Pvt Ltd - which designs, develops and manufactures power quality and power conversion products – is eyeing to expand its exports for accelerating its business growth, and Hannover Messe 2024 provided the right opportunity. “Last in the last three years, we have grown at robust pace. By 2025, we want to reach 1 billion and that is the reason for coming to Hannover Messe to help us expand our exports

market as we have proven technology with required European quality certification. Also, because of China Plus One policy, we are witnessing more demand than before for Indian products especially from countries in Middle East and Europe. This is also helping us to expand our overseas business,” commented **Pannalal Biswas**, MD & CEO, InPhase Power Technologies Pvt Ltd.

InPhase provides power quality solutions ranging from active filters, static VAR generators, hybrid filters, real-time power factor controls (RTPFCs) & automatic power factor controls (APFCs) for customers in India and abroad. “Our energy efficient solutions help in increasing the existing transformer load and enhance the life of the equipment. They can transform the quality of power to suit the process of the industries. Customers witness monetary gains as they consume less energy and reduce their energy bills after installing our equipment,” he stated.

InPhase, which owns numerous patents for its inventions, claims to be the first to launch the largest active harmonic filter across the world and the first 3-level active harmonic filter in India. Biswas informed, “Traditionally, people used capacitor based solutions, which have a lot of inherent problems. Today, industries are opting for process controls, for which the conventional old technology is not suitable. By using InPhase’s ASTRA – a 3-Level insulated-gate bipolar transistor (IGBT) based active harmonic filter - customers are able to optimise their productivity and reduce carbon footprint. More companies are opting for this technology as it provides quality energy solution at affordable prices. We are mainly focusing on the heavy industries, where power consumption is very high. If this technology can work in extreme Indian climatic conditions, then it can work in any part of the world.”

At present, exports account for 10 per cent of the company’s turnover. “We intend to increase exports to 20-30 per cent as there are a good number of opportunities in the global market especially with more industries getting accustomed to this kind of advanced technology,” he added.



Pannalal Biswas, MD & CEO, InPhase Power Technologies Pvt Ltd

Accurate Steel Forgings eyes expansion in new sectors



K Vinoth Kumar, MD, Accurate Steel Forgings India Ltd

Accurate Steel Forgings showcased its range of products with a focus on steel forgings, cushioning materials, brass, copper, and more, at the Hannover Messe 2024. The company specialises in producing forged and machined parts, catering to a diverse clientele of OEMs both within India and overseas.

Approximately 50 per cent of the business

is geared towards exports. The primary objective of Accurate Steel Forgings at HM2024 was to expand the presence in key sectors such as agriculture, hydraulics, and automobile manufacturing.

Elaborating on their company exports, **K Vinoth Kumar**, Managing Director, Accurate Steel Forgings India Ltd, commented, “We came to Hannover Messe to increase our customer base. Since last year, we have had a capacity expansion in India to meet the growing market requirement. In this way, we are able to increase our portfolio as well. Europe contributes around 25 per cent to the total exports. As our focus is on increasing the turnover year-on-year, exports (in terms of value) have been on a rise over the years, but its share to the turnover has remained constant.”

Accurate Steel Forgings aims to prioritise incremental growth in turnover, ensuring a steady increase in export value over time.

Opel Energy Systems: Transforming waste into energy

Opel Energy Systems Pvt Ltd specialises in thermal energy conservation and fuel-saving initiatives, leveraging cutting-edge technology to recover heat from exhaust gases exceeding temperatures of 100-150°C, sometimes reaching up to 1,000°C. “Mainly are into waste heat recovery projects, so we have a product called Flux Maxiox, which is a fuel saving device, where one has to install one device in the burner inlet (fuel line) and gets around four to five per cent of savings and we have around 3000+ installations for this product worldwide”, **Y D Chavan**, Founder & CEO, Opel Energy Systems Pvt Ltd.

While their export portfolio currently stands at 20

per cent, primarily to the UAE with approximately six to seven projects completed, the company expresses ambitions for expansion. “At Hannover Messe 2024, we are looking at associates for our fuel-saving and waste recovery products, particularly due to the convenience and effectiveness of these solutions. This marks a significant milestone

for the company, venturing into international exhibitions for the first time in its 50-year history, signalling a clear intent for growth and global partnerships,” said Chavan.

Opel Energy Systems is not just a consultancy; it is comprehensive solution providers, offering end-to-end solutions from concept to commissioning. Its approach involves conducting thorough walkthroughs to assess energy conservation potential, providing proposals, and collaborating with retail engineers to implement solutions effectively.

Opel Energy Systems targets key industries such as process and automobile manufacturing, where substantial fuel consumption is inherent to operations. Chavan elaborates on their role in automotive paint shops, where significant energy is expended in the painting process. By capturing and utilising waste heat from paint shop exhausts, they not only conserve energy but also optimise processes, exemplifying their commitment to sustainable practices.

Hexagon presents smart solutions for quality manufacturing

The Stockholm (Sweden) based Hexagon AB, which primarily focuses on measuring technology and geospatial tools and software, showcased how connected digital solutions can bridge the gap between imagination and reality for manufacturers. Its Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

“The manufacturing intelligence division, focusing on industries, offers measuring solutions for different stages from the design and engineering to manufacturing processes, down to designing parts. We also make sure to have a feedback loop into the quality assurance measurement. We follow the flow of the data (i.e. how it



Y D Chavan (right), Founder & CEO, Opel Energy Systems Pvt Ltd



L-R: Robin Wolstenholme and Alexandre Aime of Hexagon

is captured, generated, and also used) to empower the manufacturers to take the right decisions and corrective actions on the process to ensure high-quality production,” said **Alexandre Aime**, VP Global Marketing & Communications, Manufacturing Intelligence division, MSC Software sarl - Part of Hexagon.

At Hexagon

displayed ground-breaking innovations in industrial digital reality to enhance every step of the manufacturing process - from design stage to the production line. During HM2024, Hexagon announced partnership with Microsoft to redefine manufacturing with cloud technology. Through this partnership, Hexagon aims to redefine how engineers collaborate and enable the discrete manufacturing industry to innovate faster with new solutions that combine data from virtual engineering processes with real-world measurement of manufactured products. It also displayed the recently launched SmartScan VR800, which is the first optical 3D scanner on the market with a motorised zoom lens that enables users to adjust data resolution and measurement volume entirely through software settings. “VR800 ensures high-precision and saves time of the users,” said Alexandre Aime.

In the recent years, manufacturers in Asia (including India) have been focusing on quality and qualitative production; thus, making them really competitive on the global scale. Hexagon is also eyeing to tap this market with investment in people and innovation. “The company has invested in India, in terms of manufacturing and R&D. We have one of the largest R&D departments in Hyderabad, where we continue to invest as we believe in the talented engineers and people. In terms of market, automotive industry offers a huge opportunity for us. There are machine builders and small & medium enterprises (SMEs) in India who are trying to win global contracts due to shifts in supply chains and the support of the Indian government. Obviously, there is a big opportunity for us and hence we are investing quite a lot in India,” commented **Robin Wolstenholme**, Global Media Relations and Analyst Relations Manager, Manufacturing Intelligence division, Hexagon.

Teknic Electric capitalises on Make in India wave

Teknic Electric, a leading Indian manufacturer of low voltage switchgear and control gear since 1970, is slated for global expansion, and the company leveraged Hannover Messe to connect with potential customers



Deepak Jaising, Director, Teknic Electric India Pvt Ltd

and distributors worldwide. Teknic Electric prioritises meeting international buyers, particularly from Europe, Russia, Africa, and the Middle East through this exhibition. This focus aligns with the China Plus One Policy, where companies are seeking alternatives to China. **Deepak Jaising**, Director, Teknic Electric India Pvt Ltd, elaborated, “Teknic Electric has seen a surge in enquiries for contract manufacturing,

previously dominated by China, from both Indian and international customers. At present, 20 per cent of exports contribute to the company’s turnover.”

To meet this growing demand, Teknic Electric has invested significantly. Its greenfield plant in Goa boasts a 100,000 sq ft constructed area with room for further expansion. Additionally, Teknic has strengthened their tool room facilities, holding shop and assembly line, creating a robust infrastructure for future growth.

“We have developed several new products in the same line as our existing products, for the railways because we see the mandate from the Indian government as ‘See Indian and Buy Indian (‘Make in India’ policy). This is why we also have received a lot of enquiries, not just directly from the Indian railways but also their suppliers. So, big companies have been sending us regular enquiries for products required for the railways. It has been a new focus line,” revealed Jaising.

TexelQ eyes Europe for expansion

TexelQ Engineering India Pvt Ltd, which provides solutions for machined castings and sub-assemblies, used Hannover Messe platform to expand its global presence by targeting European markets. “TexelQ has a strategic aim to diversify exports with the company’s goal of securing a 20 per cent share in the European market, currently dominated by US sales, which constitute 98 per cent of their exports. To penetrate the European market effectively, TexelQ has established a sales presence and navigated language barriers with local

representatives, recognising the significance of personal interaction in European business culture compared to the transactional approach prevalent in the US market,” said **G Aswantha Kumar**, GM, TexelQ Engineering India Pvt Ltd.

Specialising in a wide array of products, including ferrous and non-ferrous castings, forgings, and investment castings tailored to OEM needs, TexelQ has evolved from a design firm in 2007 to a fully integrated manufacturing solution provider through a series of mergers culminating in 2014. While acknowledging India’s potential market, TexelQ underscores challenges in supply chain and pricing competitiveness. Their expertise in high-precision machine components extends across diverse sectors, including aerospace, oil and gas, and industrial applications.

Observing shifting industry dynamics, TexelQ sees a trend of manufacturing relocation from China to India. Yet, challenges persist, including the proliferation of shell companies from China in regions like Vietnam, posing competitive hurdles. Despite these challenges, TexelQ has experienced remarkable growth, doubling its revenue from ₹200 million to ₹450 million in the past year, with further growth projected to ₹700 million. The firm aims for stability rather than rapid expansion.

Aswantha Kumar elaborated, “We aim to enter the aerospace sector as it’s increasingly accessible in India. However, the challenge lies in adhering to US or Europe government regulations. Hence, our focus shifts to defence and aerospace in the Indian market. We are considering establishing a separate company to streamline operations, ensuring easier collaboration and quality control. This caters to both Indian and export markets, particularly targeting tier 1 company.”

Standard Spring: Crafting global success

Standard Spring and Metal Pressing Works, specialising in the production of high-precision stamping and machining components, is all set to expand its global footprint. In line with its growth trajectory, the company recently inaugurated a new 50,000-sq ft facility in



G Aswantha Kumar, GM, TexelQ Engineering India

Vadodara, signalling its continued commitment to expansion and innovation. “With an eye on the future, Standard Spring and Metal Pressing Works remains steadfast in its pursuit of excellence, poised to capitalise on emerging opportunities in the global market landscape,” stated **Amit Vora**, Vice President, Standard Spring and Metal Pressing Works.

The company caters to a diverse clientele, including multinational giants such as Schneider Electric, L&T, Siemens, and ABB in the electrical sector, and Mahindra in the automotive industry. The company adapts its manufacturing processes to meet the unique requirements of each client, ensuring cost-effectiveness without compromising quality. “The company has strategically positioned itself to serve its clientele efficiently. Moreover, its global footprint extends to markets in the US, Germany, Austria, and Dubai, with exports accounting for approximately 25 per cent of its annual turnover, which stands at an impressive ₹800 million this fiscal year,” said Vora.

Looking ahead, Standard Spring and Metal Pressing Works aims to bolster its export figures by a minimum of 5 per cent annually. Participation in international exhibitions, such as Hannover Messe, underscores the company’s commitment to expand its global reach and fostering new business partnerships.

Meet you in 2025

From solutions such as the automation of entire production plants, the voice control of machines using AI, the efficient use of hydrogen in industry to the use of software to record and reduce the carbon footprint, Hannover Messe 2024 offered a comprehensive picture of the technological opportunities for the industry of today and tomorrow.

The next edition, in which Canada will be featured as the partner country, will be held from 31 March to 4 April 2025. See you again in 2025!

SME

(With inputs from Sanskriti Ramachandran)



Amit Vora, VP, Standard Spring and Metal Pressing Works





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article online

Safcon Smart Seals

In today's dynamic energy landscape, the widespread adoption of Smart Metres represents a significant shift, promising increased efficiency and accuracy in energy consumption monitoring. Safcon, a tamper-evident security solution provider, leads the charge with innovative technology and unwavering commitment to quality.



Today, all over the world, traditional energy metres are being replaced with new generation smart metres. The smart metres are deployed globally on fast pace. With the installation of smart metres, visits to the consumer premises will be reduced to a negligible amount as smart metres collect the consumed metre reading remotely and there is no need of consumers to visit the premises to collect the metre reading to generate a monthly billing.

Hence, it has become a necessity to use high security smart seals to protect the smart metres and prevent revenue losses. The purpose of a security seal is to protect the revenue completely by preventing unauthorised access for metre tampering. The accuracy of the metres determines the accuracy of recorded revenue. This new tamper resistant smart security seal is designed to replace traditional plastic seals. It is smarter, more secure and facilitates the power it utilities to provide maximum protections to their smart metres to prevent electricity stealing.

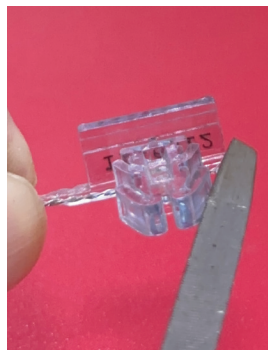
Importance of High Security Smart Seals

We all understand the importance of security. We update the security features of our mobile phones every other day. We even hire security guards to protect our houses, offices and warehouses with reputed professional security agencies. The use of AMI/prepaid/ smart metres systems translate to fewer in-person visits to the consumer's premises. Hence, we need to upgrade the metre sealing with high security smart seals to provide the highest protection to AMI, prepaid and smart metres.

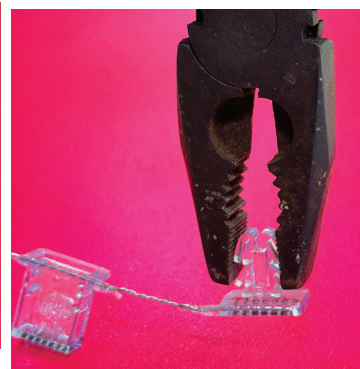
The smart security seal plays a key role in the automation and secured management to smart metres. Compared with traditional plastic seals there are many advantages and include more convenience, more intelligence, more automation, and a higher level of secured sealing. The RevGuard metre seal provides integrity, prevents unauthorised access, tampering and avoids usage of illegal and duplicate seals.

Tamper resistance

The present day's most common problem is pre-tampering of anchors before installation of the seal, by pressing the anchors with a plier or filing the anchor with a filer. Safcon effectively solved this problem by introducing a four anchor polycarbonate security seal, in which, two anchors come pre-locked from the factory and two anchors are used for locking. Since



Pre-tampering of anchors
before installation by filing
the anchors



Pre-tampering of anchors before
installation by pressing the anchors

the security seal is pre-locked, there is no access to anchors and no possibility of pre-tampering of the metre seal before installation. Once the seal is locked, it has the four anchors locking mechanism which is impossible to open for tampering with the metres. The pre-locked anchor locking insert and housing body cannot be separated without any visible signs of tamper damage. The removals of the wire connecting parts also facilitate easy detection of tampering because of extremely clean look at site.

Another major problem with the traditional plastic seal is reading the serial number with the naked eye due to the compact size of the seal and serial number printed on transparent body. To solve this problem, Safcon provides a serial number with bigger font size for easy error-free readability. In the present digital era, to read, record and verify serial number digitally, the smart security seal is provided with 2d data matrix barcoded serial numbers for reading serial numbers with the help of smartphone/barcode scanner. The barcode is provided on the front side of anchor locking insert for swift reading of the serial number. The barcode is directly laser engraved on the polycarbonate seal itself and the over pasted stickers providing ample scope to counterfeiters for tampering with the seal.

It is human nature that anyone who will read the seal number from the barcode would find it rather difficult to read the seal number from the seal body. When the barcode is provided on the over pasted sticker, the counterfeiter uses the duplicate seal with the over pasted stickers. When the field staffs read the serial number, they read it from the barcode sticker and verify the serial number directly printed on the seal. So, it becomes easy for counterfeiters to conduct metre tampering and replace the metre seal with fake seal. Under no circumstances, should the barcode sticker be overpasted on the seal as transparency of the metre seal is also lost and become difficult to trace tamper evidence.

Additionally, a hidden encrypted code is provided on the metre seal to determent use of any duplicate seal for manipulation. Furthermore, the seal is provided with logo and serial number on both the housing body (female) and anchor locking insert (male) to avoid part swapping for any malpractice.

Innovative approach

Safcon's Revguard tamper



Meter seal with male and female parts pre-locked

resistant metre security seal is unique and patented. They are not manufactured by anyone else and hence getting the fake seal is impossible. The RevGuard anchor (push fit type) polycarbonate metre security seal is a well-researched designed security seal. The seal is designed carefully to provide maximum protection to the energy metre to prevent metre tampering and electricity stealing.

The selection of raw materials, seal construction, dimensions, customisation, locking mechanism and sealing wire are based on years of research. The Revguard is 100% tamper proof and easy to lock metre seal. The RevGuard tamper resistant polycarbonate security seal is designed for single use and cannot be opened and reused. The seal has four anchor locking mechanisms with in-built moulded stainless steel sealing wire. The seal wire must be cut with a cutting plier for removal.

The success of utility metre protection depends on the selection of the security seal, effectively implementing, maintaining and upgrading it from time to time. It requires proper attention to entire process which includes selection, adoption, standardization, procurement, application, record keeping, vigilance and most importantly, disposal.

For the implementation of a successful anti-theft metre protection program, power utilities need a long term partnership with a security seal solution provider who can work with the metre management team of the utility to provide best security solutions based on the regular field reports and expertise in the field.

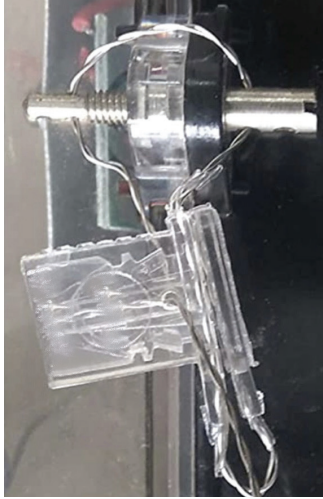
Safcon is an Indian pioneer in tamper evident security seals for over 25 years. A R&D focused



Revguard smart meter seal as supplied



Revguard smart meter seal after locking



Traditional meter seal with male and female connected with sealing wire

company; they have designed and developed several patented security seal solutions. Adhering to security norms and the best business practices Safcon ensures that their customers can rely on their products. Safcon

takes every possible step to safeguard interest of their database of utility customers spread across the globe.

Commitment to quality

Safcon revolutionises security seals, prioritising ease and efficiency while offering an array of benefits to its customers. Direct supply ensures the integrity and confidentiality of products, bypassing intermediaries for cost-effectiveness. Swift responses to product development cater to specific customer needs promptly. With stringent quality control measures in place, Safcon guarantees zero-defect products. The entire manufacturing process is conducted in-house, ensuring full control over quality and customisation. Committed to customer satisfaction, Safcon adopts a customer-centric policy, prioritising their needs and preferences at every step.

In today's fast changing world, one should not compromise on security quality. Safcon believes that 'Poor security is no security' and they are focused to technological developments.

SME

(Communication provided by the management of the company)

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INFRARED THERMAL IMAGING CAMERA MODEL - KM 308 / KM 309

KUSAM-MECO present 2 new models of INFRARED THERMAL IMAGING CAMERAS to complement the existing range. There models have high infrared resolution. Brief Specification are as follows:

■ SPECIFICATIONS

PARAMETER		SPECIFICATION	
		KM 308	KM 309
Infrared Thermal Imaging	Resolution	320x240	220x160
	Frequency band	8~14um	8~14um
	Frame rate	9Hz	9Hz
	Field of view	Horizontal 56°, vertical 42°	Horizontal 35°, vertical 26°
	Temperature range	-10°C ~ 600°C (14°F ~ 1112°F)	-10°C ~ 600°C (14°F ~ 1112°F)
Visible	Resolution	640x480	640x480
	Frame rate	25Hz	25Hz
Display	Display Resolution	320x240	320x240
	Display Size	3.5 inch	3.5 inch
General	Waterproof and dustproof	IP54	IP54
	Camera Dimension	230mm x 100mm x 90mm	230mm x 100mm x 90mm
Storage	Capacity	Built-in memory, about 6.6G available, can store more than 20,000 pictures	Built-in memory, about 6.6G available, can store more than 20,000 pictures
Interface	Data and charging interface	USB Type-C (Support battery charging and data transmission)	USB Type-C (Support battery charging and data transmission)
Secondary development	Open interface	Provide WiFi interface SDK for secondary development	Provide WiFi interface SDK for secondary development



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An ISO 9001:2015 Company

Shop No.18, 1st Floor, CIDCO Shopping Complex, Plot # 9, Sector-7, Rajiv Gandhi Marg, Sanpada, Navi Mumbai-400705.

Tel : 022-27754546, 27750662, 27750292 E-mail : sales@kusam-meco.co.in www.kusamelectrical.com

DIESEL ELECTRIC GENSETS

Supernova Engineers offers diesel electric generator sets from ranges 20 to 250 kva. These gensets are powered by VECV and Cooper diesel engine ranging from 20 kva to 250 kva. The complete DG set range is CPCB II complaint and National Aerospace Agency (NAL) approved.



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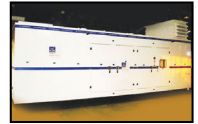


Contact:

*Supernova Engineers Ltd, Ahmedabad
Tel: 079-66111136, 66111137, 66111138
Email: inquiry@supernovagenset.com*

NATURAL GAS GENERATOR SETS

Pai Kane Group offers natural gas generator sets in ranges 135 to 1250 kva. These power generator sets cater to the needs of industries, commercial establishments and residential uses.



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Contact:

*Pai Kane Group, Goa
Tel: 0832-7161000
Email: sales@paikane.co*

DELTA CONTROL PANEL

Magnum Switchgear is offering three phase star-delta control panel. These three phase star-delta control panel is a powerful switching and controlling device for motors where primary requirement is to start the motor at a reduced voltage in comparison.



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Contact:

*Magnum Switchgear, Bengaluru
Tel: 080-23580952 Mobile: 08618241212
Email: sales@magnumswitchgear.com*

MEDIUM VOLTAGE VACUUM CIRCUIT BREAKER PANELS

Sanjay Technical Services provides medium voltage vacuum circuit breaker panels (33kv & 11 kv VCB panels). These panels are manufactured in the state-of-the-art technology.



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Contact:

*Sanjay Technical Services Pvt Ltd, Hyderabad
Mobile: 09849513001, 08790234994
Email: sanjaytechnical@gmail.com*

CIRCUIT BREAKER

BVM Technologies offers a wide range of outdoor SF6 circuit breaker. The SF6 circuit breaker is manufactured using high-grade basic components and sophisticated technology in accordance with international quality standards. They are available in various specifications.



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Contact:

*BVM Technologies Pvt Ltd, Ghaziabad
Tel: 0120-4560135 Mobile: 09810920116
Email: info@bvmtechnologies.com*

MOTOR PROTECTION RELAYS

Gujarat Plug-In Devices offers a wide range of 3-phase AC induction motor protection relays. Motor protection relays are used for protecting 3-phase AC induction motors against adversities and hazards.



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Contact:

*Gujarat Plug - In Devices Private Limited, Vadodara
Tel: 0265-2637209, 2631075
Mobile: 09925042386
Email: info@gpd-transformers.com*

DISTRIBUTION TRANSFORMER

Nakoda Steel is offering distribution single phase transformer. A distribution or a service transformer provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines to the level used by the customer.



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Contact:

*Nakoda Steel, Vadodara
Tel: 0265-2580663
Email: info@nakodaproducts.com*

HIGH QUALITY LT CONTROL PANEL

Bajaj Steel Industries manufactures high quality LT control panels. The LT panels come in quality construction finish and are suitable for operating voltages below 440 volts.



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Contact:

*Bajaj Steel Industries Ltd, Nagpur
Tel: 07104-238101, 238120
Mobile: 09325132311, 09325132306
Email: bsi@bajajngp.com, mks@bajajngp.com*

HIGH QUALITY FIREFIGHTING PANEL

Koyka Electronics offers high quality firefighting panel. This panel is manufactured by experts using high grade components and innovative technology.



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This panel is available in different designs and sizes.

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*Koyka Electronics Pvt Ltd, Faridabad
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Email: harsh@koykagroup.co.in*

HIGH PERFORMANCE STEP DOWN TRANSFORMERS

Servokon Systems offers comprehensive range of high performance step down transformers. The transformers are manufactured using quality components, keeping in view the application requirements.



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Contact:

*Servokon Systems Ltd, Ghaziabad
Tel: 011-42448384, 42448381
Mobile: 09810630786, 09873630786
Email: info@servokon.com, servokon@gmail.com*

OIL FILLED DISTRIBUTION TRANSFORMER

Recons Power Equipments offers a wide range of oil filled distribution transformers. These transformers are developed using the latest technologies



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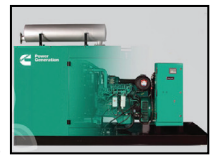
and can be provided with a variety of terminations.

Contact:

*Recons Power Equipments Pvt Ltd, Faridabad
Mobile: 09811818244, 08586966551
Email: mail@reconsindia.com*

DIESEL GENERATOR SET

Cummins India offers QSB5.9 series diesel generator set. This is a heavy-duty engine and Stamford alternator powered diesel generator set with class defining quantum engine technology with fully integrated subsystems and full authority electronic engine.



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Contact:

*Cummins India Ltd, Pune
Tel: 020-67067000
Email: cpgindia@cummins.com*

GREAVES GENERATOR

Lucsam Services is offering a wide range of high performance Greaves generator. These generator is high on performance with less noise and sturdy construction. It comes with wet liner cylinder, lower brake means effective pressure.



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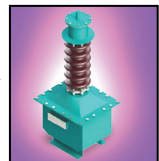


Contact:

*Lucsam Services Pvt Ltd, Mumbai
Mobile: 09930963317, 09167497940
Email: contact@lucsam.net*

OUTDOOR TRANSFORMERS

Ereva Transformers & Switchgear is a manufacturer and trader of supreme quality outdoor type potential transformers. They are designed to present a negligible load to the supply being measured and having an accurate current ratio.



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Contact:

*Ereva Transformers & Switchgear, Ghaziabad
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CAPACITOR

Inka Enterprise offers a wide range of capacitor. Pioneers in the industry, they offer KVAR capacitors, power factor improvement capacitors, neptune ducatti make capacitors, duca power capacitors, schneider make capacitors and submersible panel capacitors from India.



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Contact:

*Inka Enterprise, Ahmedabad
Tel: 079-22120877, 22138827
Mobile: 09978905059, 09978905059
Email: inkaad1@yahoo.co.in*

EARTHING TRANSFORMERS

Urja Techniques India Pvt Ltd offers a wide range of earthing transformers. These earthing transformers are used to create a neutral point in a three-phase system, which provides possibility for neutral earthing.



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Contact:

*Urja Techniques India Pvt Ltd, Mumbai
Tel: 022-40670500, 24150505
Mobile: 09820401606, 09820081474
Email: urjatech@gmail.com*



Financing MSMEs Unconventionally

Despite playing a vital role in the economy, micro, small and medium enterprises (MSMEs) often struggle to access affordable financing necessary for their growth. In this article, Rakesh Rao explores some non-traditional routes to ease funding pressure on MSMEs.

Today, India is home to the world's biggest micro, small and medium enterprises (MSMEs) community (more than 60 million) who contribute around 29.7 per cent of the country's GDP. Of these, 40 million have registered themselves on the Udyam Registration Portal of the Union Ministry of MSME. Despite being the vital cogs of the economy, MSMEs often struggle to access working capital and affordable financing necessary for their growth and sustainability. "Most of them lacks collateral, have lower credit ratings and financial instability. This makes access to formal credit difficult. Even if these MSMEs secure a loan, the interest rates would be high because of unsecured lending," observes **Sundeep Mohindru, Promoter & Director, Mixchange.**

 **The ease with which the seller and buyer can source working capital finance on TReDS by way of digital bill discounting is enabling faster growth. On TReDS, MSMEs get an access to much required working capital without collateral.**

Sundeep Mohindru,
Promoter & Director, Mixchange

Low credit worthiness is a major stumbling block to secure loans. "This stems from the fact that they do not have economic size to operate and often their models are not scalable. Further, they are slow in becoming professional and their accounts are not fully in order to convince the lenders. SMEs, which have transcended these challenges, have no problems in getting finance or even taking the benefits from the government. While credit availability is still there, the cost tends to be high. Fintechs are offering smaller loans to these enterprises, though the interest costs tend to be very high to cover

for risk," observes **Madan Sabnavis, Chief Economist, Bank of Baroda.**

 **Private banks are looking at the MSME space with attention. But public sector banks would be the drivers in the future as they perform a national duty when it comes to priority sector lending.**

Madan Sabnavis,
Chief Economist, Bank of Baroda

Pain points for SMEs

In the recent years, the government has introduced several schemes like Mudra Yojana, Credit Guarantee Trust Fund for Micro & Small Enterprises (CGTMSE), Fund of Funds, etc. In spite of this, MSMEs still face problems while raising working capital. "Traditional banking and financial institutions are generally reluctant to work with MSMEs because of small-ticket size loans and the limited ability of the MSMEs to provide collateral and relevant credit histories. Access to timely MSME funding, complex regulatory procedures, and insufficient financial knowledge are some of the daunting obstacles faced by MSMEs in India. This makes securing loans difficult, hindering SME expansion, and impacting the overall economy's growth," says **Sachin Agrawal, Co-founder & CEO, Bizongo.**

While lending to SMEs normally banks tend to take 100-150 per cent collateral on their loans. CGTMSE and other funds of a similar nature in India try to incentivise these banks by covering a large portion of their risk (up to 85 per cent) and promoting a collateral-free lending process to MSMEs. "As good as this may sound in theory from a bird's eye view, the practicality of this scenario may not sit well with banks as imagined. This is because these guarantee funds, although cover a large portion of their risk, are never 100 per cent. While banks are used



“By leveraging digital-first embedded financing platforms, both buyers and suppliers can access a wide pool of financial institutions to find the best financing options tailored to their profiles.”

Sachin Agrawal,
Co-founder & CEO, Bizongo

to collecting 150 per cent collateral, this negates their incentive to lend with a perceived risk in the first place. In this case, the banks may only rely on the CGTMSE type funds when they would want to lend to someone who is financially sound rather than help those at the bottom of the pyramid who lack significant collateral to get a loan, defying the whole purpose of the fund's existence,” observes **Raja Debnath, Managing Director, Veefin Solutions Ltd.**

SMEs require collateral-free loans as most of their books aren't in order, or at least not as per the bank's guidelines for financial institutions to verify. “The non-GST business maybe a large part of their operations which is not accounted for while assessing credit worthiness of an SME. Apart from this, heavy manual processes, physical document verifications and lack of technology intervention, leading to a significantly high turnaround time,” says Debnath.

TreDS in trend

One probable solution for meeting the financial requirements of MSMEs could be the introduction of newer models. Here, fintech can play a crucial role. “By



“Supply chain financing is the safest and quickest way for SMEs to obtain financing today because the invoice is backed by a large corporate with an intent to pay/ receive funds for the transaction.”

Raja Debnath,
MD, Veefin Solutions Ltd

expanding financial accessibility and offering specialised finance services, fintechs can facilitate the growth of MSMEs and also propel the industry towards enhanced efficiency, competitiveness, and digital inclusivity in the long run,” opines Mohindru.

According to Agrawal, supply chain finance or purchase invoice discounting can be one solution to this

problem, wherein banks/NBFCs or other financial institutions (FIs) discount the invoices and pay MSMEs within the stipulated timelines. “Another solution is factoring, where FIs usually pay up to 80-90 per cent of the invoice value upfront. This facility can be very relevant for MSMEs that usually have huge outstanding invoices from large enterprises,” he adds.

MSMEs often face a major challenge in terms of delayed payments from their buyers, who are mostly large corporates, central public sector enterprises, and government departments. This severely affects the working capital of MSMEs. To address this, the Reserve Bank of India (RBI) introduced the Trade Receivables electronic Discounting System (TReDS), which allows MSME suppliers to receive immediate working capital on their invoices from multiple financiers, such as banks and NBFCs (non-banking financial companies), who bid on the bills at discounted rates. “The ease with which the seller and buyer can source working capital finance on TReDS by way of digital bill discounting is enabling faster growth. On TReDS, MSMEs get an access to much required working capital without collateral, and therefore there are no limitations to scaling up. As such, the interest rates related to TReDS are between 7 and 11 per cent per annum, whereas unsecured borrowing ranges from 16 to 24 per cent per annum. Therefore, MSMEs understand that this is a beneficial platform for them as they have access to working capital within 24 hrs and at lowest interest rates,” opines Mohindru.

Sabnavis observes, by adopting technology, MSMEs will be able to not just scale up their business in terms of procurement and sales, but also have access to finance from new sources of funding. “The TReDS platform is a good example of how SMEs can use technology to seek funds. Factoring is a very important part of the financial eco-system for the SMEs as this helps them to keep going even while the payments come in with a lag,” he adds.

Some of the other non-conventional ways for SMEs to obtain financing is through supply chain financing. “In the case for most SMEs, they tend to mostly require working capital in 2 major scenarios, either they have sold something and are waiting to get their dues, or they have a high value order for which they require working capital to process the incoming demand. Supply chain financing is the safest and quickest way for SMEs to obtain financing today because the invoice or the purchase order is backed by a large corporate with an intent to pay/receive funds for the transaction,” says Debnath.

Technology aiding lending ecosystem

With MSMEs looking to adopt automation/digital solutions, they are looking at the best options to raise

finance for their modernisation plan. Mohindru believes that MSMEs have several viable financing options for their modernisation plans. “Traditional bank loans and credit lines are commonly used, often tailored specifically for technology upgrades. Furthermore, governments provide a range of programs and subsidies intended to assist MSMEs in undergoing a digital transformation, which makes them an attractive choice for securing necessary funds,” he states.

Beyond traditional financing, MSMEs can explore more innovative options through fintech that provide quick and adaptable funding solutions tailored to their specific needs, leveraging technology to streamline the lending process. “These diverse financing avenues enable MSMEs to access the capital required for adopting automation and digital solutions effectively,” says Mohindru.

With the adoption of digital solutions, SMEs can achieve greater output, faster production, and eventually increased sales. To keep up with this pace, these businesses require adequate working capital, which can be facilitated through quicker financing of their existing invoices. “By leveraging digital-first embedded financing platforms, both buyers and suppliers can access a wide pool of financial institutions (FIs) to find the best financing options tailored to their profiles. These platforms also enable SMEs to quickly create a 100 per cent digital loan application and select the most favorable terms without the need for physical visits to FIs, thus saving them crucial time,” says Agrawal.

Utilising these digital platforms, SMEs can build a transparent record of their financial transactions and repayments. “This documented history enhances their creditworthiness, aiding in securing future financing. The platforms’ technology enables SMEs to efficiently manage their financial activities and access additional financing lines as needed,” opines Agrawal.

Technology has the potential to revamp the MSME lending landscape. This is where fintechs have stepped in to transform the lending space by leveraging new age technologies. Mohindru says, “By harnessing vast amounts of data, including transactional histories, payment patterns, and market trends, fintech platforms can develop comprehensive borrower profiles. Based on the detailed profiles and data insights, they can identify their financial health, risk propensity, and repayment capacity, thereby enabling more accurate credit assessments. For instance, data analytics tools such as credit analytics engine are reshaping credit evaluation methods, paving the way for a more inclusive and efficient financial ecosystem.”

Private banks eyeing for bigger role, but...

In the recent years, private banks have increased

their focus on the MSME financing space due to its high growth potential and profitability. Mohindru observes, “They are leveraging digital transformation, improved risk assessment models, and tailored financial products to efficiently serve this sector. Regulatory support and government initiatives also make MSME financing more attractive. Therefore, banks and NBFCs are getting more confident about extending financial support to MSMEs. With the option of supply chain financing, banks are receiving a lot of requests from corporates for financing, which broadens their MSME lending portfolio.”

While private banks face challenges such as credit risk and higher operational costs, their aggressive strategies are driven by the need to diversify portfolios and capture a larger market share, thereby enhancing overall profitability and competitiveness. “Private banks hold a 43 percent share of MSME credit demand. In its latest report on the performance of the banking sector during 2022-23 and 2023-24 so far, the central bank noted that the co-lending framework for priority sector lending facilitated the flow of credit by NBFCs to the MSME sector, leveraging on the low cost of funds of banks and the greater reach of NBFCs. Large private sector banks are increasingly opening to working with fintechs to tap into the underserved unsecured business credit market,” says Mohindru.

According to Debnath, private banks have shown consistently higher growth rates in providing loans to MSMEs than their public sector counterparts. “By investing in digital platforms to enhance their services and meet the specific needs of the sector, these banks are streamlining the loan application process, making it faster and more efficient for the rapidly growing businesses in the country. Private banks are also extensively looking to partner with multiple fintechs to increase their lending portfolio within SMEs in the country. With the support of technology and the India stack, private banks are now evaluating creditworthiness more accurately within seconds while eliminating most of the manual verification processes initially that were extremely time-consuming, enabling them to take a more aggressive role in supporting the growth of India’s vibrant MSMEs,” opines Debnath.

Though private banks have shown their strong intent to grow in the MSME space, PSBs are expected to be the leading lenders for MSMEs. “Private sector banks are looking at this space with attention. But, it would mainly be the PSBs which will take on the role of empowering SMEs given that these are small tickets, which may not make economic sense to the private banks. As they perform a national duty, when it comes to priority sector lending, PSBs would be the drivers in the future,” opines Sabnavis.



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“The Problem with SMEs is their Low Credit Worthiness.”

While micro, small and medium enterprises (MSMEs) form a backbone of the economy, but they are not homogenous in terms of size, product/service, role played by them in the supply chains, etc. Medium size firms have definitely improved their financials, improving their creditworthiness to a significant extent. The same may not hold for the micro or small units, says **Madan Sabnavis, Chief Economist, Bank of Baroda**. In this interaction with **Pratap Padode, Editor-in-Chief, Smart Manufacturing & Enterprises (SME)**, Sabnavis discusses the status of the private investment cycle, key pain points of SMEs, and some probable solutions.

Have you seen signs of revival of the private investment cycle? Where do SMEs stand in this revival cycle?

The investment cycle is quite dualistic. It has been observed that industries which are infrastructure oriented tend to move up the scale when it comes to investment. Typically, industries which get linked with the government push on capex, have been at the forefront. The government has been focussing a lot on roads, railways and urban development. Hence, industries like steel, cement and engineering (to an extent) have benefited. However, the same picture does not emerge when one looks at the consumer oriented industries where demand is tepid mainly due to higher inflation and low increase in income partly due to slower job creation. The investment cycle here still has to take off, as there is excess capacity in several units.

As far as SMEs are concerned, the investment cycle follows the same pattern, as most of them are ancillary to large business and their output is consumed by them. Hence, spare parts, tools, auto ancillaries etc. have tended to benefit when there is a boom in the front end.

Are SME balance sheets of SMEs in better shape today than 2 years back? Has their creditworthiness increased now?

It would be hard to make a general statement as the MSMEs are not homogenous in terms of size, product/



service, ownership, part of supply chains etc. Among medium size firms, there definitely has been an improvement in their financials, which is reflected in their market valuations too. Hence, their creditworthiness has improved to a significant extent. The same may not hold for the micro or small units. Going back to the earlier question on issue of investment cycle recovery it can be said that industries where the front end connections have worked well would be in a much better shape. The smaller ones in the services sector would still be facing challenges.

In spite of the government announcing several schemes like “Mudra Yojana”, “Credit Guarantee Trust Fund for Micro & Small Enterprises”, “Fund of Funds”, etc, why do SMEs always face problems in raising finance?

The major problem is that credit worthiness is low. This stems from the fact that they do not have economic size to operate and often their models are not scalable. Further, they are slow in becoming professional and their accounts are not fully in order to convince the lenders. SMEs which have transcended these challenges have no problems in getting finance or even taking the benefits from the government. While credit availability is still there, the cost tends to be high. Fintechs are offering

smaller loans to these enterprises, though the interest costs tend to be very high to cover for risk.

What are key pain points for SMEs when it comes to access to finance? What are some probable solutions?

Main point is having a strong balance sheet. This means that there need to be audited accounts and their business should be making enough money to service debt. This is the starting point because when the debt service capability is low, it becomes hard to get loans at reasonable rates. They do need to reinvent themselves on this score if they are to borrow money and scale up or else they would remain in a similar state for the next decade or so.



Digitisation is an enabler and in today's world necessary to adopt to ensure efficiency. With the rise of the fintech platforms, there are new channels for borrowing which need to be explored by MSMEs.

We need to have a credit rating system for these enterprises and agencies like CARE, CRISIL etc. can play a role here. If lending rates are linked to the rating, then there will necessarily be a case of SMEs to get their houses and accounts in order to ensure that they can be rated so that they can borrow on better terms. The information asymmetry has come in the way of this access. We have also seen that with the SME IPO platform coming in, all those which want to access the market, have gotten their books in order. Hence this can be done on the bank credit side too.

After automation and digitalisation has become a must for survival, what are the best options for SMEs to raise the finance for modernisation?

Digitization is an enabler and in today's world necessary to adopt to ensure efficiency. With the rise of the fintech platforms, there are new channels for borrowing which need to be explored by them. P2P platforms have come up which help to provide funds to start-ups, which would be in the SME realm to begin

with. By adopting technology they will be able to not just scale up their business in terms of procurement and sales, but also have access to finance from these new sources of funding. The TREDs platform is a good example of how SMEs can use technology to seek funds. Factoring is a very important part of the financial eco-system for the SMEs as this helps them to keep going even while the payments come in with a lag.

How technology can revolutionise the SME leading eco-system market?

It has been seen that the entire start-up eco system has benefited from the use of technology and this should spread to the next tier of well-run professional SMEs. Several eProcurement platforms of the government (such as Government e-Marketplace or GeM) can be used by them for selling their products. Fintech platforms help to raise funds while TREDs helps in factoring. Hence with the spread of technology several loose ends have been tied.

How are private banks looking at the SME finance space? Do you see them playing a more aggressive role?

Yes, they would be looking at this space with attention. But in my view, it would mainly be the PSBs which will take on this role of empowering SMEs given that these are small tickets which may not make economic sense to the private banks. But PSBs perform a national duty when it comes to priority sector lending and hence would be the drivers in future.

MUDRA Yojana for all banks (public, private, foreign, state cooperative, regional rural and small finance) since the launch of the scheme on April 8, 2015, added up to ₹460.5339 billion as on June 30, 2022.

This is just 3.38 per cent of the total disbursements of ₹13.640 trillion under the scheme during the period. What would you surmise from this as an economist and as a banker?

Loans have to be linked with debt serviceability and hence the message is that borrowers have to be financially strong to get lenders to lend. This is so as lending is a commercial business and lenders are answerable to their stakeholders.

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Embedded Finance: Empowering MSMEs!

Despite the contribution to employment generation and GDP growth, MSMEs are considered to be the backbone of the Indian economy and often struggle to access working capital. Embedded finance can help to unlock working capital for MSMEs, says **Sachin Agrawal, Bizongo**.



need for separate licenses or infrastructure. For example, an e-commerce platform might offer buy now, pay later financing at checkout, while a ride-hailing app could enable direct in-app payments for rides. This innovative approach allows businesses to provide financial products and services without the traditional requirements. Serving as a catalyst, embedded financing addresses the specific challenges of MSMEs in India by automating transactions and offering real-time insights through platform integration.

Embedded financing offers numerous benefits for MSMEs, enhancing their financial capabilities. Firstly, it simplifies access to capital

MSMEs contribute significantly to employment generation and GDP growth; however, they often face challenges in accessing working capital, hindering their day-to-day operations and expansion plans. Traditional financing models which include lengthy approval processes, collateral requirements, high-interest rates, etc. make it difficult for MSMEs to navigate the financial landscape effectively.

Embedded financing has emerged as a pivotal tool, finding its most impactful use case in the support and growth of India's MSMEs. While the 'buy now, pay later' (BNPL) is a debatable concept in the consumer industry, 'embedded financing' has proven to be a game-changer by unlocking working capital for the backbone of India's economy – the micro, small, and medium enterprises (MSME).

A catalyst

Embedded finance seamlessly integrates financial services into existing business platforms, eliminating the

by streamlining the acquisition process, providing a user-friendly alternative to traditional loans. This facilitates quick access to funds, enabling MSMEs to meet immediate financial needs without bureaucratic hurdles. Secondly, it allows for tailored financial solutions, recognising the diverse needs of MSMEs. Whether it is managing inventory, meeting payroll, or seizing growth opportunities, businesses can customise financial services to align with specific requirements, fostering operational flexibility. Moreover, embedded financing empowers MSMEs to proactively manage and mitigate risks in a dynamic economic environment. By providing financial flexibility, it helps businesses navigate economic downturns, market uncertainties, and unforeseen challenges, enhancing resilience. Additionally, the integration of embedded financing into MSME operations is often facilitated by technology-driven platforms and fintech solutions, promoting financial inclusion and accessibility to the latest financial technologies for smaller businesses.



**Just like a reliable compass,
embedded financing directs
businesses towards success.
Beyond being a mere financial tool,
it becomes the driving force
propelling businesses forward.**

Supply chain financing

Embedded financing, often in the form of supply chain financing, optimises cash flow within a business's supply chain. It offers early payment options to suppliers or negotiates extended payment terms with buyers, ensuring efficient working capital flow. This flexibility enables businesses to maintain seamless operations, seize growth opportunities, and navigate modern business challenges. Consequently, small businesses access capital precisely when needed, fostering a win-win

scenario for all stakeholders involved. For example, a manufacturer who secures early payment discounts from suppliers through supply chain financing is capable of providing retailers with competitive pricing because of the cost advantage. As a result, consumers are also able to acquire products at reduced prices.

Embedded financing emerges as the guiding light steering businesses towards financial stability. It ensures a consistent flow of capital, empowering organisations to navigate challenges and seize opportunities. Like a reliable compass, embedded financing directs businesses towards success. Beyond being a mere financial tool, it becomes the driving force propelling businesses forward. It is essential to embrace embedded financing for resilience and efficiency and utilise its potential to optimise cash flow and streamline transactions.

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About the author:

Sachin Agrawal is the Co-Founder & CEO of Bizongo, a trade enablement platform. The Forbes 30 under 30 achiever is an alumnus of IIT Bombay and has previously worked with PepsiCo, Biocon and Gravitas. Agrawal co-founded Bizongo in 2014 and is transforming the Indian B2B trade since.



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“KONE has the largest and fastest elevators in the tallest building in India”

With the Government of India planning to invest \$1.4 trillion in infrastructure over the next five years, the demand for elevators and escalators is expected to grow manifold. As a result, both domestic and international players are eyeing to increase their share in this growing market. India is an extremely important market for KONE and is the second largest market for elevators in the world after China, says **Amit Gossain, Managing Director, KONE Elevator India**. In this interview with **Pratap Padode, Editor-in-Chief, Smart Manufacturing & Enterprises (SME)**, Gossain highlights on the importance of safety and sustainability in the industry, along with new growth opportunities.

KONE India has completed 40 years in the country. How do you see the journey of the company over the years?

India is an extremely important market for KONE. It is the second largest market for elevators in the world after China. To strengthen economy and fuel growth, the government of India (GoI) has introduced several initiatives that will expand our market potential. Some initiatives include Smart Cities, Affordable Housing for All, and Make in India. Our state-of-the-art manufacturing facility is the largest in India and in South



and South East Asia, Pacific and Middle East, designed to meet the growing customer demand. We have already been producing elevators in India for the last 40 years and are extremely proud of our achievements; including the opening of the Chennai facility. To meet the demand of the market and ensure strong supply in India and for exports, we have started manufacturing and assembling escalators locally for the domestic market, as well as to export to Nepal, Bhutan, Bangladesh and Sri Lanka. The strong supply in India also strengthens and diversifies our global supply, and with the production in India, we will be able to serve our customers in India and other export markets.

KONE is also proud of manufacturing the world's largest elevator that is present in the Jio World Convention Centre, Mumbai. It is a landmark building with 110 KONE elevators and 78 escalators. The tallest buildings in all four regions in India run with KONE elevators. KONE has the largest and fastest elevators in India in the tallest building in India.

How does the growth of the real estate sector translate into the demand for elevators and escalators?

The growth phase of Indian infrastructure has been truly remarkable. Our government's focus on infrastructure development, coupled with favourable policies and initiatives, has accelerated growth across various sectors. GoI has set a target of investing \$1.4 trillion in infrastructure over the next five years. Infrastructure projects such as roads, railways, airports, seaports, smart cities, and digital connectivity have witnessed significant progress, bridging the gaps and enhancing the overall socio-economic development of the country. This transformation has set the stage for a new era of opportunities and possibilities in India.

KONE India has been contributing to 'Make in India' with our indigenous state-of-the-art factory in Chennai. The factory, powered by our technology and innovation centers in Chennai and Pune, produces elevators and escalators to cater not just to the Indian market but also for exports.

It is estimated that 20-30% of the installed elevators in India are 25 years old. What kind of opportunities does it present to KONE?

The large number of aging elevators in India presents a significant market opportunity for KONE to expand our presence through modernising these elevators to ensure safety for end users.

We identified that a significant portion of these aging elevator are in many tier 1 and tier 2 markets. KONE offers modernisation solutions that enhance safety,

energy efficiency, and performance of these aging elevators. We ensure that they comply with current regulations and standards. Safety standards evolve over time, and older elevators may not meet current safety requirements. So, KONE offers safety upgrades and enhancements to ensure compliance with regulations and improve passenger safety.



The large number of aging elevators in India presents a significant market opportunity for KONE to expand our presence through modernising these elevators to ensure safety for end users.

After its foray into escalator manufacturing in Chennai, KONE India recently delivered its first consignment. How do you see the market for escalators in India? What are your plans to scale up the manufacturing capabilities?

To meet the market demand, we have started manufacturing and assembling escalators locally for the domestic market, as well as for exports.

Having delivered the first escalator to our customer, F5 Realtors (one of the leading real estate companies in Pune), KONE India intends to build on the momentum by delivering customised product range that is on par with global quality standards. We plan to leverage our Indian manufacturing unit, bolstered with innovative technology and the world-class escalator testing facility in Sriperumbudur, Chennai to provide world class solutions to our customers.

What steps are being taken by KONE India to reduce carbon footprint?

Sustainability is a key design principle in all our innovations. Our products, services and processes have a significant role in advancing climate action. We have become a leader in sustainability through our comprehensive and forward-thinking approach to environmental responsibility, technological innovation, and social impact. In our Indian manufacturing facility, we use smart technologies and a green vehicle fleet to minimise emissions and

maximise efficiency. The facility also features water recycling and rainwater harvesting systems, as well as solutions to conserve energy, limit greenhouse gas emissions, and maximise indoor air quality – all in accordance with Indian Green Building Council (IGBC) criteria. We are a “Platinum rated factory”.

KONE is the first in the industry to achieve carbon neutral manufacturing units globally. KONE’s carbon neutral factory milestone was reached 18 months ahead of the set target date showcasing our dedication to the climate pledge and ensuring best-in-class supply chain operations globally.

What are the key challenges faced by elevator and escalator manufacturers in India? How can we overcome them?

Keeping up with evolving safety and regulatory standards can be challenging. Manufacturers must ensure that their products meet all local and national regulations, which may require continuous updates and modifications to their designs and manufacturing processes.

The elevator and escalator industry in India is highly competitive, with both domestic and international players vying for market share. Manufacturers must differentiate themselves through product innovation, service quality, and customer satisfaction to stay ahead of the competition. Manufacturers should invest in training programs to develop a skilled workforce capable of handling installation, maintenance, and repair tasks efficiently. This may involve partnering with vocational schools, technical institutes, and certification programs to attract and retain talent. For example, KONE India in association with Chitkara University in Punjab offers a diploma in Vertical Transportation that opens the door of students who wish to pursue a career in elevator and escalator industry.

Safety in high-rise buildings has been in the spotlight in recent times. What steps need to be taken by builders and elevator manufacturers to enhance the safety features in high rise buildings?

To enhance safety in high-rise buildings, both builders and elevator manufacturers need to take proactive steps to ensure that the elevator systems meet the highest safety standards. Builders must ensure

that their high-rise buildings comply with all relevant building codes and safety standards related to elevators and escalators. This includes following regulations on elevator size, capacity, speed, emergency procedures, and fire safety.

Elevator manufacturers should design and manufacture elevators with advanced safety features to mitigate risks and enhance passenger safety. This may include features such as redundant braking systems, emergency lighting, automatic rescue devices, and anti-climbing protection. Also, we need to emphasise on the incorporation of the Lift Act and regulations that need to be followed across India.



To enhance safety in high-rise buildings, both builders and elevator manufacturers need to take proactive steps to ensure that the elevator systems meet the highest safety standards.

What are the growth plans for KONE India in the coming years?

KONE’s growth plans in India involves a combination of market expansion, product innovation, service enhancement, partnerships, and investment in manufacturing and operations to capitalise on the opportunities presented by India’s dynamic construction and urbanisation trends.

Today, KONE India has 50+ branches to cater to the ever-evolving needs of the customers, to strengthen service network and capabilities across India to provide timely maintenance, modernisation, and repair services for its existing installations. We also have strong distributors in Bangladesh, Nepal, Bhutan and Sri Lanka managed from India.

As a part of our strategic expansion plans, we have bought more land adjacent to current factory that will serve as the foundation for the expansion of KONE’s manufacturing unit in Chennai. This expansion underscores KONE’s dedication to enhancing its manufacturing capabilities for the growing markets in India, and for exports.

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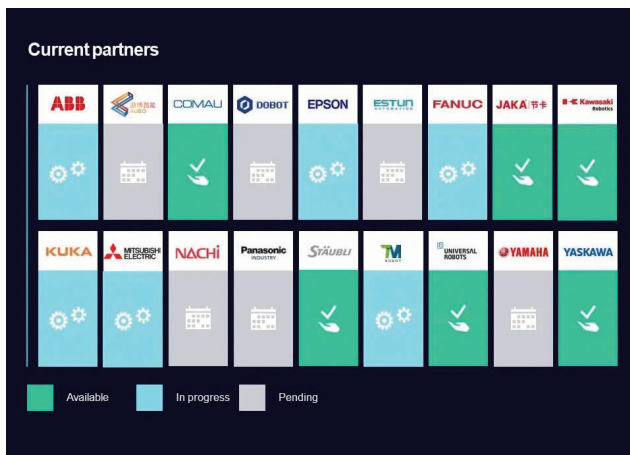
Robot Control: The Integrated Approach

Automation suppliers have been offering solutions for machine-integrated robot control for many years. The increase in the adoption of robots since 2021 for integrated control has surged, writes **Samantha Mou, Interact Analysis**.

Just before Hannover Messe, Siemens announced its cooperation with two collaborative robot vendors, UR and JAKA. This will enable Siemens PLCs to control robots from UR and JAKA through the TIA Portal using the 'Standard Robot Command Interface (SRCI)' function. Prior to this, Siemens was already working in cooperation with Comau, Stäubli, Kawasaki and Yaskawa in integrated robot control via SRCI. A series of other leading robot brands, such as ABB, KUKA, FANUC, Epson and Techman, are also scheduled to come on board, and some other well-known Japanese and Chinese suppliers are pending, including Yamaha and Estun.

This means that the most influential industrial robot and collaborative robot brands on the market will support integrated robot control, allowing their robots to be controlled by automation systems.

In fact, automation suppliers have been offering solutions for machine-integrated robot control for many years, but with the strong increase in the adoption of robots since 2021, demand for integrated control has surged. New actions from leading suppliers like Siemens, will accelerate the trend significantly and expect the market for machine-integrated robot control to grow rapidly over the next few years.



Partners of Siemens SRCI Robot Control System

Source- : Interact Analysis

What is machine-integrated robot control?

Currently, the integration of industrial or collaborative robots and machines generally uses communication networks. The robot and the machine utilise independent control platforms, and robot controllers are connected to the machine PLC via communication protocols to facilitate machine-robot coordination.

In this conventional scenario, robots are sold with proprietary controllers. If an integrator or machine builder needs to adapt robot kinematics to machine movements, robot programming expertise is required. As the control software and programming languages of each robot vendor often differ, integrating robots from different suppliers requires a lot of engineering and is very demanding.

The concept of machine-integrated robot control emerged in a bid to unify control of machines and robots. There are two main ways of doing this. One is to retain the robot-specific controller hardware. For example, Siemens' method employs a PLC that supports SRCI functions to translate and merge the robots' control instructions into the TIA Portal. This enables engineers to use Siemens' development environment to control robots without using robot programming languages.

Another integration method is to eliminate the robot controller hardware and use an automation controller with motion control functions instead. Robot axes are regarded as components of the machine and can be controlled directly by the machine controller. Notable solutions using this method include Rockwell's Unified Robot Control, B&R's Machine-Centric Robotics, Schneider's PacDrive, and Omron's NJ501-R controller. In addition to robot mechanics coming from robot manufacturers, there are also many cases where machine builders or integrators build robot mechanics themselves.

The right time for machine-integrated robot control

Compared with communication networks, integrated control of machines and robots has many advantages; for

example, eliminating the proprietary robot controller saves space in the control cabinet. When multiple robots are integrated, the integrated controller makes it easier to achieve better machine-robot synchronisation and higher speeds, leading to better performance and cost advantages. In customised scenarios, machine builders make special robot kinematics in house, and a general automation controller enables practical integration of self-built robots with machines.

Integrated robot control is not a new concept. Cooperation between automation and robot vendors in this area can be traced back to 2015, but market demand has previously been tepid. However, over the past three years it is growing in popularity, with many manufacturers launching solutions. In addition to the advantages already mentioned, we believe the current market environment has accelerated the trend towards machine-integrated robot control.

The cost of robots has been reducing over time as production volumes increase. This enables more widespread adoption of robots in machines, pushing up the average number of robots per machine. At the same time, end users are increasingly requesting robot-machine synchronisation and the speed of robots used in machines. Conventional systems with separate robot and machine controllers sometimes have difficulty meeting performance requirements, enhancing the need for integrated robot control systems.

The expertise required for integrating robots remains high. Due to continued labour shortages, unifying the control systems of robots and machines becomes increasingly attractive to machine builders as it can help them manage the shortage of experienced engineers. For integrators and machine builders, this is not only related to product development and delivery, but also crucial in the after-sales stage.

Different market participants can benefit from the trend

The increasing adoption of robots and the continued shortage of experienced engineers, there is strong growth in the market's interest in integrated robot control. Different types of relevant market players are trying to seize the opportunities and benefits offered by this technology.

Automation system suppliers see the most direct benefits from the trend. They have a chance to enter the robot controllers market. At the same time, integrated robots can also generate growth opportunities for their servo drives – even motors – businesses.

Machine builders are also actively adopting integrated robot control, as they value the improvement in machine performance it brings, as well as the ability to save costs, control the supply chain, and provide users



For end users, the machine-integrated robot control system is more convenient to operate and has performance advantages.

with more complete after-sales services by building their own robot mechanics.

For robot manufacturers, supporting integration solutions requires them to permit some access to their robot control system. However, this can reduce the difficulty for users adopting their robots and therefore increase the competitiveness of the brand.

For end users, the machine-integrated robot control system is more convenient to operate and has performance advantages in multi-robot scenarios, increasing their willingness to choose integrated solutions.

Since ABB and B&R launched machine-integrated robot control several years ago, both leading automation suppliers and robot vendors have created their own solutions. Manufacturers specialising in robot mechanics that support various integrated controllers have also emerged. Machine builders – especially suppliers of packaging machines and customised automation solutions – continue to launch products with integrated robot control, and some have even started serial production of self-made robots for their machines.

Final thoughts

Considering the two integration methods, SRCI is a good example of the former method, which is suitable for controlling complicated robot kinematics. As SRCI is an open standard developed and maintained by Profinet, in addition to Siemens, other manufacturers may also launch products in this field in the future, especially those with strong presences in the PLC market.

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About the author:

As a Research Analyst at Interact Analysis based in China, Samantha Mou provides support in the industrial automation sector. She brings with her a master's degree in Economics, and has experience, while working in Germany, conducting market research in industrial equipment and automobile components.



Klüber Lubrication on expansion mode!

Klüber Lubrication, a global supplier of speciality lubricants, offering high-end tribological solutions, expands to boost domestic production, supporting GOI's 'Make in India' initiative.

Klüber Lubrication, a global leader in specialty lubricants, is thrilled to announce a significant expansion of its operations facility in Mysore, slated to be fully operational by early 2027. The current manufacturing plant, spanning 17000 sqm, already produces top-notch specialty lubricants. The recent investment of ₹1.42 billion, will reaffirm its commitment to 'Make in India' by boosting domestic production.

The upgraded plant will boast a state-of-the-art production facility tailored to Klüber Lubrication's specialised requirements. As part of these investments, Klüber will acquire new certifications like IATF (for automotive customers) and ISO 21469 (for food grade lubricants), while enhancing R&D infrastructure and expediting the introduction of new products to market. Leveraging these enhancements, Klüber Lubrication aims to ramp up its operations, introduce high-value product lines, and facilitate the seamless transition of global products to better serve its clientele.

The groundbreaking ceremony, graced by members from the Freudenberg Chemical Specialities and Klüber Boards, along with the Klüber India leadership team, marked the commencement of this transformative project in Mysore.

Hitendra Bhargava, CEO and Regional Management Board Member Asia Pacific, Klüber Lubrication, emphasised the transformative impact of this expansion, stating, "By integrating a new production hall and world class infrastructure, we aim is to offer state-of-the-art speciality products which will be locally manufactured. Ultimately, this initiative is in sync with the self-reliance India mission (Atmanirbhar Bharat Abhiyan) launched by the Government of India. This investment helps us to be closer and faster to our customers not just in India, but in the entire APAC region.

Kanakaraju Thangavel, CTO, Klüber Lubrication India added on the regional impact of this expansion, "This a big benefit to our customers in south-east Asia, especially considering the supply chain challenges the world has seen in the last few years owing to geo-



Members from the Freudenberg Chemical Specialities and Klüber Boards along with the Klüber India leadership team at the groundbreaking ceremony in Mysore.

political disruptions. This investment reflects our confidence in the region and our dedication to exceeding customer expectations. We are ready to elevate operations, innovate, and contribute meaningfully to the region's development."

The Mysore expansion reinstates the commitment to sustainability, with solar panels installed on the roof generating over half of the plant's energy from renewable sources. In 2024, Klüber Lubrication was honoured with the prestigious EcoVadis gold medal for sustainability for the third consecutive time, placing it among the top 5 per cent of companies rated worldwide for sustainability.

Klüber Lubrication has provided high-quality lubricants, through consultation and extensive services, earning an excellent reputation in the market. The company holds all common industrial certifications and operates a test bay hardly rivalled in the lubricants industry. Klüber Lubrication, set up in Munich in 1929, is today part of Freudenberg Chemical Specialities SE & Co. KG, a Business Group of the Freudenberg Group, Weinheim.

Founded in 2004 as a part of the Freudenberg Group, Freudenberg Chemical Specialities Munich operates as a lean, market-oriented organisation aimed at promoting innovation and expanding global market leadership in special lubricants and release agents. It comprises five largely independent divisions, serving more than 50 countries.



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Balancing Sustainability in Supply Chain

Manufacturers need to embrace innovative logistics solutions by integrating waterways into their supply chains. **Partha Dash, Moglix**, explains the untapped potential of waterways and its cost saving benefits for the manufacturing sector.



Unlocking the waterways

Traditionally, water routes have served as lifelines of global trade, yet their significance has waned in the era of high-speed transport.

However, for bulk cargo travelling lengthy distances, water transport emerges as a cost-effective solution.

Seafaring vessels, with their massive cargo capacities exceeding 2,000 metric tons, boast operational costs as low as ₹1.06 per metric ton per kilometre (MT-km), significantly undercutting alternative modes of transport.

Comparatively, roadways come to ₹2 per MT-km and rail transport comes to ₹1.41 per MT-km. While vital, the transports prove less economical for bulk cargo movement over extended distances. This cost disparity underscores the pivotal role

In the race for efficiency and profitability, Indian manufacturers face mounting pressure to navigate the delicate balance between economic viability and environmental impact. As consumer demand for sustainability grows and regulations tighten, the imperative for eco-conscious practices becomes increasingly urgent. But how can manufacturers strike a balance between cost-effectiveness and environmental responsibility? Fortunately, an often-overlooked ally stands ready to aid in this quest – India's expansive network of waterways.

Embracing waterways can lead to significant cost savings for businesses across their supply chain, while simultaneously reducing their carbon footprint and aligning their business with India's ambitious sustainability goals. By leveraging this underutilised resource, manufacturers can achieve a win-win – boosting their bottom line and contributing to a cleaner future.

waterways can play in optimising supply chain economics for industries spanning steel, coal, automobiles, and agriculture.

Championing sustainability

Beyond economic efficiency, water transport offers compelling environmental and social benefits, aligning with Environmental, Social, and Governance (ESG) imperatives. Some of the advantages are:

Reduced Air Pollution: Water transport generates a mere fraction of the air and noise pollution attributed to road transport. With a nominal emissions rate of 0.03 units per MT-km, waterways offer a seven-fold reduction in harmful pollutants, fostering cleaner air and quieter surroundings for communities.

Minimal Noise Pollution: Heavy vehicles on roads are major contributors to noise pollution, disrupting communities and impacting wildlife. Waterways boast a near-zero noise pollution rating, creating a quieter

environment for communities residing near transportation corridors. This is particularly beneficial for sensitive ecosystems and wildlife habitats that can be disturbed by excessive noise.

Lower Land Use Impact: Unlike road and rail infrastructure, which necessitate extensive land acquisition and ecosystem disruption, waterways capitalise on existing natural resources, minimising soil and water pollution. This sustainable approach to development ensures environmental preservation, particularly in ecologically sensitive areas.

Enhanced Safety: The near-zero accident rates, make water transport a safe and reliable cargo movement option. Moreover, investing in inland water transport infrastructure fosters regional economic development, creating employment opportunities and driving balanced growth along riverbanks and canals.

Promoting Inland Development: Developing a robust inland water transport system can boost economic development of regions along rivers and canals. This fosters balanced regional growth and creates employment opportunities in these areas.

Seizing opportunities

The steel industry, with its extensive presence in Eastern India encompassing major plants in Bokaro, Jamshedpur, Durgapur, Rourkela, Kalinganagar, Dhankanal, and Angul, stands uniquely positioned to capitalise on the advantages offered by waterways. Fortunately, this region is complemented by a well-established network of national waterways including NW-1, NW-2, NW-86, NW-16, NW-97, NW-37, and NW-58.

The utilisation of waterways presents a gateway to untapped market opportunities for the steel industry, particularly in meeting the demand for steel in the Northeast region, estimated at approximately 1.5 million metric tons per annum (MMPTA). Additionally, East coast ports such as Gangavaram (RINL), Paradeep, and Dhamra offer access to export markets via the Indo-Bangladesh Protocol Route.

By embracing a hub-and-spoke model, wherein waterways serve as the primary mode for bulk movement of steel, complemented by existing road and rail networks for last-mile delivery, the steel industry can realise significant cost savings and environmental benefits. This collaborative approach optimises transportation efficiency by leveraging the strengths of each mode; waterways for cost-effective long-distance bulk transportation, roadways for flexibility in last-mile delivery and reaching remote locations, and railways for efficient medium-distance bulk transportation.

Through this method, the steel supply chain can substantially reduce its overall carbon footprint while

ensuring the timely and cost-effective delivery of steel products.

Course for collaboration

The government holds a pivotal position in fostering the utilisation of waterways by undertaking several strategic initiatives.

Firstly, investing in infrastructure development and modernisation of waterways is imperative to enhance their efficiency and capacity. Streamlining regulations and promoting digitalisation can optimise cargo movement, ensuring seamless operations along water routes. Providing incentives such as tax breaks and subsidies for cargo movement through waterways can incentivise manufacturers and logistics companies to leverage this mode of transportation. Facilitating Public-Private Partnerships (PPPs) can also attract private sector investment, further boosting the development of inland water transport infrastructure.

Simultaneously, industry bodies and associations have a crucial role to play in promoting the adoption of waterways as a viable transportation option. They can start by creating awareness among manufacturers about the myriad benefits of waterways, highlighting their cost-effectiveness and environmental advantages. Additionally, facilitating knowledge sharing and best practices can empower businesses to integrate waterways into their supply chain strategies effectively. Collaborating with the government on policy advocacy initiatives can ensure that the regulatory framework supports and encourages the growth of inland water transport, fostering a productive environment for its development and expansion.

Conclusion

By embracing water transport as a cornerstone of their logistics strategy, Indian manufacturers can chart a course towards sustainable growth. This holistic approach not only drives economic prosperity but also reaffirms India's commitment to environmental responsibility on the global stage. Through embracing a sustainable and cost-effective approach to logistics, India can position itself as a global leader in responsible manufacturing and pave the way for a greener future. **SME**



About the author:

Partha S Dash is the Managing Director for Moglix, bringing over 15 years of dynamic experience in sales and marketing to the table. A keen focus set on emerging markets, Partha has a proven track record of shaping businesses through strategic brand building initiatives and establishing efficient distribution networks. His diverse background spans across various industries including foods, telecom, and steel, making him well-equipped to tackle market development challenges head-on.



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Aatmanirbhar Gujarat 2022: The MSME booster

The Aatmanirbhar Gujarat 2022 Scheme aims to increase investment in the MSME sector in Gujarat, boosting Gujarat's industrial landscape and contributing to Atmanirbhar India's vision. Saumil Soni and Jaideep Jain, Consultants –Tax and Regulatory, Indirect Tax, Ernst and Young LLP India, explore the scheme and its impact on MSMEs.

Micro, Small, and Medium Enterprises (MSMEs) constitute the majority of businesses globally, generating more jobs and contributing significantly to the global economy. In India, the MSME sector is highly dynamic, with over 60 million units, employing over 30 million people, and accounting for 28 per cent of GDP and 40 per cent of exports.

Gujarat hosts over 850,000 MSMEs, making it one of India's most industrialised states with the highest contribution to national manufacturing output. To boost investment in MSMEs, the Government of Gujarat has introduced the Aatmanirbhar Gujarat Scheme for MSMEs ("the Scheme"), operational from October 5, 2022, to October 4, 2027.

The Scheme primarily focuses on assisting MSMEs engaged in Eligible Services Activities listed in Annexure A, emphasising sectors that generate employment opportunities. Incentives under the Scheme are location-based, encouraging operations setup across Gujarat, excluding areas falling under the municipal corporation limits of large cities.

Who are MSMEs under the scheme?

MSMEs means enterprises that have fixed capital

Classification	Micro Enterprises	Small Enterprises	Medium Enterprises
Investment in Plant and Machinery	Upto ₹10 million	More than ₹10 million upto ₹100 million	More than ₹100 million upto ₹500 million

Enterprises must have obtained acknowledgement or registration from the ministry of MSME.

investment made in plant and machinery as follows:

Who are New Enterprises and Existing Enterprises under the scheme?

New enterprises are those enterprises that have commenced commercial production or rendering of services during the operative period of the scheme. New enterprises should have separately identifiable fixed capital



investment.

Existing enterprises are those enterprises that are in production or are rendering services before initiating expansion or diversification.

What is Expansion and Diversification?

Expansion: Existing enterprises who are fulfilling all the following criteria is considered as expanding their operations:

- At least 50 per cent increase in capital investment at the same location of which 60% of the increased investment is in plant and machinery
- Installed capacity of existing products increases by 50 per cent;
- At least reached 75 per cent utilisation of existing installed capacity in any one of the preceding three financial years.

Diversification: Existing enterprise is considered as

diversifying its production line when capital investment is increased by, at least 25 per cent of existing project in case of Micro and Small enterprises and at least 50 per cent of its existing project in case of Medium enterprises, of which at least 60 per cent of investment is made in Plant & Machinery.

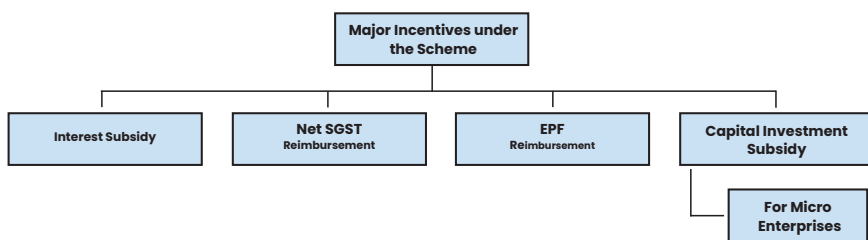
Expansion and diversification enterprises should have separately identifiable fixed capital investment.

What is Eligible fixed capital investment?

Eligible fixed capital investment (eFCI) includes investments in building, plant and machinery, utilities, tools, equipment, and other assets (excluding land) required for manufacturing or service provision. Investments made from October 5, 2022, onwards, up to 12 months from the date of commencement of production, are considered eFCI.

Key incentives include EPF reimbursement for new employees, capital investment subsidy for micro-enterprises, and various other benefits such as electricity duty exemption, quality certification assistance, and technology acquisition assistance.

What are the Major Incentives under the Scheme?



1. Interest Subsidy:

Interest Subsidy would be available to Manufacturing & Service Enterprises* located in Category 1, Category 2 and Category 3 talukas in Gujarat and commencing commercial operation during operative period of policy. Interest Subsidy would be available to Manufacturing and Services Enterprises as tabulated below:

2. Net SGST Reimbursement:

Table 1: Quantum of Interest Subsidy Incentive

Taluka Category	Manufacturing & Service Enterprises
Category 1	Interest subsidy @ 7% with maximum amount of ₹ 3.5 million p.a. for 7 years
Category 2	Interest subsidy @ 6% with maximum amount of ₹ 3.0 million p.a. for 6 years
Category 3 & Municipal Corporation Areas	Interest subsidy @ 5% with maximum amount of ₹ 2.5 million p.a. for 5 years

Net SGST Reimbursement would be available to only Manufacturing Enterprises located in Category 1, Cate-

gory 2 and Category 3 talukas in Gujarat and commencing commercial operation during operative period of policy. Enterprises would be eligible for reimbursement of net SGST subject to following ceiling:

Table 2: Quantum of Net SGST Incentive

Taluka Category	Manufacturing Enterprises
Category 1	100% of net SGST for 10 years upto 7.5% of eFCI p.a.
Category 2	90% of net SGST for 10 years upto 6.5% of eFCI p.a.
Category 3 & Municipal Corporation Areas	80% of net SGST for 10 years upto 5% of eFCI p.a.

3. Employers Provident Fund (EPF)

Reimbursement:

MSMEs commencing commercial operation during operative period of scheme shall be eligible to claim reimbursement of employer's contribution for their New employees* working in Gujarat for a period of 10 years.

The reimbursement shall be made subject to following ceiling limit:

- 100 per cent of employer's statutory contribution amount paid, and
- The ceiling of incentive per employee - 12 per cent of basic pay plus dearness allowance and retaining allowance OR ₹1800 per month, whichever is lower.

*New employee means those who do not have Universal Account Number (UAN) prior to joining the eligible industrial undertaking & joins the undertaking during the operative period.

4. Capital Investment Subsidy for Micro Enterprises:

Capital Investment Subsidy available to Micro Manufacturing Enterprises located in Category 1, Category 2 and Category 3 talukas. Capital Investment Subsidy would be available as per below limit:

Table 3: Quantum of Capital Investment Incentive

Taluka Category	Micro Manufacturing Enterprises
Category 1	25% of term loan upto ₹ 3.5 million
Category 2	20% of term loan upto ₹ 3.0 million
Category 3 & Municipal Corporation Areas	10% of term loan upto ₹ 1.0 million

Other Incentives such as Electricity Duty (ED) Exemption, Quality Certification Assistance, Technology Acquisition Assistance, Patent Registration Assistance, ZED Certification Assistance, Rent Assistance,

ERP Assistance, Information & Technology Assistance and Power Charges Assistance are also available under this scheme subject to fulfillment of conditions as per scheme.

For example, assume the following parameters for a new manufacturing unit set up in Category 1 taluka-

Table 4: Parameters for computing Incentive

Particulars	Amount
Total fixed capital investment (i.e. Medium enterprise)	₹ 450 million
Eligible fixed capital investment (eFCI)	₹ 400 million
Amount of term loan availed	₹ 250 million

In this scenario, following tentative incentives would be available –

Interest subsidy is applicable only for projects financed by banks or financial institutions, while net SGST reimbursement is contingent upon intra-state sales within Gujarat. EPF reimbursement is available for employees without a Universal Account Number (UAN) prior to joining the entity.

MSMEs considering Gujarat for business setup or expansion or diversification can leverage these incentives, potentially recovering approximately 72 per cent of their costs.

Table 5: Calculations of Incentive

Particulars	Calculations	Amount (in ₹ million)
Interest Subsidy	Maximum ₹ 3.5 million for 7 years	24.5
Net SGST Reimbursement	Maximum 7.5% of eFCI for 10 years	300.0
EPF Reimbursement	Maximum ₹ 1,800 per month per new employees for 10 years (assumed 10 new employees to be hired)	2.2
Total Incentives offered (approximately)		326.7
% of Total Investment recovered by Incentives (326.7 million or 4.5 million*100)		72% approx

The Government of Gujarat aims to boost MSME investments, to fortify Gujarat's ecosystem, and contribute to the larger vision of Aatmanirbhar Gujarat for Aatmanirbhar Bharat.

SME

(Views expressed above are personal)

About the authors:

Saumil Soni is the Consultant (Tax and Regulatory), Indirect Tax, at Ernst and Young LLP India.

Jaideep Jain is the Consultant (Tax and Regulatory), Indirect Tax, at Ernst and Young LLP India.

News Snippet

Tata Communications CloudLyte transforms the edge computing experience

Tata Communications, introduced Tata Communications CloudLyte, a fully-automated edge computing platform, designed to empower future-ready enterprises to thrive in a data-driven world.

As businesses become hyper-connected and emerging technologies like 5G and IoT gain ever greater traction, the need for real-time data processing, low latency applications and intelligent decision-making is vital. Tata Communications CloudLyte is at the forefront of edge computing and caters to the needs of global enterprises through its multi access, cloud, and infrastructure agnostic architecture. Through its unique 'solution in a box' approach, it provides enterprises with the platform, infrastructure, network, managed services, and the use case – as a comprehensive unified offering. 'Solution in a box' enables enterprises with swift deployment (within minutes), and effortless scaling as required.

With real time inferencing and auto scaling, the platform seamlessly extends cloud capabilities to the edge,

bringing in the agility and flexibility of the cloud. Tata Communications CloudLyte also manages edge resources centrally for a seamless experience and has built-in security with features like zero-trust architecture and layered defences — simplifying enterprise operations, maximising efficiency, and driving business growth.

Neelakantan Venkataraman, Vice President and Global Head - Cloud and Edge Business, Tata Communications said, "In a hyper-connected world, businesses increasingly rely on resilient, performant, and secure edge computing capabilities. These are essential for managing the immense volumes of raw data generated and processing them swiftly and efficiently to enable rapid decision-making and foster accelerated business transformation."

Kerem Arsal, Senior Principal Analyst, Omdia concluded, "Tata Communications CloudLyte fills a significant gap in the edge market with its infrastructure- and cloud-agnostic approach to computing."

SME



Tata Motors celebrates 9,00,000th vehicle rollout

The acquisition of Mailhot, the Canada-based hydraulic telescopic cylinder manufacturer, will help Wipro Hydraulics to expand its footprint to Canada, the US, and Mexico, as well as penetrate new segments like refuse trucks, snow removal equipment, defense, and remanufacturing in North America.

Tata Motors, India's largest commercial vehicle manufacturer, announced a significant milestone of its 9,00,000th vehicle rollout from its state-of-the-art Lucknow facility. The celebration included a flag-off ceremony in the presence of **Durga Shanker Mishra**, Chief Secretary, Government of Uttar Pradesh, and senior delegates from Tata Motors, at the facility.

Spread across 600 acres, the Lucknow facility stands as a testament to Tata Motors' commitment to sustainable manufacturing practices, with it being recognised as a water-positive plant by the Confederation of Indian Industry (CII). The facility houses a 6MW solar power plant, significantly reducing its carbon footprint. The facility augments ultra-modern vehicle manufacturing stations such as robotic paint booth and body-in-white shop featuring robotic spot welding, amongst other highlights. Since its inception in 1992, the facility has rolled out cargo and passenger commercial vehicles including light, intermediate, medium and heavy commercial vehicles, as well as electric and fuel cell electric buses.

Speaking at the 9,00,000th vehicle rollout from Tata Motors' Lucknow facility, Durga Shanker Mishra, said, "I commend Tata Motors for reaching this significant milestone. This achievement underscores Tata Motors' pivotal role in providing advanced, safer, and greener mobility solutions to address both present and future requirements. Furthermore, the company's commitment to women's empowerment, exemplified by over 22% women representation among new hires this year, marks a significant step forward for women in the manufacturing sector."

Reflecting on this achievement, **Vishal Badshah**, Vice President and Head – Operations, Tata Motors Commercial Vehicles, remarked, "The rollout of our 9,00,000th vehicle from the Lucknow facility is a momentous occasion for Tata Motors. This facility has been pivotal in the manufacturing of our advanced electric buses, and has successfully delivered over 1200 units, which have cumulatively clocked millions of



kilometres across the country. Uttar Pradesh has been one of our key markets and the Government of Uttar Pradesh's impetus on infrastructure development has been a key enabler in boosting the sales of commercial vehicles. With our focus on Industry 4.0 integration, this facility has been delivering safe, smart and green mobility solutions to our customers. We extend our gratitude to our customers, partners and all colleagues and as we celebrate this milestone."

Tata Motors is setting a benchmark in gender inclusivity and women empowerment at its Lucknow facility. Presently, women constitute one-third of the technical workforce, actively participating in all operational shifts and demonstrating a wide array of skills across the production of diverse products, including trucks and buses. The company is deeply invested in the comprehensive development of its women employees, providing them with hands-on industry experience through specialised training and workshops designed to boost their skills. With women representing more than 22% of the new recruits this year, Tata Motors stands as a proud proponent of women's advancement in the manufacturing industry. **SME**



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Impact of Talent War!

While talent war fosters innovation, productivity, and career advancement opportunities, it also brings challenges such as income inequality, rising costs for businesses, and job insecurity, says **Chandra Shekhar Singh**.



A full-Time employment economy is a state defined as one where there is zero unemployment, and all the resources are employed with 100% efficiency. Economists have long since established that this is a theoretical state and cannot be achieved. Thus, high employment with maximum possible efficiency is considered as the desired state.

However, in the talent market, it becomes imprudent to take into consideration, that high employability is a culmination of many factors- absence of skill gap, equally

proficient and available talent, lack of competition in compensation awarded etc. We know this, after the great war of talent post pandemic, is a myth.

What is instead created is a highly competitive, employee driven market where the job creators vie for attention to attract the top talent- with exorbitant compensations, bells & whistles on profiles, and sometimes even raiding a direct competitors talent pool.

The Economy under such talent strain, performs better in the shorter run, but left unchecked the repercussions can take root and cause problems decades later. Case in point, the US Economy, “War for Talent” though coined in 1997, by Steven Hankin- remains a very prudent reality for economies all over the globe. The US did try to mitigate its impending war in the late 2000s by hiring better fits with aligned value systems, making

systemic changes to fit Millennials, and leaders being vocal about their expectations and awarding employees that meet these. Yet, come 2020, and the war was back to square one.

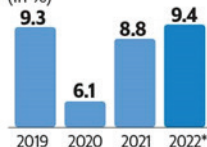
Work from anywhere policies, demography shifts from millennials to Gen Zs, a global pandemic- all made it difficult for US companies to keep operating as they did, and still survive the tech talent crunch. This led to the realization that major political reforms are to be put in place to combat the talent war.

Thus, the problem that emerges is multifold. A highly competitive market not just impacts the employer and

Talent crunch

The pay hike of 9.4% signals improved consumer sentiment, robust economic recovery, and a war for talent, the survey said.

Average salary hike (in %)

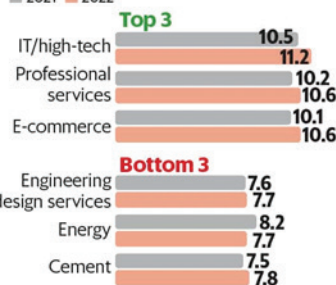


Attrition rate (in %)



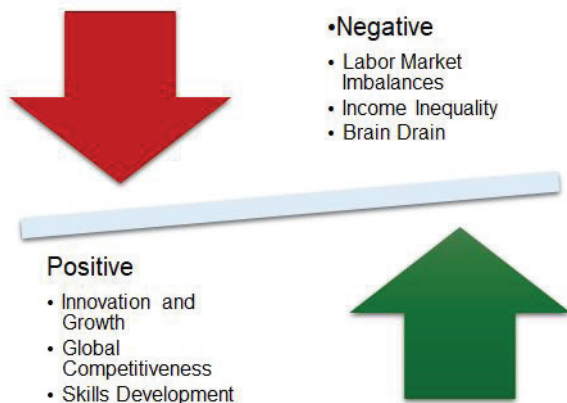
Pay hike by sector (in %)

■ 2021 ■ 2022*



Source: The Mint (2021)





employee but has the power to change the nation's economy and policies.

While there are apparent negative impacts, there will be positives outcomes from the war too.

Impact on economy from a talent war

The Economic conditions are directly dependent on the activities of employers and thus the innovation and Growth is inevitable for the economy post a talent war. Companies competing for talent often invest in research, development, and innovation to stay ahead. This can lead to the creation of new products, services, and industries, fostering economic growth and skill development.

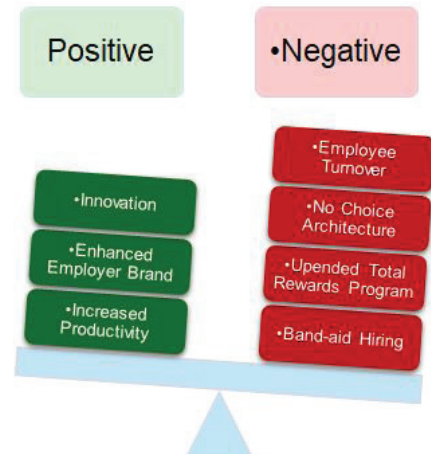
A talent crunch also opens the doors to talent, market, and investors from abroad which encourages global competitiveness. A highly skilled workforce can enhance a country's global competitiveness, attracting foreign investment and fostering international trade relations.

The flip of it however, brings with it its own set of challenges. The competition for talent can lead to higher salaries for skilled workers, widening the gap between the wages of skilled and unskilled workers. This can exacerbate income inequality within society. This also propagates, "brain drain", where skilled workers migrate to areas with better job opportunities and higher salaries. This can lead to a loss of talent and skills in certain regions, which can hinder economic development.

Additionally, in sectors experiencing a talent shortage, wages and competition for workers can skyrocket, leading to inflationary pressures. Conversely, in sectors with an oversupply of talent, wages may stagnate, leading to dissatisfaction among workers.

Impact on employers and job creators from a talent war

While innovation and productivity remain the driving motivation and ultimate outcome of talent wars, a happy



by-product is improved employer brand and position as an employer in the talent market. However, it goes without saying that the brand is itself a product of people and culture practices, quality of work, total rewards program, learning and growth opportunities etc. It also helps when employers are not just able to hire new talent, but also retain their existing workforce.

Competition for talent can drive companies to improve their working conditions, offer better benefits, and provide opportunities for career advancement, leading to higher employee engagement and productivity. The need to attract and retain skilled workers can drive employers to foster a culture of innovation, resulting in the development of new products, services, and processes.

On the other hand, Talent wars can drive up wages and recruitment costs, putting pressure on employers' budgets and reducing profit margins and often upending total rewards structures internally. High competition for talent may result in increased employee turnover as workers are lured away by better offers from rival companies. This often leads employers to quickly fill the vacancies where either, it is motivated by short term goals and might be band-aid hiring to patch the wound that the exit of an employee caused or often leave very few options to make a choice from when it comes to talent selection.



Impact on employees and Job seekers during a talent war

In a talent war, it is the skilled and talented and most wanted employees that call the shots and so they often receive higher salaries, better benefits, and more perks as employers compete for their skills and expertise. Employers may offer opportunities for career growth and development to attract and retain talent, leading to better job prospects and higher job satisfaction for employees. Employees may have access to more training and development opportunities, allowing them to enhance their skills and advance their careers.

But, in a developing economy like India, where the pay parity remains too high across sectors, there have been evident cases of grey ethical practices that employees may employ. For example, holding multiple offers, and leveraging one against other to raise costs, or refusal to come to office and using work from home opportunities as a bargaining chip, leaving critical projects mid-way with no care of repercussions- just because they have a counteroffer. Individuals also are paying exorbitant amounts, specially in the tech world, where their experience or skills have not proportionately grown with their compensation- which leads employers to have certain expectations – which often lead to a feeling of job insecurity or burnout.

Summing up

In conclusion, a talent war can have far-reaching impacts on economies, employers, and employees alike. While it fosters innovation, productivity, and career advancement opportunities, it also brings challenges such as income inequality, rising costs for businesses, and job insecurity. To navigate these complexities, policymakers must strive for inclusive growth strategies that address disparities, promote skills development, and ensure that the benefits of a competitive labor market are shared equitably. Similarly, employers must prioritize talent retention, invest in workforce development, and foster a supportive workplace culture to thrive in an increasingly competitive landscape. Ultimately, by striking a balance between competition and collaboration, societies can harness the potential of a talent war to drive sustainable economic progress and prosperity for all.

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About the author:

Chandra Shekhar Singh is the Director at Posterity Consulting - a HR consulting firm offering expertise in recruiting, staffing, DE&I, and India market entry.

News Snippet

Schneider Electric automates single stage wastewater treatment plant

Schneider Electric, a frontrunner in the digital evolution of energy management and next-gen automation, backs the Namami Gange initiative by sustainably automating India's Largest Single Stage Wastewater Treatment Plant in Delhi. Aligned with the Delhi Jal Board Yamuna Action Plan, SUEZ is constructing this plant, with Schneider Electric as the primary provider of Energy management and NextGen automation solutions. With the capacity to sustainably treat 564 million liters per day of sewage, this state-of-the-art plant is positioned to meet the needs of approximately 30 million residents of the national capital. Its development aims to improve water quality and mitigate pollution in the river, while also striving for self-sufficiency and sustainability by generating around 50 per cent of its energy needs through biogas.

Deepak Sharma, Zone President- Greater India and MD & CEO, Schneider Electric India, emphasised the company's commitment to Water and Wastewater Treatment, stating, "Recognising the crucial

importance of sustainable water management in India amidst rising water demands, Schneider Electric remains dedicated to delivering innovative digital solutions for water and wastewater management. Our collaboration with SUEZ and Delhi Jal Board to automate India's largest Single Stage Wastewater Treatment Plant underscores our commitment to nation-building and sustainable water management. We are proud to play a key role in this transformative project, leveraging our automation solutions to enhance plant efficiency and reliability, while ensuring self-sustainability in its energy requirements."

Engineered to meet rigorous water discharge quality standards, the plant harnesses Schneider Electric's advanced universal automation technology. Operating as a fully automated facility, it features complete control driven by Schneider Electric's IoT-enabled EcoStruxure platform, offering a secure, dependable, efficient, and sustainable approach to wastewater treatment.

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Gandhi Automations: A Speedy Solution

As industries demand stricter cleanliness standards, Gandhi Automations leads with solutions designed to swiftly separate internal spaces from external contaminants.



Clean Room High Speed Doors (Self-repairing)

Gandhi Automations Pvt Ltd, India's leading entrance automation and loading bay equipment company, designs and manufactures high-speed doors built for reliability and durability. Made with cutting-edge technology and European collaboration, these doors are the perfect solution for medium and large entrances, ensuring smooth traffic flow and optimal temperature control.

For many industries, achieving superior quality or yield is paramount. This directly impacts a company's bottom line. Manufacturing facilities across various sectors now rely on cleanroom environments to minimise dust and contamination during production.

Medical device manufacturing and packaging, electronics and computer assembly, food processing, and even some military applications require stringently controlled environments. Understanding the specific requirements for your product or process is crucial. In

the pharmaceutical industry, for instance, cleanrooms have become an indispensable element.

One of the most crucial aspects of a cleanroom is its doors. The amount of time a door remains open, significantly impacts factors like dust infiltration, external temperature, and humidity levels. Doors need to open and close rapidly to effectively isolate the internal environment from external influences.

Gandhi Automations Pvt Ltd offers clean room high speed doors specifically designed to address these challenges. These doors are ideal for facilities requiring a tightly controlled environment. Their rapid opening and closing speeds minimise exposure to external contaminants, ensuring optimal internal conditions.

Gandhi Automation sets the standard with its meticulously engineered high-speed clean room doors, packed with an array of innovative features. These doors are designed with the concept of low air permeability, making them ideal for use in pressurised rooms with both positive and negative air pressure.



Their unique design allows them to fit seamlessly inside columns, offering a self-supporting construction that minimises air leakage. Equipped with transparent PVC horizontal sections or vision windows, they ensure visibility while maintaining airtightness. Special side guides tightly integrate the curtain, further enhancing leak tightness. With high door efficiency and low permeability values meeting EN 12426 and EN 12427 standards, these doors guarantee superior performance. Additionally, the control device enclosure is made from stainless steel SS 316, ensuring durability and reliability in any environment.

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(Communication provided by the management of the company)

SINGLE POLE, NON-DIRECTIONAL, O/C OR E/F RELAY WITH INST. HIGHSET JRC 962P/JRC 962

JVS Electronics Pvt Ltd offers a wide range of single pole, non-directional, O/C or E/F relay with inst. high set JRC 962p/JRC 962.

Features:

- Time graded protection of generators, Transformers, capacitors etc.
- Its features include: software based design; DIP switch settings; choice of four curves; Instantaneous high set; very low burden.
- Technical Data: Rating: 1A or 5A; current rating (In): 20 to 60V DC or auxiliary supply: 80 to 260V AC/DC.

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

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Contact:

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



PNEUMATIC STRAIGHT GRINDER

PFERD offers a wide range of pneumatic straight grinder PGAS 1/750.

Features:

- The drive is equipped with a collet tool mounting for mounted tools. The exhaust air flow of the air grinder is at the back. The air grinder with removable spindle sleeve has a high rotational speed. It has to be used with oil.
- Its advantages include: Ideal for the recommended mounted tools thanks to the collet mounting; no dust turbulence on the workpiece side; removing the spindle sleeve enables narrower and harder-to-reach areas to be accessed more easily; the high rotational speed affords the drive a high cutting speed for tungsten carbide burs and grinding points.

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

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PFERD, Bengaluru
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Mobile: 09880665415, 09741481117
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HIWIN INTERNAL RECIRCULATION TYPE BALLSCREW

IBK Engineers Pvt Ltd offers a wide range of Hiwin internal recirculation type ballscrew.

Features:

- Internal recirculation type ballscrew, consists of the screw spindle, the ball nut, the steel balls and the ball return caps. The steel balls make only one revolution around the screw spindle.
- The circuit is closed by a ball return cap in the nut allowing the balls to cross over adjacent ball tracks. Since the ball return caps are located inside the nut body, this is called the internal recirculation type ballscrew. Adapted to normal leads and Outer diameter of nut is small.

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

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Contact:

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FREQUENCY INVERTOR - SJ200 SERIES

Pro-Med Instruments (P) Ltd offers frequency inverter - SJ200 series.

Features:

- The SJ200 is a true muscle-man, featuring enhanced ISPM-technology with vector control. Outstanding performance and design characteristics, such as superior torque for demanding applications and exceptionally compact size, for SJ200 inverter in a class of their own.
- They are suited for various applications in textile, paper and printing industries as well as for all areas of the metalworking industry, cranes and elevators.

About the Company: Pro-Med Instruments (P) Ltd, was incorporated in 1994 by a team of highly skilled professionals having experience for the past 15 years in process control instrumentation field with an objective to cater to the growing need for superior products having latest technology. They deal the products of Shinko, Hitachi, Brain Child, Autonics, Germs Sensors, RKC and Kyowa.

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Contact:

Pro-Med Instruments (P) Ltd, Chennai
Tel: 044-42132295, 42142295
Mobile: 09840832296
Email: sales@promedindia.com



MOTOR INTEGRATED GRINDING SPINDLES

Shenoy Engg Pvt Ltd offers a wide range of motor integrated grinding spindles.

Features:

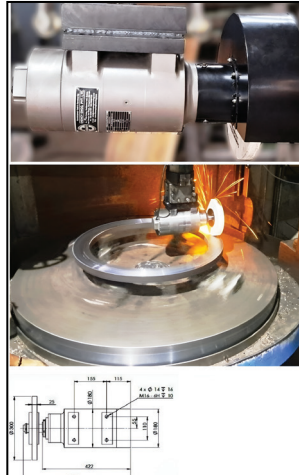
- Normal grinding attachments consist of a motor, spindle located in a housing through bearings & belt-pulley combination for drive transmission from motor to the spindle.
- These sub-assemblies are housed on a base, which in-turn are located on the tool post carriage of the mother machine.
- Drive end of the spindle becomes the rotor and the housing acts as the stator. Light weight, compact & concentric motor-integrated spindle optimizes the productivity & performance of a machine. Dampened vibration while cutting improves the finish of the job. Lesser moving parts result in improved rigidity and efficiency. These motor integrated spindle units can be easily mounted on the tool post of VTL & lathe.
- The power of built in motor spindle is 3 KW / 2800 RPM. Higher capacity units can be offered on request. Spindles are case hardened & precision ground. Direct driven spindle run out is within 5 microns.
- The unit is capable of accommodating Wheel: Ø300 OD x Ø 76.2 ID x 25mm thick maximum. Bearings of the inbuilt motor spindle are matched pair angular contact bearings. Mounting & reach extension of the motor integrated spindle for grinding in VTL is tailor-made to suit to individual requirement. The attachment is ideally suited for Face, ID and OD grinding.

About the Company: Shenoy Engg Pvt Ltd has developed a number of grinding attachments which enhance the capabilities of existing machines. It has also started specialising in special purpose machine tools, jigs and fixtures, technological upgradation of conventional machine tools, etc. Shenoy Engg Pvt Ltd a well-known SPM manufacturers, introduce spindles with integral motor at an affordable price.

Contact:

Shenoy Engg Pvt Ltd, Bangalore
Tel: 080-28361767, 28361725
Mobile: 09243437487
Email: info@shenoyengineering.com

Scan the QR Code for instant product enquiry



BALL TYPE NON-RETURN VALVES

Nirmala Pumps & Equipments offers a wide range of ball type non-return valves.

Features:

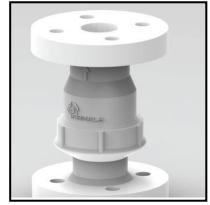
- These ball type check valves (NRV), a very simple and robust design with no mechanism involved.
- As the pump starts, the ball moves out totally from the flow path when the pumping is on giving a full bore maximum flow/discharge with minimum head losses.
- As the pump stops, the ball rolls back and seats perfectly on the rounded valves seat ensuring totally leak proof sealing.
- The lowest possible pressure drop across the valves. 100% leak-proof sealing years over years.

About the Company: Nirmala Pumps & Equipments The dedicated and experienced manufacturers of various types of pumps and equipments.

Contact:

Nirmala Pumps & Equipments,
Ahmedabad
Mobile: 08401262518
Email: sales@nirmalapumps.com

Scan the QR Code for instant product enquiry



FULLY WELDED BALL VALVE

Flowjet Valves Pvt Ltd offers a wide range of fully welded ball valve.

Features:

- A ball valve has a quarter turn spindle connected to a ball inside the valve. The ball has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. When the valve is closed, the hole is perpendicular to the ends of the valve, and flow is blocked.
- The handle position lets you see the valve's position. On a floating ball type, the upstream pressure the ball against the seat, giving a tight shut off.
- Ball Valves are Strong enough & Usually work to achieve the perfect shutoff even after years of No use.

About the Company: Flowjet Valves vision is to achieve a leadership position in our industry vertical, to supply high quality products and solutions in an environmentally sustainable manner so as to fulfill our customer needs..

Contact:

Flowjet Valves Pvt Ltd, Ahmedabad
Mobile: 09978608334
Email: info@flowjetvalve.com

Scan the QR Code for instant product enquiry



VIBRATORY FURNACE CHARGER

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

Features:

- This vibratory furnace chargers are a cost effective method of increasing productivity and quality of melt.
- With constant improvement in technology, furnaces require rapid and uniform charging to keep pace with the melting power of the system for which the Furnace chargers are the optimum solution.
- By using the furnace charger, controlled vibrations the metal is uniformly fed into the furnace whereby the melting cycle is reduced and the furnace life and the bridging forming situation is avoided.

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

Scan the QR Code for instant product enquiry



Contact:

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



CABLE DRAG CHAINS

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

Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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



PF SERIES FIXED PUMP

HTM Hydraulics Pvt Ltd offers a wide range of PF Series fixed pump.

Features:

- For high pressure applications and extreme conditions including dirty environments, extreme temperatures, and long & difficult duty cycles. Compatible with various water-based, phosphate ester and MIL-SPEC fluids makes these pumps ideal for testing aerospace components.
- One split-flow pump can supply independent flows from upto ten separate outlets.

Output flow range: 0.5 lpm-110.5 lpm; Max pressure upto 1380 Bar.

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

Scan the QR Code for instant product enquiry



Contact:

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



KUSAM-MECO 6000 COUNTS TRMS DIGITAL MULTIMETER - MODEL - KM 2257

KUSAM-MECO' has added one more "UL" listed Digital Multimeter to its range Model KM 2257. It has a large LCD Display 3 Digits 6000 Counts and Analog Bar graph of 60 segments.

Features:

- It is TRMS Sensing with ingress protection IP40, Pollution Degree 2. It has safety rating CAT II 1000V, III 600V.
- The Transient protection is 6.0 KV. It meets EMC standard EN 61326-1. It has high overload protection on mV, Ohm & other function of 1000V AC/DC.
- The LCD Display has Backlight for taking measurements in dark areas. Auto ranging, Relative Zero mode, Display Hold, EF- Detection (NCV), Beepjack on μ A, mA/A terminals to prevent wrong connection.

About the Company: Established in 1983, Kusam-Meco, an ISO 9001:2008 certified company, introduced and pioneered the use of digital multimeters and clamp meters in Indian industry.

Scan the QR Code for instant product enquiry



Contact:

*Kusam Electrical Industries Ltd, Mumbai
Tel: 022-27754546, 27750662, 27750292
Email: sales@kusam-meco.co.in*



33kV VACUUM CIRCUIT BREAKER

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



Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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

PRECISION TWIN MACHINE VICE - BR - TWIN - 150

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



Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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

TWIN SPINDLE CNC CHUCKER - MW8oG

Meiban Engineering Technologies Pvt Ltd offers a wide range of twin spindle CNC chucker - MW8oG.

Features:

- Muratec MW8oG is a compact twin spindle turning machine with Gang tooling (Linear) concept.
- Machine offers high precision with direct spindle drive and construction. MW8o is suitable for Hard part turning with short cycle times.
- This small machine comes with a 6" chuck and can accommodate up to 4 gang tools. MW8o has a Spindle power of 7.5kw and speeds up to 6000 RPM are available. It can turn parts up to 80mm diameter and length of up to 50mm.



- Linear Tooling eliminates turret Indexing time for significant cycle time reduction. Loader is available with swivel or horizontal types.
- With standard Loading/unloading time as low as 3 secs, MW8o is an optimal solution for high-speed turning and for simple parts such as small bearings, rings, gears and hard part turning.
- Most widely used applications are: Bearing Outer and inner, Differential Pinion and side gear, compressor wheel etc.
- Machine can be supplied with either single or twin gantry loaders. Muratec is a global leader in providing fully integrated built-in automation for a variety of applications.

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

Scan the QR Code for instant product enquiry



Contact:

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

COMPACT TOUCH PROBES FOR TURNING MACHINES

Blum-Novotest Measuring & Testing Technology Pvt Ltd offers a wide range of compact touch probes for turning machines - TC54-10/TC64-10.



Features:

- The trigger signal is generated via shading of a miniature light barrier.
- Enables much higher measuring speeds and accuracy than with conventional probes.
- Wear-free with long-term stability. The trigger signal is generated via shading of a miniature light barrier.
- Touch probes by BLUM can be used for the most varied measurement and monitoring tasks in CNC machining centres.

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

Scan the QR Code for instant product enquiry



Contact:

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

DUSTBAG

Powertech Pollution Controls Pvt Ltd offers a wide range DustBag.



Features:

- DustBag dust collectors are fitted with non-woven polyester fabric of capturing dust particles as small as 10 microns.
- This equipment can capture large quantities of dust from any generating source with high capture efficiency.
- The DustBag uses non-woven polyester cloth as the filter media. It can incorporate additional safety features such as pressure differential switch fire retardant as well as antistatic filter media etc.

About the Company: Powertech Pollution Controls Pvt Ltd was established in the year 1996, for the design and manufacture of a wide range of air pollution control equipment, specifically electrostatic filters, for the capture and control of most types of fumes, mist, smoke and fine dust, generated on the shop floor, during the production process.

Scan the QR Code for instant product enquiry



Contact:

Powertech Pollution Controls Pvt Ltd, Bangalore
Tel: 080-23452156, 23452256
Email: powertech@airtelmail.in,
philipthomas@powertechindia.com

ADHESIVE GRIPPERS - ADHESO

Schunk Intec India Pvt Ltd offers a wide range of adhesive grippers Adheso.



Features:

- The gripper technology of ADHESO grippers is based on an adhesive system modeled on nature. The adhesive forces used by animals such as geckos for locomotion are now being utilized by Schunk for handling applications in the most diverse of fields.
- The bionically inspired ADHESO gripper technology is based on the principle of adhesion and uses inter molecularly acting Van der Waals forces to handle various work pieces.
- SCHUNK's application experts take advantage of these benefits and develop customer-specific adhesive grippers with ADHESO gripper technology.

About the Company: Schunk Intec India is engaged in products distribution and supply of industrial automation systems, etc.

Scan the QR Code for instant product enquiry



Contact:

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

SINGLE STAGE, NEUTRAL DISPLACEMENT RELAY - JRV 062

JVS Electronics Pvt Ltd offers a wide range of single stage, neutral displacement relay - JRV 062.



Features:

- NDR is a voltage operated relay and get's sensing voltage from open delta secondary of potential transformer. Whenever there is a ground fault in one phase, the voltage in other two phases will rise and generate a sensing voltage which is continuously monitored in the relay. When this voltage exceeds the set value the internal relay operates. The Relay contacts can be used for Alarm & Trip purpose.
- The Relay contacts are self reset type and indications are latched. The RESET button provided on the front of relay to clear these latched indications.
- Neutral Displacement Relay is used for protection of motors, generators and capacitor banks.

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

Scan the QR Code for instant product enquiry



Contact:

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

KUSAM-MECO THREE PHASE POWER ANALYZER- MODEL - KM 2400

KUSAM-MECO has added a new economical model of Three phase power Analyzer KM 2400 for those users who do not require all functions as in the other power quality analyzer models KM 2100, KM 2200, KM 2300.

Features:

- This power analyzer is economical, compact and simple to use. It covers all necessary measurement functions.
- If meet Safety standard IEC 61010-1, CAT III 600V. It has 4 input channels for current & 4 input channels for voltage.
- The input current range is 1500Amps with SY-1500A current probe. Other option probes available are 0 - 5A; 0 - 50A; 0 - 100A; 0 - 3000A; 0 - 6000Amps. The CT ratio is also variable from 1 to 10 000. The input signal frequency is from 42.5 Hz to 57.5Hz or 51 - 69Hz. It is supplied with voltage Test Leads, Power Card (Adapter), Alligator Clips, Software CD, Manual, Carry bag.

About the Company: Established in 1983, Kusam-Meco, an ISO 9001:2008 certified company, introduced and pioneered the use of digital multimeters and clamp meters in Indian industry.

Scan the QR Code for instant product enquiry



Contact:

*Kusam Electrical Industries Ltd, Mumbai
Tel: 022-27754546, 27750662, 27750292
Email: sales@kusam-meco.co.in*



QUICK RELEASE COUPLERS - STRAIGHT THROUGH

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

Features:

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

About the Company: Vijay Air Control is a one large workplace where work is done and then put on the market in the form of products and services.

Scan the QR Code for instant product enquiry



Contact:

*Vijay Air Control, Bengaluru
Tel: 080-23148871, 23141136
Mobile: 08951101436, 09880652082
Email: saivacblr@vacpneumatic.co.in*



D C CHOKE

Miracle Electronic Devices Pvt Ltd offers a wide range of D C choke.

Features:

- A DC choke, also known as a DC reactor or DC inductor, is an electrical component used to limit or control the flow of direct current (DC) in an electrical circuit. They are primarily used in various applications to achieve specific purposes, including:
Filtering and Smoothing: DC chokes are commonly used in power supply circuits to filter out high-frequency noise and ripple voltage. By introducing a DC choke into the circuit, it can help to smooth the DC output, resulting in cleaner and more stable power for sensitive electronic equipment.
- Voltage Stabilization: In some cases, DC chokes are used to stabilize the voltage levels in a circuit. They can help reduce voltage spikes or surges, ensuring a steady and reliable power supply for sensitive equipment.
- Current Limitation: DC chokes can be used to limit the amount of current flowing through a circuit.
- Harmonic Mitigation: In AC/DC conversion systems, such as variable frequency drives (VFDs), DC chokes are used to reduce harmonics in the current waveform.
- Inrush Current Limiting: When electrical equipment is turned on, there can be a surge of current called inrush current.
- DC Motor Control: DC chokes are used in DC motor control systems to smooth out the current supplied to the motor, reduce electromagnetic interference (EMI), and improve overall performance.
- Power Factor Correction: DC chokes can be used in power factor correction circuits to improve the power factor of electrical systems. This helps to make electrical systems more efficient and reduces reactive power.
- Solar and Wind Power Systems: DC chokes are used in renewable energy systems to filter and stabilize the DC power generated by solar panels or wind turbines before it is fed into the grid or used in battery storage systems.

About the Company: Miracle Electronics is a renowned Transformer manufacturer in India, engaged in manufacturing Power transformers, Toroidal transformers, EI transformers, SMPS transformers, Medical Isolation Transformers.

Scan the QR Code for instant product enquiry



Contact:

*Miracle Electronic Devices Pvt Ltd,
Bangalore
Tel: 080-28362750
Email: sales@miracle.net.in*



POWER PRESS

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

Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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



BELT DRIVE SPINDLES – MV0910

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

Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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



AIR FILTER REGULATORS

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

Features:

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

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

Scan the QR Code for instant product enquiry



Contact:

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



HYDRAULIC AND MECHANICAL PULLERS

Enerpac India Private Limited offers a wide range of hydraulic and mechanical pullers.

Features:

- A complete line of pullers with the widest range of sizes, capacities and styles. Whether your application requires mechanical or hydraulic, Enerpac can satisfy your requirements.
- Commonly known as bearing pullers and wheel pullers, these hydraulic pullers provide a simple solution for removing shaft mounted items such as bearings, gears, sleeves, wheels and sprockets and eliminate time-consuming and unsafe hammering, heating or prying. Damage to parts is minimized through the use of controlled hydraulic power.

About the Company: Enerpac is pushing the industry forward with a wide range of advanced industrial tools and services that first and foremost ensure its customers operate safely and productively every day.

Scan the QR Code for instant product enquiry



Contact:

Enerpac India Private Limited, Bangalore
Tel: 080-39289000
Email: nibedita.jyotishi@enerpac.com



LINE INTERACTIVE UPS

Powerone Micro Systems Pvt Ltd offers line interactive UPS.

Features:

- Line interactive UPS is used for small business, web and departmental servers. Power-one has the complete range of Line interactive UPS from 650 VA to 1000VA.
- Providing complete protection to your computers and electronic equipment against surges, blackouts and power fluctuation, these UPS are your perfect choice.
- For equipment with larger power requirement, their line interactive UPS system are the most reliable by providing solid battery backup to maintain sufficient power to save work when the power fails.
- Its features include: high efficiency; wide input range suit for any condition; high reliability due to digital controller; change over time less than 4 milli seconds; sleek and low foot print.

About the Company: Power-One Micro Systems Pvt Ltd is a leading manufacturer of power conversion technology in India.

Scan the QR Code for instant product enquiry



Contact:

Powerone Micro Systems Pvt Ltd, Bangalore
Tel: 080-28397832 Mobile: 09035010265
Email: poweroneups@poweroneups.com



HYDRAULIC ROTARY ACTUATORS

Rotodyne Fluid Technic offers a wide range of hydraulic rotary actuators.

Features:

- Rotary Actuators are devices for converting the pressure energy in a fluid medium to useful Rotary Power.
- The Rotary Motion is usually limited to one revolution or less and hence they are also known as Partial Rotation Motors or Oscillators.
- The designs with double vane are also available. External stops will be required to stop and hold loads at desired position and deceleration of high inertia loads shall be achieved through proper meter out circuits.

About the Company: Rotodyne Fluid Technic is design and manufactures rotary joints for various sectors like machine tool, earth moving, construction, hydro power and defence.

Scan the QR Code for instant product enquiry



Contact:

Rotodyne Fluid Technic, Bangalore
Tel: 080-28396831
Email: info@tornadofluidpower.com, marketing@tornadofluidpower.com



SHEETS PLATES

Ratnamik Metal (India) offers SS sheets plates and coils.

Features:

- These plates and sheets are available in stainless steel, nickel alloy, carbon steel, alloy steel and duplex steel. They produce sheets and plates of standard quality, high strength, corrosion resistance and finished product of no defect.
- Plates and sheets are highly customized and available in different range as per the requirement stated by our clients. Plates and sheets offered by us are of superior quality, high durability and ductility.
- These plates and sheets are extensively used in industrial sector for manufacturing machines and so on.

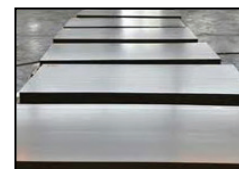
About the Company: Ratnamik Metal is built for result oriented work culture, to fulfill customer's needs in terms of cost, quality and delivery. By enhancing effectiveness of people and plant equipment safely.

Scan the QR Code for instant product enquiry



Contact:

Ratnamik Metal (India), Mumbai
Mobile: 09833864009
Email: ratnamikmetal@yahoo.com



METRIC HEX NUTS

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



top and the bearing surface.

Scan the QR Code for instant product enquiry



Contact:

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

CONICAL SPRINGS

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



Scan the QR Code for instant product enquiry



Contact:

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

HOSE COUPLINGS

Patel Brass Turnomatics Pvt Ltd is manufacturing hose couplings. A hose coupling is a connector on the end of a hose to connect it with another hose or with a tap or a hose



appliance, such as an irrigation sprinkler.

Scan the QR Code for instant product enquiry



Contact:

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

CARBON STEEL FASTENERS

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



Scan the QR Code for instant product enquiry



Contact:

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

INDUSTRIAL BOLTS

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



their clients.

Scan the QR Code for instant product enquiry



Contact:

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

IMPACT WRENCH

Hardware & Pneumatics offers a wide range of impact wrench. An impact wrench is a socket wrench power tool designed to deliver high torque output with minimal exertion by the user.



Scan the QR Code for instant product enquiry



Contact:

Hardware & Pneumatics, Kolkata
Tel: 033-22484842, 22432996
Mobile: 09831063719, 09874044351
Email: sales@hardwarepneumatics.in

SLEDGE BRASS HAMMER

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



Scan the QR Code for instant product enquiry



Contact:

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

AUTOMATIC SELF ADJUSTING PIPE WRENCH, 9"

Solsons Exim develops automatic self-adjusting pipe wrench, 9". It automatically sizes any pipe or round bar. Slip-free grip - the harder you turn, the



tighter it grips. Grips securely without adjusting any nut.

Scan the QR Code for instant product enquiry



Contact:

Solsons Exim, Ahmedabad
Mobile: 09925152422
Email: solsons@solsons.comsolsons@gmail.com

U BOLT

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



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Contact:

Excel Metal & Engg Industries, Mumbai
Tel: 022-23892476, 66394004
Mobile: 09819459755, 09930005444
Email: iffnc@ymail.com

HAND TOOLS

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



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Contact:

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

MS BOLT FASTENERS

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



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Contact:

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

SELF DRILLING SCREW, DOUBLE THREADED TYPE

Bharat Industrial Supplier is a provider of quality approved double threaded self drilling screw. These products are ideal for the use in thin metal applications



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such as roofing, where they can be used to fix cement, asbestos and fiber cladding sheets.

Contact:

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

CLAMPING KIT

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



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Contact:

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

VENTURI SCRUBBER

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



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Contact:

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

SS HEX HEAD BOLTS

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



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Contact:

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

TRIMMING KNIFE BLADE

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



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Contact:

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

EPABX SYSTEMS

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



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Contact:

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

TELECOM POWER SYSTEM, POWERPULSE

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



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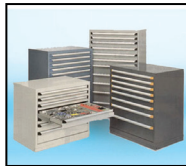


Contact:

Power Pulse, New Delhi
Telefax : 011-22591506
Mobile: 098106-76780
Email: sales@powerpulseindia.com

NITROCELLULOSE SPRAY PAINT

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



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Contact:

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

AUTOMOTIVE SHAFTS

Kalsi Engineering Company is offering a quality range of automotive shafts. They used in automobile industries and other related industries, offered shaft is manufactured using high grade raw material and advanced technology in line with industry standards.



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Contact:

Kalsi Engineering Company, New Delhi
Tel: 011-28116427, 28116704 Mobile: 09810277090
Email: info@jimigears.com

TELECOM SHUTTERS AND ENCLOSURES

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



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Contact:

Dinesh Micro Waves & Electronics, Coimbatore
Tel: 0422-2694313, 4371112
Mobile: 09952444222
Email: info@dineshmicrowaves.com

MOBILE RACKING STORAGE SYSTEM

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



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Contact:

Spangle Steel Products, New Delhi
Mobile: 09818748509, 09818475845
Email: spanglesteel@yahoo.in

MOBILE PLATFORM LADDER FPM 1000 SERIES

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



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Contact:

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

MOBILE BATCHING PLANT

Tecimequip Engineering offers a wide range of mobile batching plants. It is exclusively designed and known for features like superior operational fluency and high performance. These plants conform to international quality standards.



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Contact:

Tecimequip Engineering, Ahmedabad
Mobile: 09825340058
Email: info@tecimequip.com

PROPELLER SHAFT

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



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Contact:

Evergreen Exports, New Delhi
Tel: 011-23934482, 23960268
Mobile: 09810047336, 09818081779
Fax: 011-45082217
Email: evergreen@vsnl.com

WIRELESS DEVICE SERVER

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



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Contact:

Sparr Electronics Ltd, Bangalore
Tel: 080-23602836, 23606308
Fax: 080-23608346
Email: sales@sparrl.com

POWER STEERING OIL FILTER

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



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Contact:

Clair Filter Systems, Pune
Tel: 020-27672525.
Mobile: 09881620899, 07745090899
Email: clairfilter@gmail.com

AUTOMOBILES SCANNER

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



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This is compact and diagnostic scan tool for all Asian and European vehicles.

Contact:

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

3D-STL WHEEL ALIGNMENT MACHINE

Sarveshwari Technologies Ltd provides 3D-STL wheel alignment machine. This is plug & play machine; 5 mega pixels Sony camera made for fast & accurate alignment; adjustable camera exposure to align super big vehicles; Microsoft Windows XP compatibility alignment program.



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Contact:

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

AUTOMOTIVE AIR DUCT HOSE

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



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Contact:

Ace Engineering & Chemicals Private Limited, Indore
Mobile: 09826061669, 09826078922
Fax: 0731-2857481
Email: director@aceengineerings.com

CAR GAS SAVER

S Vagadia Innovatives manufacturers and supplies excellent quality car gas saver. These car gas savers are developed using high quality raw material in adherence to quality norms.



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Contact:

S Vagadia Innovatives, Rajkot
Tel: 02827-254148.
Mobile: 09925125625
Email: info@svinnovatives.com

ZED HYDRAULIC CAR PARKING LIFT

New National Hydraulics manufacturers and trades a wide range of zed hydraulic car parking lift. These car parking lifts, scissor hydraulic car parking lift are used to lift cars.



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Contact:

New National Hydraulics, Noida
Mobile: 09811553201, 08506070450
Fax: 0120-4215072
Email: nationalhydraulics@gmail.com

Event	Date & Venue	Contact
INDOMACH - HYDERABAD	June 21-23, 2024. Hitex Exhibition Center Hyderabad	Indomach Business Solutions Nagpur Mobile: 07666303625, 07987941374 Email: info.indomach@gmail.com
EXPO PAINT & COATINGS - NEW DELHI	June 26-28, 2024 Pragati Maidan Exhibition Center New Delhi	Toredo Fairs India PVT Ltd. Bangalore Mobile: 09845363225, 09986436557 Email: info@toredoofairsindia.com
FASTENER FAIR INDIA - NEW DELHI	July 26-28, 2024 Pragati Maidan Exhibition Center New Delhi	RX India, Gurugram Email: Chandan.Kumar@rxglobal.com
AUTOROBOT - COIMBATORE	August 01-03, 2024 Codissia Trade Fair Complex Coimbatore	Midaas Touch Events & Trade Fairs LLP Ramapuram, Chennai Email: vivek@midaastouch.in
ELEKTROTEC - COIMBATORE	August 09-12, 2024 Codissia Trade Fair Complex, Coimbatore	Codissia Huzur Road, Coimbatore Tel: 0422-2221582 Email: info@codissia.com
AUTOMATION EXPO - MUMBAI	August 21 – 24, 2024 Bombay Exhibition Centre (BEC) NESCO, Mumbai	IED Communications Ltd Mumbai, India Tel: 022-22079567 Email: jyothi@iedcommunications.com
ADEX INDIA BOND EXPO - GREATER NOIDA	September 19-21, 2024 India Expo Centre & Mart Greater Noida	ADEX India India Expo Center & Mart Greater Noida Tel: +91 8177053335 Email: sales@theadexindia.com
INDIA FASTENER SHOW - PUNE	October 17-19, 2024 Auto Cluster Exhibition Center, Mumbai Pune Road, Chinchwad East, Pune	FME (Future Market Events) Media Pvt Ltd Noida Email: eisha@futuremarketevents.com
LASER WORLD OF PHOTONICS INDIA – MUMBAI	November 07-09, 2024 Jio World Convention Centre, Mumbai	MMI India Pvt Ltd Mumbai Tel: +91 (2)2 42554700 Email: info@mmi-india.in
INTERNATIONAL		
SHANGHAI INTELLIGENT BUILDING TECHNOLOGY - SHANGHAI	September 03-05, 2024 Shanghai New International Expo Center - SNIEC Shanghai, China	Messe Frankfurt (HK) Ltd. Hong Kong, China Email: info@hongkong.messefrankfurt.com
INTERNATIONAL METAL TECHNOLOGY - TAIWAN IMT TAIPEI	October 16-18, 2024 Taipei Nangang Exhibition Center, Taipei, Taiwan	Kaigo Co., Ltd. Taipei, Taiwan Tel: +886-2-2595-4212 Email: info@kaigo.com.tw
CHINA INTERNATIONAL AUTO AIR-CONDITIONING & TRANSPORT REFRIGERATION EXHIBITION (CIAAR)- SHANGHAI	October 21-23, 2024 Shanghai New International Expo Center - SNIEC, Shanghai, China	Shanghai Gehua Exhibition Planning Co., Ltd. Shanghai, China Tel: +86 (2)1 67759083 Email: stephaniegh@126.com

A

33kv vacuum circuit breaker	122
3D-STL wheel alignment machine	130
3-jaw chuck spindle + slide unit	19
AC Vibrators	35
ACB	17
AC's	17
Adhesive grippers Adheso	123
Air circuit breaker	77
Air filter regulators	125
Alarm Annunciators	13
Anchor security seals	Cover IV
Anti crash type	23
APFC panels	17
APFC relay	17
Asia's largest exhibition on metal forming and manufacturing technologies - IMTEX Forming - 2024.	5
Automated reference method sampler.	7
Automatic bar pointing machine	21
Automatic core cutter EC Series	11
Automatic core cutter Sarc Series	11
Automatic doors and loading bay solutions	23
Automatic paper tube finishing machine	11
Automatic section straightening machine	21
Automatic self adjusting pipe wrench 9"	127
Automatic transfer switch	17
Automation products	17
Automation Products, Agri Sector Products	13
Automobiles scanner	130
Automotive air duct hose	130
Automotive shafts	129

B

Ball bearing extractor	37
Ball bearing	37
Ball screw press brake BB4013	55
Ball type non-return valves	120
Bandsaw blade for cutting tool	74
Bar drawing machine	21
Bearing fitting tool kits	37
Bearing mounting heater	37
Belleville washers	Cover III
Bellow	27
Belt conveyors	7
Belt drive spindles - MV0910	125
Bench type double sided	74
BMT Disc & Tool Holders	63
Bolt Container Seal	Cover IV
Boring	19
Brute force screen	7
Built-in motor drilling	19
Bushes	27
Buzzer	17

C

Cab type volume distributor (quick coupling type) ...	53
Cable drag chains	121
Cable ends	17
Cable glands	17
Cable reeling drum	41
Cable Security Seal (Barcoded)	Cover IV
Capacitor	95
Car gas saver	130
Carbon spring washers	29
Carbon steel fasteners	127

Cast polyurethane	39
Cast/extruded nylon	39
Castors for air cargo handling	31
Castors for Automobile	31
Castors for Electronics	31
Castors for Hospitals	31
Castors for Hotels & resorts	31
Castors for luggage	31
Castors for Refrigeration	31
Castors for Textile	31
Cen03 pressure relief electric lubricator	53
Centralized lubrication systems	53
Centreless bar peeling machine	21
Cesgo2 resistance electric lubricator	53
Cevb pressure relief electric lubricator	53
CFB type grease volume distributor	53
Chain pulley block	Cover II
Chainflex continuous-flex cables	61
Changeovers	17
Chemical Process Pumps	33
Chemical pumps	29
Chen ying oil machine co ltd.	53
ChipIn Spindle	9
Circuit breaker	94
Clamping kit	128
Clean room application	23
Clhp grease manual lubricator	53
Close Couple Vacuum Pumps	33
CNC servo motor driven ram turret punch press ..	55
Cold storage application	23
Combicut punching machine	74
Compact touch probes for turning machines	123
Conduit pipes	17
Cone crusher	7
Conical springs	127
Contactors	17
Control & signalling	17
Conveyor machine & robotic application	23
Coolant Pumps	57
Counters	17
Couplings, Industrial Couplings	33
Crab/end carriages	Cover II
Crane - Single/Double Girder, Jib, Under Slung, Goliath	Cover II
Crane - single/double girder, jib, under slung, goliath	Cover II
Crane kit	Cover II
Cutting tools	74
CV type oil & grease progressive feeder	53

D

D C choke	124
DB	17
DC brake	41
DC contactor	41
DC Micro motor & DC motor gear motor	81
Delta control panel	94
Detuned reactors	17
Diaphragms	27
Diesel electric gensets	94
Diesel generator set	95
Digital meter	17
Digital Timers & counters	81
Dimension In metal cutting	71
Din rails	17
Display panels	35

Distribution transformer.....	94
Dock Doors	3
Dock house	23
Dock levellers	3, 23
Dock seal	23
Dock Shelters	3, 23
Double girder crane.....	Cover II
Double side fine grinding machine	65
Drives	17
Drylin R bearings	61
Drylin SLW – 2060 bearings	61
Drylin W linear bearings	61
Drylin bearings	61
DSL systems	Cover II
Dustbag	123
DWH quick alignment of LM rails.....	69

E

Earthing transformers	95
Edge type dock leveller	23
Electric chain hoist	Cover II
Electric meter seals.....	Cover IV
Electric Motor.....	57
Electrical ball screw press brake	55
Electromagnetic clutches	41
Electromechanical limit switches	5
Electronic Box assemblies	83
Electronic motor protection relay.....	77
Electronics Timers	13
EMS systems	17
Encapsulation of Torque Motor Winding	9
Enclosure systems.....	17
Enclosure with plug & socket	17
Encoders.....	17
Energy chains	61
Energy meter.....	17
EOT cranes	Cover II
EPABX systems.....	129
EPLAN Powering Precision in Machine Building ...	73
Extension springs.....	Cover III
Extruded gaskets	27
Extruded profiles	27

F

Flame proof hoists.....	Cover II
Flame proof switches	5
Flameproof crane control gears.....	41
Flat springs	Cover III
Floor standing.....	17
FLP motors	41
Food & pharma application	23
Frequency inverter SJ200 series	119
FRP position switches	5
Fully welded ball valve	120

G

Gantry cranes	Cover II
Gaskets	27
Gearbox	81
Geared lathe machine	74
General purpose limit switches	5
Goliath cranes.....	Cover II
Goods lift	Cover II
Greaves generator	95
Grommet	27

H

Hand tools	128
Heavy & extra heavy duty castors	31
Heavy duty slitter rewinder ETS 2000 model	11
High density polyethylene.....	39
High frequency screen	7
High performance step down transformers	95
High quality fire fighting panel.....	95
High quality LT control panel.....	94
High speed doors	23
High Speed Doors, Rolling Shutters, Sectional Overhead Doors.....	3
Hiwin internal recirculation type ballscrew.....	119
Hoist, flexible	Cover II
Hose clamps.....	27
Hose couplings	127
Hose reeling drum	41
HOT cranes	Cover II
Hybrid Spindle	9
Hydraulic and mechanical pullers.....	126
Hydraulic rotary actuators	126

I

iglidur bearings.....	61
iglidur J 190 bearings	61
iglidur J plastic plain bearings	61
igubal bearings	61
igubal EGLM spherical bearings	61
Impact hammer crusher.....	7
Impact wrench	127
India Steel EX - Sustainable Steel Exhibition & Conference (18-19, September 2024, Bombay Exhibition Centre, Goregaon, Mumbai	16
Inductor Coils	83
Industrial automation products.....	17
Industrial automation products.....	17
Industrial bolts.....	127
Industrial Hoses	37
Industrial stethoscope	37
Industrial tool – trolley.....	35
Insulated plugs	17
Insulated sockets	17
Intelligent motor controller	77
Intelligent motor protection	77
Interlock – Gi And Stainless Steel	37
International Stainless Steel Expo (03-05, October 2024, Yashobhoomi, IICC, Dwarka, Delhi)	18
Isolator RCBO.....	17

J

Jib crane	Cover II
Joy sticks	17

K

Kabp-07 pressure relief type grease electric lubricator	53
Kgap-40 resistance grease electric lubricator	53
Kusam-Meco 6000 counts TRMS digital multimeter - Model - KM 2257	121
Kusam-Meco three phase power analyzer- model - KM 2400	124

L

Lathe machine.....	75
LD/HD capacitors.....	17
Level controllers	17
Limit switch.....	17
Line interactive ups.....	126
Liquid Level Controllers	13
Liquid Ring Vacuum Pumps	33
Loading Bays - Dock Levelers	3
Low Pressure Hydraulic.....	37
Lubrication systems	53
LV switchgear and control gear	17

M

Magnetic pumps.....	29
Master controller	41
Material handing medium heavy duty castors.....	31
Material handling equipments	Cover II
MCB.....	17
MCCB	17
Medium & High Pressure Hydraulic.....	37
Medium voltage vacuum circuit breaker panels	94
Metal band saw machine - light & medium	75
Metal plate cutting machine.....	75
Meter and capacitor.....	17
Metric hex nuts.....	127
Micro switch	17
Milling head.....	19
Milling head unit with ATC servo type dnilling.....	19
Milling Spindle	9
Miniature circuit breaker.....	77
Mobile batching plant.....	129
Mobile platform ladder fpm 1000 series	129
Mobile racking storage system.....	129
Modular type	23
Moglice - score repair of cast iron bed.....	69
Moglice for quick repairing or manufacturing of keeper plate and guiding-gib-plates.....	69
Monitoring Relays	13
Mono roll trolley	Cover II
Motor integrated grinding spindles	120
Motor protection relays.....	94
Motor speed controller drives	81
Motor.....	81
Motor/Pump Protection Relays	13
MPCB	17
MS bolt fasteners.....	128
Multi function meters.....	17

N

Natural gas generator sets.....	94
Needle grinding machine.....	75
New laser distance diffuse sensor with TOF technology - ODT ₃ CL1-2M.....	79
Nitrocellulose spray paint.....	129

O

Oil filled distribution transformer	95
Oil Skimmer	57
O-rings	27
Outdoor transformers	95
Overload relay.....	77

P

Paper core winder	11
Paper tube making machine	11
Paper tube winder (CCW model)	11
Paper tube winder with multi cutter for kitchen foil tubes	11
Pendent stations.....	17
Permanent Electromagnet.....	35
Permanent Electromagnet.....	35
PF series fixed pump.....	121
Phase Failure Relays	13
Pipe conveyors	7
Pipe straightening machine.....	74
Plasma cutter - cut-30	74
Plastic cable drag chain	41
Plastic composite springs	Cover III
PLC	17
Plug and sockets	17
Pneumatic straight grinder.....	119
Poly Ether Ether Keton	39
Poly propylene	39
Polyacetal.....	39
Polycarbonate.....	39
Power Line Transducers And Multifunction Meter ...	13
Power press	125
Power press	75
Power steering oil filter	130
Power supplies	17
Precision switches	5
Precision twin machine vice - BR - TWIN - 150....	122
Propeller shaft	130
Proportional solenoid valves	35
PSS Stainless Steel Flexible Corrugated	37
PTFE Flexible	37
PTFE	39
Pulse jet bag filter	7
Pumps.....	29, 33
Push buttons & pilot lamps foot switches	17

Q

Quick release couplers - straight through.....	124
--	-----

R

Radial drill machine	75
Rail clamp	41
RCCB	17
Ready chain	61
Relay	17
Relay cards	17
Resonance screen.....	7
Rewinding of Servo Motors.....	9
Rigid Pipes Assemblies.....	37
Robocut.....	67
Roboshot	67
Robot.....	67
Roots Blower.....	33
Rotary Solenoids	35
Rubber bumper	23

S

Safety solutions	17
Safety switches	5
Scissors lift	Cover II

Seals.....	27
Sealless magnetic drive chemical pumps.....	29
Sealless magnetic drive chemical	29
Sectional doors	23
Self drilling screw double threaded type	128
Servo	17
Servo ball screw slide unit`	19
Servo Motors.....	9
Servo type drilling/tapping built-in motor facing head unit - flange type	19
Sheet metal cutter	74
Sheets plates	126
Shunt limit switch	41
Silicone Coated Hose Pipe.....	37
Silicone products	27
Single Acting Solenoids Flow Control Valve	35
Single Cone Vacuum Pumps	33
Single girder crane crab	Cover II
Single pole non-directional O/C or E/F relay with inst. Highset JRC 962P/JRC 962.....	119
Single stage neutral displacement relay - JRV o62 ...	123
Single toggle jar crusher.....	7
Sledge brass hammer	127
Slotted Disc & Tool Holders	63
Soft starters	17
Solid state relays	17
Special combi-size spring washers	29
Spindle head unit	19
Spindle Motor Winding Encapsulation	9
Spinning Can castors	31
Spinning trolley light duty castors	31
Spring washer machine	29
SS enclosures.....	17
SS hex head bolts	128
Stainless steel spring	29
Steaming trolley castors.....	31
Steel cable drag chain	41
Super High Pressure Hydraulic	37
Switches & Sensors	81
Switchgear products	17
Switchgears products	17

T

Tapping spindle built-in motor	19
Tapping spindle head XY servo hardness slide unit servo facing head	19
Tapping spindle head	19
TC54 -10 I TC64 -10 – Compact touch probes for turning and milling machines	59
TC53 I TC63– Modular 3D CNC touch probes for complex measuring tasks	59
Telecom power system powerpulse	129
Telecom shutters and enclosures	129
Temperature controller	17
Temperature Controller & Thermostat.....	81
Terminals.....	17
Test & Measuring Instruments, Infrared Thermal Imaging Camera Model - KM 308 / KM 309.....	93
Thermoplastics, PVC Hoses	37
Thrustor brake	41
Timers.....	17
Tool cabinets.....	35

Tool cupboard, CNC	35
Tool Discs &Tool Holders	63
Tool Organiser	35
Tool transporter for VMC	35
Tool trolleys, CNC.....	35
Torque Motor Rewinding.....	9
Torque Motors-Rotary Table Motors	9
Torsion springs.....	Cover III
Tower lights.....	17
Traffic light	23
Transfer trolleys.....	Cover II
Trimming knife blade	128
Turning and turn mill center: 4-spindle line	55
Turning machines	75
Twin and single spindle automated turning machines and turning centers	55
Twin Lobe Roots Blower	33
Twin spindle CNC chucker - MW8oG	122
Two Stage Vacuum Pumps.....	33

U

U bolt.....	128
UHMW –PE	39
Ultra heavy duty model paper core making machine....	11
Under slung cranes	Cover II

V

Vacuum Pumps, Water Ring	33
Vacuum Pumps.....	33
VDI AXIAL Disc & Tool Holders.....	63
VDI Radial Discs & Tool Holders.....	63
Vehicle restrainer	23
Venturi scrubber.....	128
Vertical shaft impactor.....	7
Vibrating feeder	7
Vibratory furnace charger	121

W

Wall mounting	17
Wall storage.....	35
Washers	29
Water Ring Vacuum Pumps.....	33
Wave springs	Cover III
Weather proof switches	5
Wheel choke	23
Wheel guide.....	23
Wire & Cable harness	83
Wire and cable	17
Wire forms	Cover III
Wire rope hoists.....	Cover II
Wireless device server	130
Wiring ducts	17
Work bench/ work station	35
Work station	35
World class polygon turning machines	71

X

XYZ servo slide table	19
-----------------------------	----

Z

Zed hydraulic car parking lift	130
--------------------------------------	-----

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Trending Technologies

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Ministry of Steel



Caption- NMDC adopts cutting-edge Sequential Batch Reactor (SBR) technology in its wastewater treatment plants, ranging from 2 MLD to 3 MLD capacities, promoting sustainable water management in projects and townships.



Sun Pharma



"We are pleased with the approval by Taro's shareholders, which, subject to the remaining closing conditions, will enable Taro to merge with Sun. The combined entity will enable us to better serve the needs of patients, healthcare professionals and our customers around the world."

Dilip Shanghvi, Chairman and Managing Director

The merger agreement between Taro and Sun Pharma was approved by the affirmative vote of Taro shareholders at an Extraordinary General Meeting and an Ordinary Class Meeting on May 22, 2024.



Indian Oil Corp Ltd



Fuelling the future of eco-friendly mobility, IndianOil hands over a state-of-the-art green hydrogen fuel cell bus to the Indian Army. An MoU was also signed in the presence of General Manoj Pande, Chief of Army Staff, and Mr. S M Vaidya, Chairman, IndianOil to advance hydrogen and fuel cell technology for heavy-duty e-mobility. We are committed to reducing carbon emissions and setting new standards in green transportation, paving the way for a cleaner future.



Siemens



Siemens to sell #Innomotics to KPS Capital Partners. "By selling Innomotics to KPS, I am pleased that we have made further significant progress in optimizing our portfolio," said our CFO Ralf P. Thomas.



NHSRCL



Another track construction training module for Indian engineers and work leaders for the Mumbai-Ahmedabad Bullet Train project completed. This 20-day hands-on training program was related to Slab Track and Cement Asphalt Mortar (CAM) installation.



Tata Motors



Rajender Kumar is currently working as a Gateman at Tata Motors. Being a proud member of the transgender community, he had to face several odds including from his own family who had conservative views. Today as part of a new family at Tata Motors, he finds himself face to face with newfound hope, respect, and inclusivity. Watch this video as he talks about his experiences in his own words.



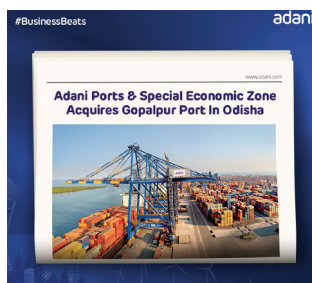
ISRO



Design & Manufacturing Breakthrough: ISRO successfully conducts a long-duration test of the PS4 engine, re-designed for production using cutting-edge additive manufacturing techniques and crafted in the Indian industry. The new engine, now a single piece, saves 97% of raw materials and reduces production time by 60%.



Adani Group



Adani Ports & SEZ became India's first private infrastructure developer to secure AAA rating earlier this year. This accreditation was granted to APSEZ by CARE Ratings owing to its robust integrated business model, strong industry position, consistent market share growth with healthy profitability. We're committed to achieving our financial goals and generate bigger revenues from our APSEZ businesses.



SJVN

Public Enterprises Selection Board has recommended Sh. Ajay Kumar Sharma for the post of Director (Personnel) of @SjvnLimited, leading PSU under @MinOfPower. Sh. Sharma is currently serving as General Manager in Corporate HR department, SJVN. #sjvn #incrediblejvn @power_pib



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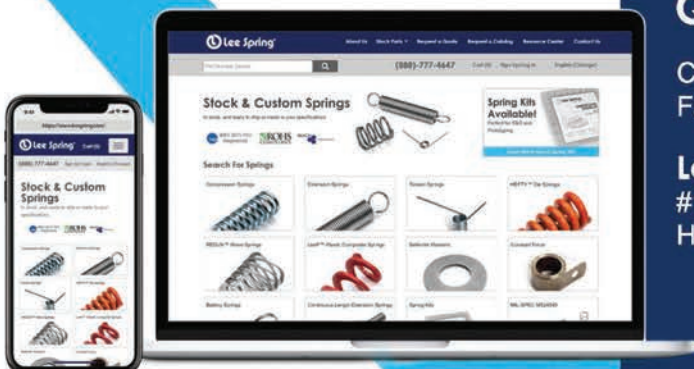
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