TAGMA TIMES

NEWSLETTER

(Technical Info. on Die, Moulds & Toolroom)

Volume: XXIX / No. 08 (Private Circulation for Members Only) April 2023

ToolTalk:
Dario Compagni, Sales Director – USA & APAC, Breton S.p.a.

Veronica Just, Vice President, Millutensil S.r.l.

TECH FOCUS :
Automation, robotics, and the factory of the future

TAGMA INDIA TOOL AND GAUGE MANUFACTURERS ASSOCIATION OF INDIA

tagma.mumbai@tagmaindia.org

www.tagmaindia.org

TAGMA INDIA

Transforming Indian die mould manufacturing since 1990

CONTACT US:

Tel. : +91 96534 27396 | +91 97694 07809
+91 93266 75073 | +91 93267 69816
E-mail : tagma.mumbai@tagmaindia.org,
tagma.diemould@tagmaindia.org
Web : www.tagmaindia.org and
www.diemouldindia.org

FOR DETAILS:

13th Die & Mould India International Exhibition

TAGMA DIEMOULD INDIA-2024

14 15 16 17
FEBRUARY 2024
BOMBAY EXHIBITION CENTRE
GOREGAON, MUMBAI.

Experience the Power of Innovation at India's Leading Die Mould Exhibition

BOOK NOW

TAGMA INTERNATIONAL Tooling SUMMIT 2023

August 24 & 25
Sheraton Grand Bangalore Hotel
at Brigade Gateway, Bengaluru

Empowering the Global Tooling Industry with Knowledge and Networking

REGISTER NOW

Other Offerings from TAGMA

TAGMA TIMES NEWSLETTER
(Technical Info. on Die, Moulds & Toolroom)

tool talk
powered by TAGMA TIMES

TOOLING ACADEMY
A TAGMA Initiative

PUROHIT STEEL

YOUR PARTNER FOR BEST QUALITY STEEL AND SERVICES FOR NUMEROUS APPLICATIONS.

PUROHIT STEEL
GLOBAL STEEL SOLUTIONS

High quality mould steel for pvc, Switches, toys, rubber industry, automotive, caps and closures

Machined & Ground plates

Excellent hot work tool steels for forging and die casting dies

High performance cold work tool steels for stamping, forming, cutting tool

Stainless steel grades for pharmaceutical industries

EN series steel for machine parts, gears, hobs etc

One Stop Solution For All Your Steel Problems

NLMK Verona

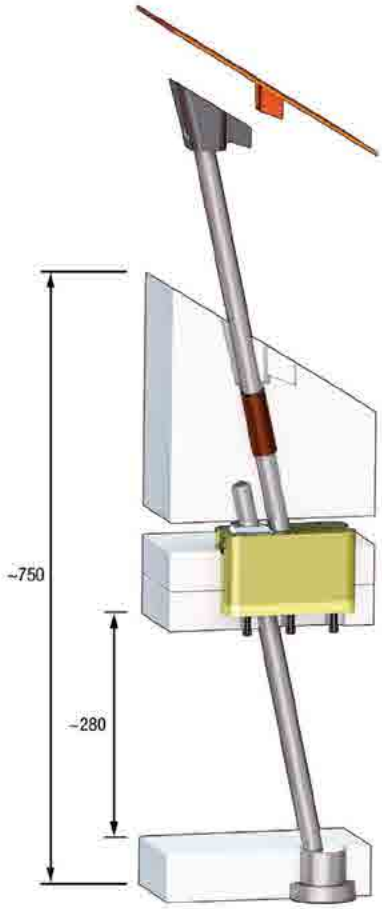
BÖHLER DEUTSCHE EDELSTAHLWERKE SĚAH Steel

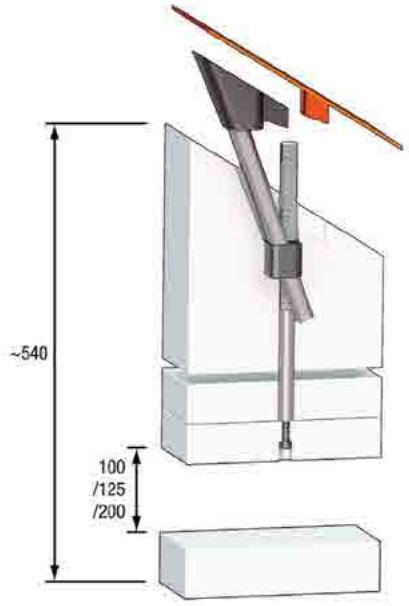
For More Information

Phone: 7798815678 / 25678 / 35678
Email: info@purohitsteels.com

INDUSTRY DEFINING PATENTED UNDERCUT SOLUTIONS

CUMSA DOUBLE RACK SYSTEM





Conventional System

Double Rack System

- Eliminates the need for high-precision angled housings in the core plates.
- Vertical function maximizing strength.
- Smaller and less expensive injection machine required.
- De-moulding under cuts from 14mm to 60mm.
- Customized drafts.
- Complete flexibility for moulding insert dimension.
- Big savings in time & cost for machining & adjustments.
- Significant reduction to the ejection stroke.
- "Mirror" parts available for 1+1 cavities moulds.

MADHU®

Madhu Machines & Systems Pvt. Ltd.

Registered Office:
Vadodara, India.
91-9376215486
meeta@madhu-group.com

Factory:
Bengaluru, India
91-80-28360131
mms@madhu-group.com

SERVING THE PLASTICS INDUSTRY Since 1984

www.madhu-group.com

Innovative Solutions

CONTENT

IN FOCUS

TOOLTALK

PCK-Buderus | Special Steels

Buderus | Edelstahl

THRUHARD SUPREME HH

"When designers at BMW-Germany are working on the new design for the 7 series, they also know what is the best mold steel that will meet their high quality requirements-THRUHARD SUPREME HH"

Injection molding tool for the Bumper

Injection molded Bumper part

PCK Buderus (India) Special Steels Pvt. Ltd.

Corporate Office
PCK HOUSE,
New No. 84, Old No.13,
South West Boag Road,
T. Nagar, Chennai - 600 017
Tel : + 91 44 2434 6503 / 1904 / 8638
Fax : + 91 44 2434 1181
Email : info@pck-buderus.com

Pune Stock Holding Center
Machining Division
New Gat 754, Pune Nagar Road
Wagholi, Pune - 412 207
Tel : + 91 20 2705 1958, 3254 6767
Fax : + 91 20 2705 0700
Email : punewh@pck-buderus.com

Ludhiana Stock Holding Center
C-I, Industrial Area C, Jaspal Main Road,
Kanganwal, Ludhiana - 141 120. Punjab.
Tel : + 91 161 6532016 / 2017 / 2510073
Fax : +91 161 2510072
Email : ludwh@pck-buderus.com

Kolkatta Office
Flat No. 403, Vishal Apartments
4th Floor, No. 18,
Prince Anwar Shah Road,
Kolkatta - 700 033
Tel : + 91 33 2417 1078
Email : info@pck-buderus.com

www.pck-buderus.com

EXECUTIVE COUNCIL 2020-2023

FOUNDER MEMBERS
Anil C Kilachand
A R A Shaikh
J N Godrej
P N Rao
N Reguraj
S C Kalyanpur
S Samu
Vijay N Kulkarni

REGISTERED OFFICE
C/o. NTTF
23/24, Peenya Industrial Area,
II Phase, Bangalore - 560 058.
Tel.: 080-28397196 • Fax : 080-64509966
Email: tagma.bangalore@tagmaindia.org
Contact: Mr. Ashok Shetty - Secretary
Cell.: +91 98453 97780

CENTRAL OFFICE
A-33, NandJyot Indl. Estate,
Safed Pool, Mumbai - 400 072.
Cell.: +91 96534 27396 / 97694 07809
Email: tagma.mumbai@tagmaindia.org

PUNE OFFICE
Plot A-22/2, Chakan Industrial Area,
Phase II, M.I.D.C, Village Khalumbre
410501
Tal. Khed, Dist. Pune.
Cell.: +91-95276 89700
Email: tagma.pune@tagmaindia.org

COIMBATORE CHAPTER
C/o. S & T Engineers (P) Ltd.
22, Vasanth Nagar, Trichy Road,
Singanallur, Coimbatore - 641 005.
Tel.: 0422-2590810 • Fax : 0422-2573629
Email: tagma.coimbatore@tagmaindia.org

PRESIDENT

Mr. D. M. Sheregar
Devu Tools Pvt. Ltd., Mumbai – 400 072
Email: president@tagmaindia.org; sheregar@devutools.com

VICE PRESIDENT

Mr. D. Shanmugasundaram
S & T Engineers (P) Ltd., Coimbatore – 641 005
Email: shan@stengineers.co.in

MEMBERS

Mr. Akshay Kalyanpur
Sridevi Tool Engineers Pvt. Ltd., Vasai – 401 208
Email: akshay@sridevitools.com

Mr. D. Ravi
CMD Precision Products Pvt. Ltd., Chennai – 600 058
Email: ravi@classicmoulds.com

Mr. Gopalakrishnan T. S.
Multiple Special Steel Pvt. Ltd., Bangalore – 560 099
Email: gopalakrishnants@gmail.com

Mr. Paresh Panchal
Cam Tools, Mumbai – 400 072
Email: paresh@digitaltoolroom.com

Mr. Parveen Satija
Stitch Overseas Pvt. Ltd., Gurgaon – 122 004
Email: parveen@stitchtools.com

SECRETARIAT

Mr. Bhaskar Kanchan - Director
Mrs. Deepali Pandav - Deputy Director

Editorial Team
Nishant Kashyap, *Editor* | Kimberley D'Mello, *Associate Editor*

TAGMA INDIA

Edited & Published By: DM Sheregar for TAGMA INDIA at
A/33, Nand Jyot Indl Estate, Safed Pool, Mumbai - 400 072
Cell: 96534 27396, 97694 07809

MILLUTENSIL SPOTTING PRESSES
THE BEST SOLUTIONS
TO VALIDATE YOUR MOULDS AND DIES

BLUE LINE

The widest range of spotting presses on the market.

30 models available with plate dimensions from 980x750 mm to 4000x4000 mm.
(38.5x29.5 to 157.5x157.5 Inches)

MILLUTENSIL®
SINCE 1955

MILLUTENSIL SRL
Plant:
via delle Industrie, 10
26010 Izano (CR) - Italy
info@millutensil.com

Office: Corso Buenos Aires, 92
20124 Milano - Italy
Phone +39 02 29404390
Fax +39 02 20466 77
www.millutensil.com

Italian Technology Center India

ITALIAN TECHNOLOGY CENTER
Office no-003, Lunkad Sky Station, Near HDFC Bank,
Datta Mandir Chowk, Viman Nagar, Pune-411014, INDIA
Phone +91-20-41226111 - Mobile +91-9960865353
marketing@itc-india.in - www.itc-india.in

EDITORIAL

NISHANT KASHYAP
Editor
tt.edit@tagmaindia.org

In the age of Industry 4.0, one of the biggest transformations we are witnessing is the integration of artificial intelligence (AI) into various manufacturing processes. This trend is reshaping the industry and driving unprecedented levels of efficiency, productivity, and innovation.

Die and mould makers cannot ignore the impact AI has on manufacturing. By leveraging AI-powered tools and technologies, manufacturers can optimise their operations, improve product quality, and reduce costs. Furthermore, they can gain a competitive edge in an increasingly crowded and globalised marketplace.

One of the most significant ways AI is transforming manufacturing is through predictive maintenance. By analysing data from various sensors and systems, AI can accurately predict when a machine is likely to fail and schedule maintenance accordingly. This proactive approach can reduce downtime, increase productivity, and save costs associated with unexpected breakdowns.

While there is no denying the benefits of AI in manufacturing, it is important for toolmakers to approach this technology with caution. As with any new technology, there are risks and challenges associated with its adoption. For example, AI-powered machines can sometimes make mistakes or malfunction, which could result in costly errors or even accidents.

To mitigate these risks, toolmakers need to take a gradual and measured approach to implementing AI in their operations. They should start by identifying areas where AI can be most beneficial, such as predictive maintenance or supply chain optimisation, and gradually integrate AI-powered tools and technologies into these areas. Furthermore, they should invest in training and educating their workforce to ensure that they are equipped with the skills and knowledge required to operate and maintain these systems.

Want to know how you can reap the benefits of this technology and gain a competitive edge in an increasingly challenging marketplace? Read our 'In Focus' and 'Tech Focus' sections to know more.

Happy Reading!

S&T ENGINEERS

WTM®
Worldwide Industrial Machinery Ltd.

Floor Type Horizontal CNC Milling Machine

HMF series

Good performance in rough milling for large workpiece

HMF3015 Specifications		
Travel	X axis	3000 mm
	Y axis	1500 mm
	Z axis	800 mm
Spindle	Spindle bore taper	BT50
	Max. spindle speed	4000 rpm
Worktable	Max. worktable loading capacity	40 ton
	Worktable dimensions (Length x Width)	4000x1500mm
Power	Spindle motor	30/37 kW(30mins)

Strong Milling

Corporate Office

S&T ENGINEERS (P) LTD.

22, Vasanth Nagar, Singanallur, Coimbatore – 641 005,
Tamil Nadu, India. +91-422-2590810, 2591470, 2593487
+91 73059 92830 info@stengineers.com www.stengineers.com

25+ YEARS | S&T GROUP SINCE 1996

MAKING TECHNOLOGY AFFORDABLE

Two-wheeler manufacturers see rise in sales in March on festive demand

India's top two-wheeler manufacturers saw a rise in domestic sales in March, spurred by festive demand, while commercial vehicle sales continued to grow on pre-buying ahead of the implementation of tighter fuel emission norms.

Volume growth for the final month of the fiscal year indicates healthy demand during the festive season and higher dispatches before the transition to new emission norms, analysts at Motilal Oswal said in a note.

These norms, which were implemented on April 1, require automakers to fit their vehicles with a device to check emissions, leading to extra costs. Maruti Suzuki Ltd., Hero MotoCorp Ltd. and Tata Motors Ltd. have all announced price hikes in the last few weeks to meet the additional costs.

Domestic sales at Hero, India's largest bike-maker by volume, grew 20.9%, while TVS Motor Co. Ltd. posted a 22.5% rise in sales. Eicher Motors's Royal Enfield bikes reported a 2.4% rise in domestic sales. Sales of two-wheelers, indicative of the financial health of India's rural economy and demand in the country's largest consumption segment, loosely defined as lower middle-income households, have been stressed. While it grew month-on-month in March, a recovery in two-wheeler sales is still not in sight, the analysts said, without providing additional details. Among passenger

Image used for representation only. Courtesy Envato Elements.

vehicles, Maruti Suzuki saw a 0.8% decline in domestic sales, while Tata Motors reported a 4.1% jump in sales.

However, demand for costlier and popular utility vehicles (UV) was undeterred, with Maruti Suzuki's UV sales jumping 48% and Mahindra and Mahindra Ltd. reporting a 31% rise in the segment. The domestic commercial vehicle segment continued to see a rise in sales as fleet operators and logistics firms made purchases ahead of the fuel emission norms, when buses and trucks are set to become more expensive.

Ashok Leyland Ltd. reported a 23.3% rise in domestic sales, while Eicher Motors' monthly sales grew 42%. Market leader Tata Motors posted a 2% rise in domestic sales.

"Medium and heavy duty trucks dispatches were above estimates, led by strong demand from underlying industries and heavy pre-buying before BS6-II transition," the analysts said in the note. ◆

Courtesy: Reuters

Husky returns to Plástico Brasil to demonstrate its range of technologies, solutions and services

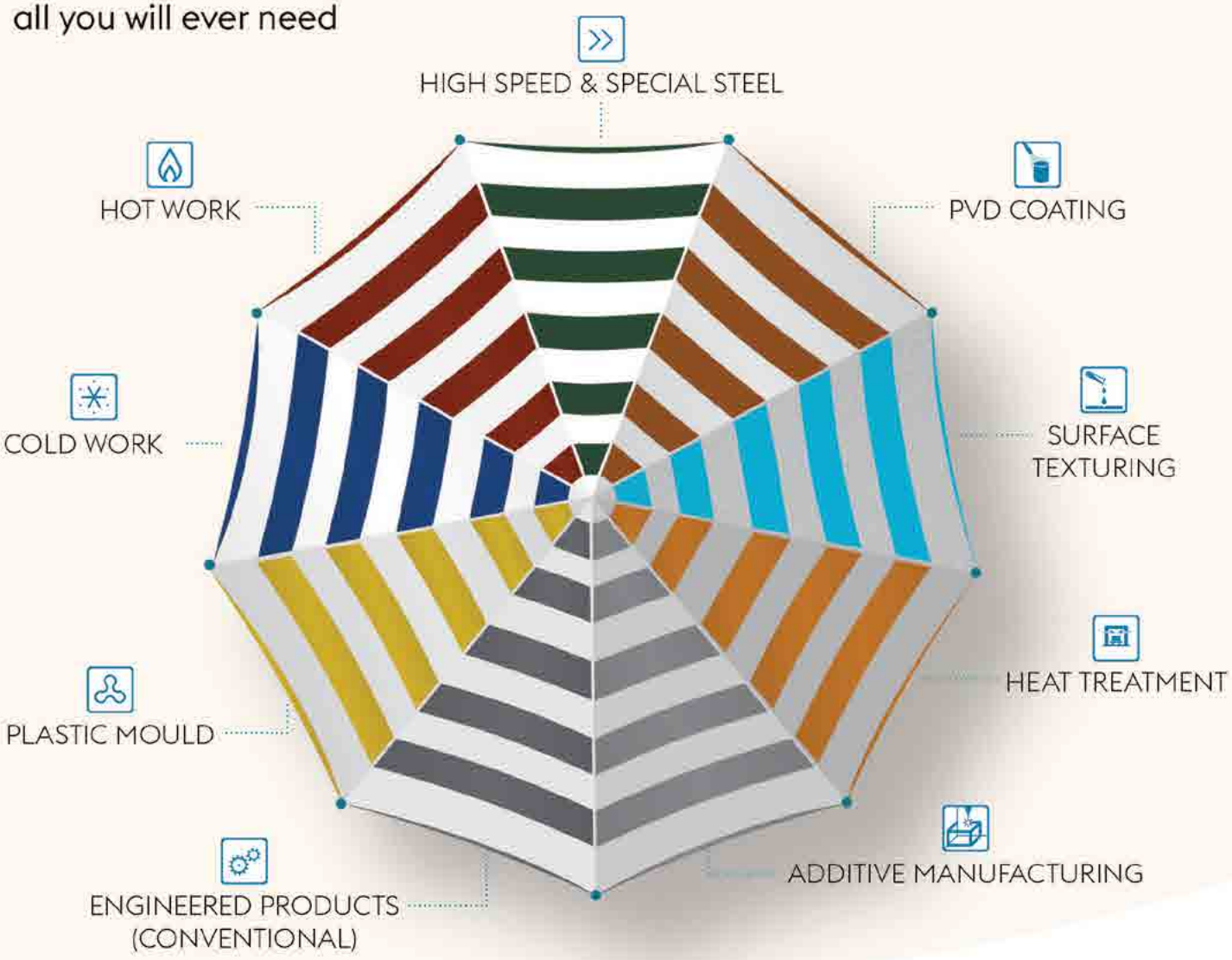
Husky Technologies™, a pioneering technology provider enabling the delivery of essential needs to the global community, recently announced its return to exhibit at Plástico Brasil 2023 (March 27-31, São Paulo, Brazil). At the show, Husky featured how its versatile range of technologies, solutions and services enable Brazil's food, beverage, consumer goods packaging, automotive and medical device producers to effectively meet regional market and consumer trends.

Husky first established a presence in Brazil in 1993, having opened its regional Technical Center in Jundiai and selling the first local system into the market that same year. Now having served the region for 30 years, the company has established a strong local presence that is complemented by years of global expertise. The Technical Center focuses on up-time and keeping customers running with advanced support and parts capabilities, including optimised hot runner and controller refurbishment services. This is supported by Advantage+Elite™, which remotely monitors systems within customers' production facilities 24-hours a day in real-time, while proactively engaging to recognize and rectify potential issues before productivity or part quality is impacted.

"Husky works closely with our customers in Brazil and neighboring regions to gain a true understanding of the unique challenges they encounter," said Sean Hoy, Husky's Vice President of Sales and Service, Hot Runners and Controllers for the Americas. "Our industry-proven hot runner and controller technologies are perfectly aligned with the key markets and trends that are fueling the plastics industry in Brazil. This is why we've established a strong regional presence, including field service, technical support, refurbishing capabilities, along with new hot runner and controller manufacturing, that can satisfy the needs of this growing market." ◆

WE HAVE YOU COVERED

Under our umbrella we have all you will ever need



Our Products (Materials)*

Tool Steel
- Hot Work
- Cold Work
- Plastic Mold

High Speed Steel
- Conventional Steel
- Powder Metallurgy

Special Steel
- Aerospace
- Chemical Processing
- Oil & Gas
- Power Generation

Engineered Products (Conventional)
- High Performance tool/ inserts for hot work, plastic and food applications

Our Services (Process)

Surface Engineering
- PVD Coating
- Advanced Benefit Process (ABP)
- Polishing

Surface Texturing**
- Real-tec
- Digitex & Digiflex
- Chemical Etching
- Laser-Tech
- G-Coat & Ceremat Coating's

Heat Treatment
- Vacuum Heat Treatment
- Cryogenic Process
- Stress Relieving

Additive Manufacturing
- Manufacturing Services
- Powder for AM
- Research Competence

* Fulfilled by our world leading brands BÖHLER and UDDEHOLM
** By EschmannTextures

Visit our website

voestalpine High Performance Metals Pvt Ltd.
office.india@voestalpine.com

voestalpine
ONE STEP AHEAD.

vivo to invest INR 1,100 crore to ramp up manufacturing capacity in Greater Noida

Smartphone maker vivo recently said it will invest INR 1,100 crore more by the end of 2023 to scale up its manufacturing capacity in the country, and that production in its upcoming unit at Greater Noida is expected to commence by early 2024. vivo India also said it is "on track" to export more than one million 'Made in India' smartphones in 2023, having sent its first 'Made in India' smartphone shipment to Thailand and Saudi Arabia during 2022.

As part of its INR 7,500-crore proposed investment plan it had outlined, vivo is on its way to complete the first phase investment of INR 3,500 crore by the end of 2023. "vivo India has already invested INR 2,400 crore, and a further INR 1,100 crore is expected to be invested by the end of 2023 to increase its manufacturing capacity and support the government's vision of making India a global export hub," the company said in a release.

The company released the second edition of its India impact report, as it pledged its "unwavering commitment" to the Indian market. "The vision which vivo has for India, there is a very strong conviction that India's smartphone market holds a lot of potential and, thus, we are invested in creating this whole ecosystem for the smartphone market," Yogendra Sriramula, Head, Brand Strategy, vivo India, said.

Accordingly, production in its new manufacturing facility in Greater Noida will commence by early 2024, subject to the necessary clearance from the authorities. The new facility spreads across 169 acres and will have annual capacity to produce nearly 120 million smartphones in the future, after all the phases are completed.

Its current manufacturing unit is also in Greater Noida. Every vivo smartphone that is sold in India, is made in India, the release mentioned. "Since our inception, India has continued to be a strategic market for us," Sriramula said. All of vivo's motherboard assembly is happening in India, the release said adding vivo procures 95 per cent of its battery and 70 per cent of its charger components locally. ◆

Courtesy: PTI News

Local production for innovative manufacturing solutions

For DMG MORI, China International Machine Tool Show (CIMT) provided an ideal platform to present innovative solutions for the production of the future. From April 10 to 15, 2023, visitors got an impression of DMG MORI's technology excellence in the most important key industries. Process integration, automation, digitization and sustainability were the major issues at DMG MORI's booth. The exhibition consisted of 8 machine tools: the turn & mill center CTX gamma 2000 TC, the Vertical Mate 85 for efficient grinding, and several machining centers – among them the models produced locally like the NHC 5500 and CMX 1100 Vc made in Tianjin. With a MATRIS light on an NLX 2500 and a NHC 5000 with a RPS two automation solutions worked as examples for a holistic portfolio in this future topic. In addition to the eight exhibited machines, the new ALC series turning center produced in Tianjin were introduced to the public in the exhibition.

DMG MORI showed two examples of the automation portfolio at CIMT in the form of an NLX 2500 with a MATRIS light and a NHC 5000 with an RPS. The MATRIS light is a highly flexible and collaborative robot for the handling of workpieces of up to 5 kg. It can be taught directly without robot knowledge. The RPS is machine-integrated and space-saving automation for the handling of up to 21 pallets, which is produced by Tianjin factory. It can handle workpieces of up to 700 kg.

Image courtesy DMG MORI

A NHC 5000 with RPS

As a technology leader in machine tool manufacturing, DMG MORI can align all activities in the area of digitization along the entire value chain. CELOS and the Messenger support work on the shop floor, while the IoTconnector guarantees a safe connectivity for the use of monitoring and remote services.

DMG MORI has decades of experience in many key industries. In recent years, aerospace, semiconductor, medical, die & mould and new energy are becoming increasingly important. Thus, the machine tool manufacturer bundles this experience in its DMG MORI Technology Excellence Centers. With their technical know-how, their experts design individual manufacturing solutions with a continuous process chain based on the innovative product portfolio. ◆

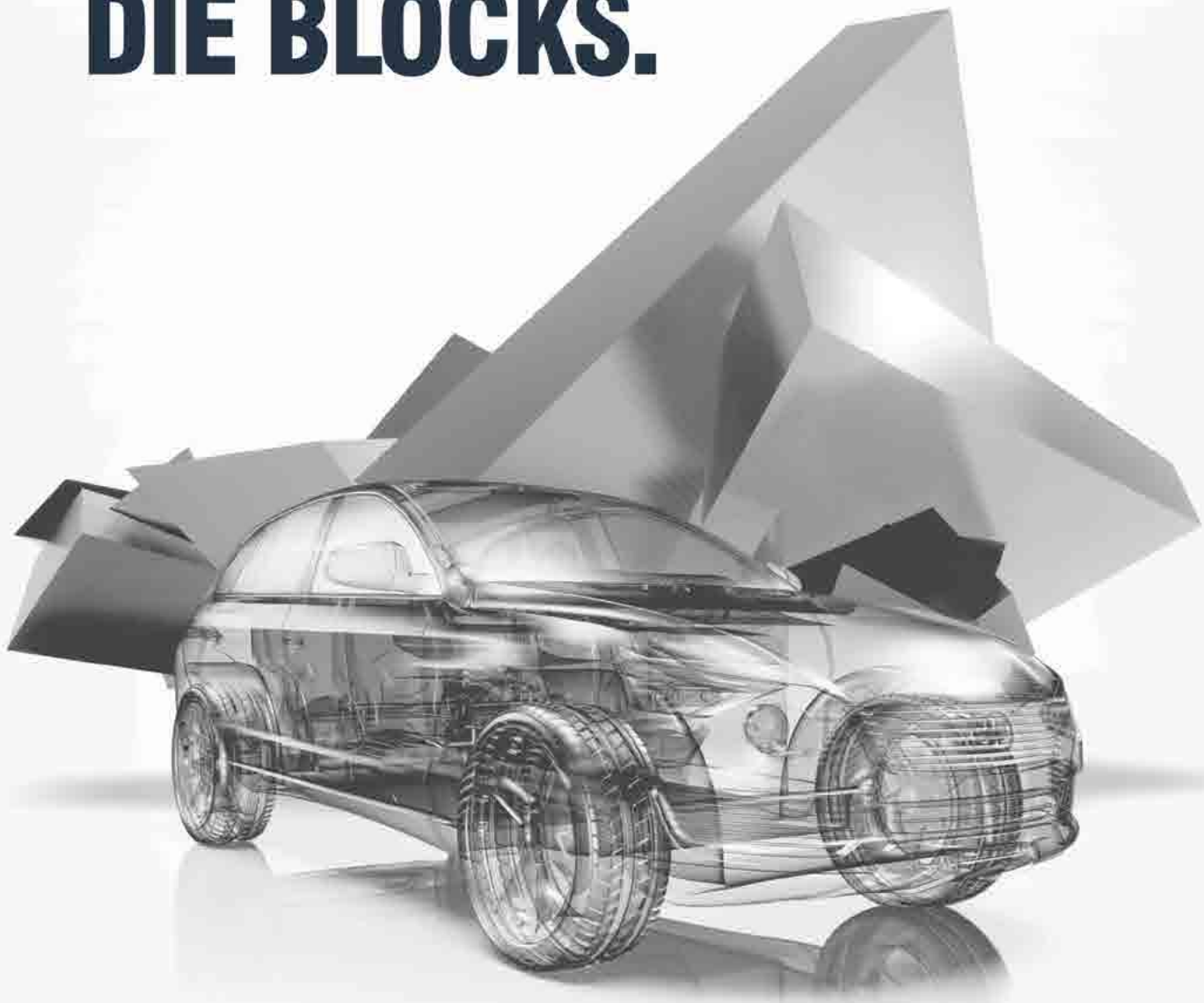
Authorized
Official Dealer
for India

FORGING&
CASTING
DIVISION

GROUP
LUCCHINI RS

EXTRA LARGE FORGED DIE BLOCKS.

For light alloys structural parts for automotive.



ESKY® LOS

2343 DC/HDC
2344 HDC

Dimensions:
Width 1700mm max.
Thickness 700mm max.

1. Fine grain size
2. Optimal micro-structure
3. Optimal "Heat Check" resistance

Anuj Budhiraja joins Phillips Machine Tools as Vice President, Phillips Additive

Phillips Machine Tools, an additive and machining expert in manufacturing technology, is pleased to announce Mr. Anuj Budhiraja, as the newest addition to its leadership team. Anuj will serve as Vice President of Phillips Additive, the company's division dedicated to additive manufacturing solutions. He will head the additive division for India, Bangladesh, Sri Lanka, Middle East and Malaysia.

With 20+ years of professional experience in helping manufacturers adopt emerging technologies for achieving their goals towards innovation, growth and increased profitability, Budhiraja brings a wealth of knowledge and expertise to the position. Prior to joining Phillips Machine Tools, he has worked with other global companies such as Markforged, Stratasys India, Autodesk India where he has built upon his skills in driving adoption of digital manufacturing technologies, digital transformation, sales management and business strategy.

Mr. Terence Miranda, Managing Director of Phillips Machine Tools, shared, "At Phillips, we seek to partner with a unique blend of high performance, passionate, and deeply caring individuals and teams. We are thrilled to welcome Anuj Budhiraja to our team. With his extensive experience in the field of additive manufacturing, he is well-suited to lead our Phillips Additive division as we continue to expand our additive manufacturing solutions. In a world that is fast transforming with the help of additive manufacturing, the need of the hour is to focus on innovative solutions for our customers, and expand their business opportunities."

Mr. Anuj Budhiraja shared, "I am very excited to join Phillips Machine Tools, the leader in providing innovative manufacturing solutions to the manufacturing industry from the last 60 years. With its strong team of professionals, Phillips Additive is already making its way to solve the challenges of the manufacturing industry by providing additive manufacturing solutions for their supply-chain issues, batch production and improving product lead time. I look forward to expanding its reach across industry verticals and across geographies in India, Middle East, Sri Lanka, Bangladesh and Malaysia. 3D printing is revolutionising the world and Phillips Additive is enabling the industry to embrace this revolution in manufacturing." ◆

Auto parts manufacturer Sona BLW Precision inaugurates its second-largest unit in Pune's Chakan

Auto parts manufacturer Sona BLW Precision Forgings inaugurated its second-largest manufacturing plant in Chakan, Pune, with an investment outlay of INR 231 crore. According to the company's statement, the new plant manufactures driveline products for electric vehicle (EV) and non-EV applications and serves customers in India and globally.

Spread over 10 acres in Chakan, India's automobile and manufacturing hub, the plant will leverage latest technologies, ensuring the highest levels of quality and precision in the manufacturing process, according to a company's statement. The firm said it will be critical in scaling up capacities to fulfil the company's large and growing net order book of INR 238 billion. The new plant has a production capacity of nearly 11.8 million gears, which is expected to reach 20.1 million differential gears by the end of financial year 2024-25 (FY25).

"We are proud to inaugurate our new plant in Chakan," said Sunjay Kapur, Chairman, Sona Comstar. "With state-of-the-art technology and an unwavering commitment to quality and technology, we are confident that this plant will set new benchmarks in the automotive industry and mark India's eminence in manufacturing on a global platform."

Vivek Vikram Singh, MD and Group CEO, said, "This new plant is a testament to our dedication to innovation and excellence in manufacturing. This expansion marks a significant milestone in our growth journey, as we remain committed to our vision of being a global leader in the automotive technology solutions space."

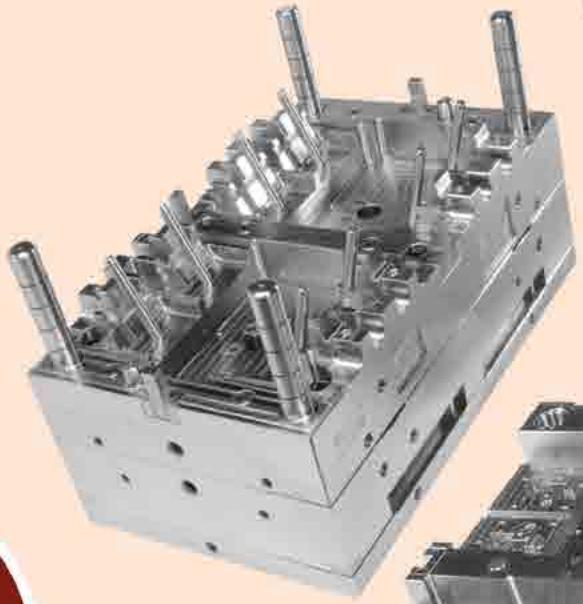
According to Ricardo's data, Sona Comstar's global market share of differential gears increased to 7.2 per cent in 2022 from 5 per cent in 2020. V. Vikram Verma, CEO of Driveline Business, said, "We are excited to inaugurate our new manufacturing plant in Chakan... The plant's strategic location in the automotive hub of India will help us better serve our customers in the western and southern regions." ◆

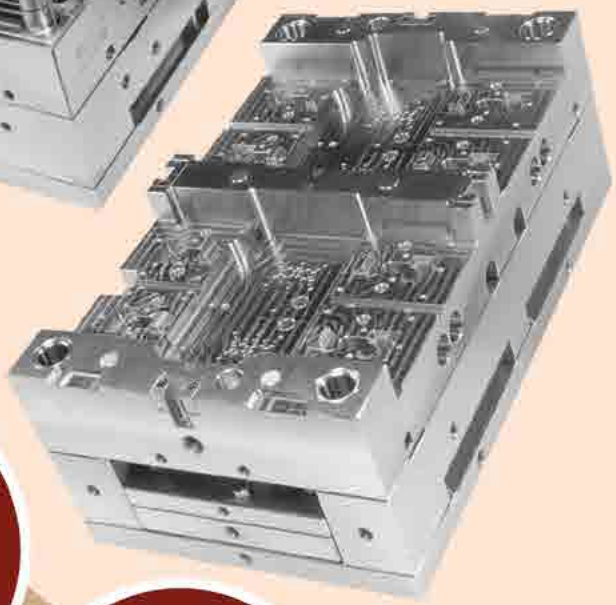
Courtesy ANI

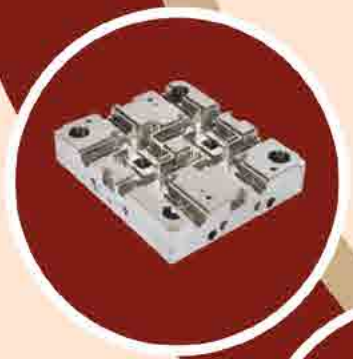
WORLD CLASS PRECISION MOULD BASES

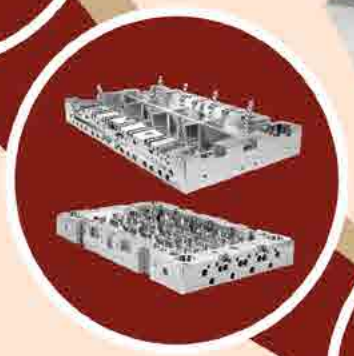
25 YEARS
1994 2019
INTEGRITY IMPROVEMENT SERVICE TEAM WORK

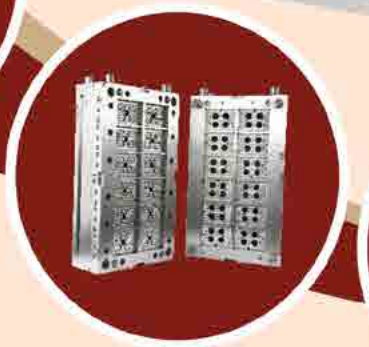
Are you looking for
Precision engineering...
Machining competency...
Timely delivery..











PMT™

PRECISION MOULD TECH

Your Success Partners

No. 159, 3rd Main Road, Industrial Town, Rajajinagar, Bengaluru - 560 044
Phone : +91-080-23405544, +91-080-23503142 Fax : +91-080-23402760
E-mail : info@precisionmouldtech.com Website : www.precisionmouldtech.com

Renishaw celebrates 50 years of engineering innovation

This year, global engineering technologies business, Renishaw, is celebrating its 50th anniversary. The company, which was founded on April 4, 1973, will mark this significant milestone with a year of global activities including open house events at its largest sites, family days for employees and a '50 at 50' charity initiative, which will see £150,000 donated to 50 not-for-profit organisations in the 36 countries, where it has offices.

Over the past 50 years, Renishaw's products have revolutionised key aspects of component manufacturing and scientific research, contributing to the ability to make the high performing, precision products that we use in our daily lives. From the manufacture of aircraft, cars, smartphones, electric vehicle batteries and solar panels, to brain surgery and dentistry, there is barely an industry that does not in some way benefit from the company's ongoing innovations.

Will Lee, Renishaw's Chief Executive, says, "This is a year to reflect on the tremendous achievements of our co-founders and employees past and present, who have done so much to advance precision manufacturing globally, and to look forward with confidence to future decades of innovation and growth."

He adds, "The formula that has ensured Renishaw's success over the past 50 years remains at the heart of our approach to business – investing heavily in research and development to ensure a continuing stream of world-leading products; a commitment to high-quality in-house manufacturing that ensures we can meet the exacting requirements of our global customers; and a focus on excellent local customer service and support through our wholly owned subsidiary operations."

Lee concludes, "On behalf of Renishaw, I would also like to thank our customers and suppliers, many of whom we have had close relationships with for most of our history and with whom we have shared mutual success, and our other stakeholders, including our local communities who have been highly supportive of our growth and have also shared in our success." ◆

Samsonite to invest INR 160 crore to expand manufacturing capacity

Samsonite South Asia, the leading global lifestyle bag and largest travel luggage manufacturer, plans to invest INR 160 crore in the second phase of expansion at its Nashik plant, as demand for travel luggage bounces back sharply after the COVID-19 pandemic impact.

The company will invest INR 110-115 crore to enhance its hard luggage manufacturing capacity from 5 lakh pieces a month to 7.5 lakh pieces by end of next year. It will also put up automated warehousing with an investment of INR 45 crore. The current expansion of 1,80,000 sq. ft. will come up on the surplus land available in Nashik.

Jai Krishnan, Chief Executive Officer (India), Samsonite South Asia said the current capacity has reached the optimal level and there is huge pressure on the company to complete the expansion as early as possible. The construction for the new plant will start soon and by this year-end.

Ultimately, the company wants to make 10 lakh pieces a month in India and is also exploring other states for putting up new factories, he added.

The company recently opened a retail outlet in Darbhanga in Bihar and the response has been so phenomenal that there is already demand from the sales team for opening up outlets in Katihar and Muzaffarpur, he said.

On a monthly basis, the company has been opening 15 new stores of both Samsonite and American Touristor.

"We will increase the company-owned stores to 65 from 40 while the overall presence will increase to 600 from 460 retail stores by end of this year," said Krishnan.

He expects the travel luggage industry to grow to INR 1-lakh crore from INR 25,000 crore in the next 10 years with more players entering the business.

After-sales service is one of the key factors for consumers to associate with an international brand like Samsonite, especially in smaller towns where the aspiration of people is growing with deeper penetration of the internet, Krishnan said.

Samsonite can provide service across the world unlike other leading domestic brands or start-ups, which look like an international brands but cannot afford to give the kind of service the company gives, he added. ◆

Courtesy: The Hindu BusinessLine

DIJET

5-AXIS SERIES

"Juomujin"

Boundless possibilities

Achieve more creativity
than you can imagine!

Barrel Tools from Dijet

STLP type

High efficient machining on tilted and curved surfaces with extra-large barrel radius on cutting edge.

MQT type

High speed machining of side walls by adopting inserts with barrel R cutting edge.

FJVA type

Suitable for high-efficient machining such as turbine blades.

DIJET INDUSTRIAL CO., LTD
305, Mahant Chambers, Plot no 315, Road no 34,
Wagle Estate MIDC Industrial Area, Wagle Estate,
Thane - 400604, Maharashtra
Email : india_office@dijet.co.jp
Mobile No. : +91 77385 51555

Hexagon launches next generation ultra-high accuracy CMMs

Hexagon's Manufacturing Intelligence division recently announced the launch of its new generation of Leitz PMM-C ultra-high accuracy coordinate measuring machines (CMMs). This series has long set the performance standard across a broad range of precision applications where manufacturers need the highest accuracy and low measurement uncertainty. Now that standard is even higher, thanks to a powerful and simple modular concept combined with new capabilities and performance options.

In measuring labs and now also in precision manufacturing environments, the upgraded series caters for a versatile mix of requirements, from small volume, low sub-micron accuracy applications to high sensor-flexibility, fast throughput and near production inspection.

"We've examined every aspect of these machines and added new performance-enhancing features and optional capabilities to lift the series to the next level of ultra-high accuracy inspection. And crucially, we've made it easy for manufacturers to choose and adapt their CMMs to their specific application requirements without having to consider an overwhelming variety of options," says Lukas Kaps, Product Manager for the ultra-high accuracy CMM line at Hexagon.

With six machine sizes starting at 700 x 700 x 500 mm and extending to 2400 x 1600 x 1000 mm, the Leitz PMM-C series can inspect parts of a wide variety of sizes and shapes. Clear configuration choices and enhancement options enable manufacturers to define the measurement system that perfectly solves their individual application needs.

"This new generation of machines is part of a wider transformation of our CMM portfolio towards application-focused models optimally configured for manufacturers' specific measurement challenges," says Joerg Deller, General Manager of Stationary Metrology Devices at Hexagon. "This began with the successful launch of our new OPTIV multisensor range. And as we announce this innovative new generation Leitz PMM-C series, we have also reconfigured Hexagon's GLOBAL and Leitz Reference CMMs with capabilities and enhancement options that better address each manufacturer's application needs today, and as they evolve over the entire lifecycle of their machines." ◆

TecMill to include AH3225 and AH8015 grade tangential inserts for better tool life in ISO P, K, and S

Tungaloy has added ten total inserts of AH3225 and AH8015 physical vapor deposition (PVD) coated grades to its TecMill roughing tangential milling cutter line commonly used in heavy-duty square shoulder and face milling operations.

TecMill tackles heavy-duty roughing processes of face and square shoulder milling operations, which usually involve medium to high horsepower machines. Tangentially mounting of robust inserts enhances tool stability and provides a thick core, enabling high efficiency during heavy-duty milling operations.

Providing exceptional reliability and increased tool life in steel, the new AH3225 insert grade consists of a unique nano-multilayer coating featuring three distinctive characteristics for improved resistance to built-up edge, wear, and delamination, combined with a dedicated tough carbide substrate. AH8015 is another PVD grade, consisting of extremely hard PVD coating combined with a tough carbide substrate. The grade demonstrates excellent tool life stability in cast iron and heat-resistant superalloys. ◆

ASHNA
Toolroom Excellence

ACCURACY. TIMELY DELIVERY.
STATE-OF-THE-ART INFRASTRUCTURE

It has been 20 years that we at Ashna Enterprise are moulding quality and accuracy. Our manufacturing facility spreads over 35,000 sq. ft. area, and we are backed with 60+ highly skilled and experienced professionals.
We are one of the pioneering companies in Standard and Customized Mould Base, Die Set, Machined Plates and Accessories. Today, we, at Ashna Enterprise, have acquired a reputation as a reliable mould base partner ensuring top quality products, representing excellent value for money.

Customized
Mould Base

PDC
Mould Base

900 Cavity Rubber
Mould Base

Mould Base | Machined Plates | Machined and Bore Plates | Die Set

ASHNA ENTERPRISE

P: 0250 - 2450407 / 08 | **M**: +91 9322 519511 / 9028 002982
E: ashnaenter@rediffmail.com / info@ashnaent.com | **W**: www.ashnaent.com

InnovMetric releases PolyWorks® 2023

InnovMetric, the independent software development company that empowers manufacturers of every size to digitally transform their 3D measurement processes, is announcing the launch of PolyWorks 2023. This new release expands the PolyWorks universal 3D metrology platform to offer a digital ecosystem integrated into the four phases of a manufacturing organisation's global dimensional management process: product design, process design, validation, and production.

In addition to optimising the performance of 3D measurement teams through universal platform enhancements, PolyWorks 2023 further reduces the cost of measuring in 3D in three different ways:

- PolyWorks offers improved Model-Based Definition (MBD) and Measurement System Analysis (MSA) digital workflows that help manufacturing organisations minimise the number of software used within their global dimensional management process.
- The PolyWorks data management solution can now be deployed in less than 15 minutes in the cloud and be interconnected with a corporate identity server.
- Finally, PolyWorks integrates new root-cause analysis tools into its data management solution that can automatically identify the factors that impact production quality.

"For 10 years, we have invested heavily in digital technologies, which today allows us to help our customers increase their use of 3D measurement data while reducing their operating costs. What is our secret? We digitally interconnect our customers' platforms, such as CAD and PLM, PolyWorks, and Microsoft solutions. As a result, we can now easily provide business processes that previously required three or four different software and react in real time to problems on the production line while our decisions are based on factual 3D measurement data. Moreover, our customers can now deploy our data management solution in less than 15 minutes, which is a major breakthrough for small- and medium-sized enterprises," says Marc Soucy, President of InnovMetric. He concludes, "For manufacturing organizations that are still questioning the relevance of their digital transformation, the question to ask is no longer why, but when." ◆

Higher quality thanks to the Cooled Compact Slide Unit

In autumn 2022, Meusburger presented a mould making innovation: the E 3380 compact slide unit. It is the only compact slide unit with a prefabricated cooling hole and an integrated fountain on the market.

Customers also benefit from the extremely compact design and a slide stroke of up to 40 mm, which can be adjusted if necessary. During the development of the slide unit, particular emphasis was placed on ease of use, which is why the geometries allow maximum flexibility during installation. The hardened and DLC coated compact slide is available from stock at Meusburger in three different sizes and two different stroke lengths. The 3D data for all sizes can be exported from the Meusburger shop ready-to-use. In addition, the subtraction solids are available for CAD design for each variant. This enables the mould designer to place a slide assembly in their CAD design in just a few minutes. To match the compact slide unit, Meusburger recommends the E 3046 slide stopper. There is already a prefabricated cut-out in the slide for the stopper.

How you benefit

- Reduced cycle times thanks to efficient cooling
- Optimised production and moulding process
- Increased quality of the moulded part due to optimum cooling and design ◆

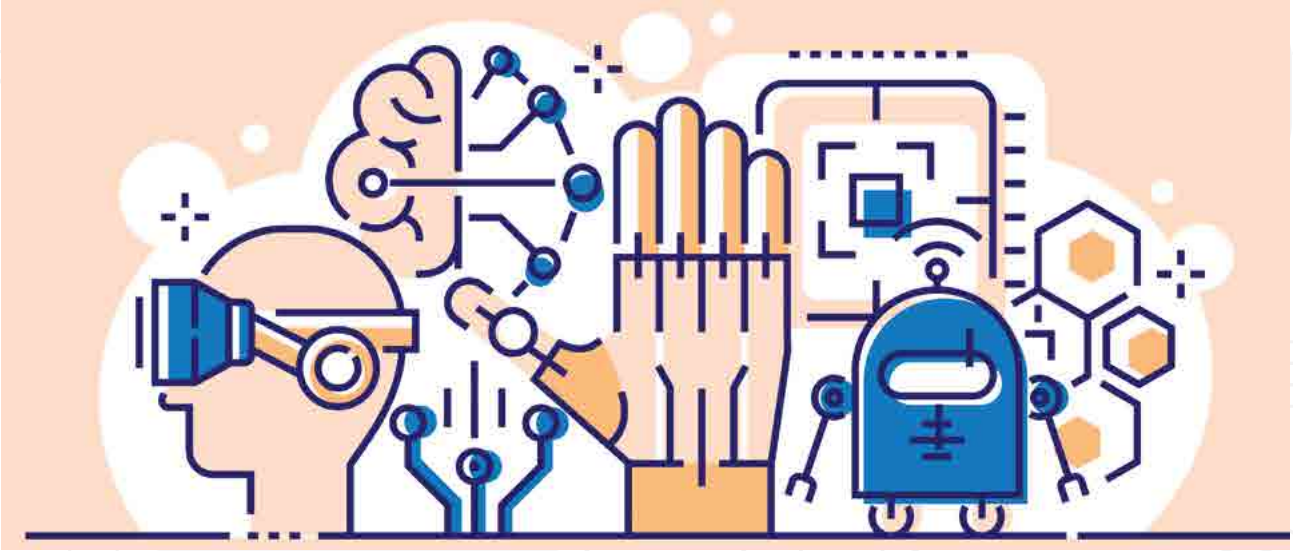
KALYANI

WORLD CLASS PRECISION STANDARD, CUSTOM-MADE MOULD BASES &, INTERCHANGEABLE COMPONENTS FOR PLASTIC AND DIE CASTING MOULDS

Kalyani standard or custom made mouldbases are manufactured with the highest precision and finish exactly to customer specifications ensuring perfect interchangeability of sub assemblies

KALYANI MOULD BASE PVT LTD

14, Raju Industrial Estate, Penkar Pada Street,
Near Dahisar Octroi Check Post, Post - Mira,
Dist - Thana 401104
91-022-28966637 / 28974586 / 28285290
info@kalyanimouldbase.com
www.kalyanimouldbase.com



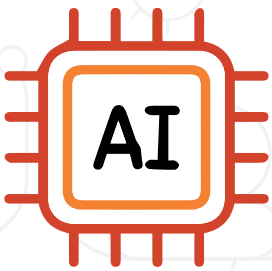
AI in Manufacturing:
A smarter choice for MSMEs?

Artificial Intelligence (AI) is increasingly becoming an integral part of the manufacturing industry, with a wide range of applications that can help improve productivity, quality, and efficiency. For Micro, Small, and Medium Enterprises (MSMEs) in manufacturing, especially the die and mould makers, AI can offer significant benefits that can help them compete with larger players in the industry. In this article, Nishant Kashyap explores the benefits of AI in manufacturing, the areas it can impact, the challenges MSMEs might face, and the future of AI in manufacturing.

Benefits of AI in Manufacturing

One of the main benefits of AI in manufacturing is the ability to improve the quality of products. By using AI-powered tools, manufacturers can detect defects in real-time, reducing the risk of defective products reaching customers. This can lead to a better reputation for the manufacturer, increased customer satisfaction, and ultimately, increased sales.

- **Improved Quality:** AI-powered tools can help detect defects in real-time, reducing the risk of defective products reaching customers. This can lead to a better reputation for the manufacturer, increased customer satisfaction, and ultimately, increased sales.
- **Increased Efficiency**: AI can help optimise production processes, reducing waste and maximising output. This can lead to cost savings, increased productivity, and faster turnaround times.
- **Predictive Maintenance:** AI can help predict equipment failures before they occur, allowing for preventative maintenance that can reduce downtime and increase the lifespan of equipment.
- **Enhanced Safety:** AI-powered sensors can detect potential safety hazards and alert workers to take corrective action. This can reduce accidents and injuries in the workplace.
- **Improved Decision Making:** AI can help analyse large amounts of data and provide insights that can inform decision-making processes. This can lead to better-informed decisions and improved outcomes.



Overall, the benefits of AI in manufacturing are numerous and can have a significant impact on the success and competitiveness of manufacturers, particularly MSMEs.

Areas AI Can Impact in Manufacturing

- **Design:** AI can help optimise designs by analysing data and identifying areas for improvement. This can lead to more efficient designs that reduce waste and improve performance.
- **Production:** AI can help optimise production processes by analysing data and identifying bottlenecks, inefficiencies, and areas for improvement. This can lead to increased productivity and reduced costs.
- **Maintenance:** AI can help predict equipment failures and recommend preventative maintenance. This can reduce downtime and extend the lifespan of equipment.
- **Quality Control:** AI can help detect defects in real-time, reducing the risk of defective products reaching customers.
- **Supply Chain Management:** AI can help optimise the supply chain by analysing data and identifying areas for improvement. This can lead to reduced costs, improved efficiency, and faster turnaround times.

How toolmakers can benefit from AI

Die and mould makers can integrate AI into various aspects of their business, including production, quality, maintenance, sales, and marketing. In production, AI can be used to optimise processes, reduce waste, and maximise output. For example, AI-powered tools can be used to monitor production processes in real-time, identifying bottlenecks and areas for improvement. AI can also be used to predict equipment failures before they occur, allowing for preventative maintenance that can reduce downtime and increase equipment lifespan. In terms of quality control, AI can be used to detect defects in real-time, reducing the risk of defective products reaching customers. This can lead to increased customer satisfaction and improved reputation for the die and mould maker.

In sales and marketing, AI can be used to analyse customer data and identify opportunities for growth. This can include identifying new markets, optimising pricing strategies, and improving customer engagement. AI can also be used to enhance the customer experience by providing personalised recommendations and support. In terms of maintenance, AI can be used to optimise preventative maintenance schedules, reducing downtime and increasing equipment lifespan. This can lead to cost savings and improved equipment reliability.

To integrate AI into their business, die and mould makers can begin by identifying areas where AI can have the greatest impact. They can then explore different AI-powered tools and solutions that are available in the market, such as predictive maintenance software, quality control systems, and customer analytics platforms. It is also important for die and mould makers to ensure that they have the necessary infrastructure in place to support AI, including reliable internet connectivity and secure data storage solutions. Finally, die and mould makers should invest in training and development programs to ensure that their employees have the necessary skills and knowledge to effectively leverage AI tools and solutions.

Challenges MSMEs Could Face

- **Cost:** Implementing AI-powered tools can be expensive, and MSMEs may not have the resources to invest in them.
- **Expertise:** Implementing and maintaining AI-powered tools requires specialised expertise that MSMEs may not have in-house.
- **Data:** AI-powered tools require large amounts of data to train their algorithms, and MSMEs may not have access to sufficient data.
- **Integration:** Integrating AI-powered tools with existing systems can be challenging, requiring significant changes to existing workflows and processes.
- **Cultural Resistance:** Workers may be resistant to new technologies, especially if they perceive them as a threat to their jobs.

The Future of AI in Manufacturing

AI is poised to become increasingly important in the manufacturing industry, with new applications and technologies emerging every day. As AI becomes more advanced, it will likely become more accessible to MSMEs, with lower costs and easier implementation. The key to success for MSMEs will be to identify the areas where AI can offer the most significant benefits and to invest in the necessary expertise and infrastructure to implement AI-powered tools effectively. In the future, we can expect to see AI-powered tools become more integrated into existing systems, leading to more efficient and productive workflows. AI may even play a role in the design of entirely new manufacturing processes and products, leading to increased innovation and competitiveness for MSMEs. ◆

Image used for representation only. Courtesy Envato Elements.

AI in Manufacturing: The Game Changer

The impact of artificial intelligence on the manufacturing industry is not unknown. It has the ability to resolve some of the most persistent problems in manufacturing. And, it can also tap into new opportunities that allow manufacturing companies to enhance their operational performance, while driving sustainability and empowering the workforce. Kimberley D'Mello finds out how artificial intelligence is set to redefine the manufacturing industry.

Navigation systems in vehicles, self-driving cars, fitness and weather forecasting apps, smart speakers including Alexa and Siri... Artificial Intelligence (AI) is gradually making its way into most aspects of our lives. "In medicine, geology, customer data analysis, autonomous vehicles and even art, its applications are everywhere and its uses are constantly evolving," stated a PwC report titled 'An introduction to implementing AI in manufacturing'.

A look at the manufacturing industry shows how AI is transforming every level of the value chain. Direct automation, predictive maintenance, reduced downtime, 24/7 production, better safety, lower operating costs, enhanced efficiency, quality control, and faster decision making, are among the list of goals that businesses, which implement AI throughout, achieve.

Let's understand how...

Industrial IoT and intelligent factories generate enormous amounts of data every day. To analyse this data and make more informed decisions, manufacturers are increasingly turning to AI solutions like machine learning (ML) and deep learning. AI and ML offer effective tools for implementing predictive maintenance. Additionally, when applied to production data, AI can improve failure prediction and maintenance planning, resulting in less costly maintenance for production lines. What's more? AI can help with more accurate demand forecasting and less material waste.

AI in manufacturing

The application of AI is escalating in the manufacturing market. In fact, "The artificial intelligence (AI) in manufacturing market is expected to witness market growth at a rate of 17.20% in the forecast period of 2022 to 2029 and is expected

to reach USD 5,325.1 million by 2029", revealed a report titled 'Global Artificial Intelligence (AI) in Manufacturing Market - Industry Trends and Forecast to 2029' by Data Bridge Market Research.

"Major factors that are expected to boost the growth of the artificial intelligence (AI) in manufacturing market in the forecast period are the rise in the large and complex dataset and developing industrial IoT and automation. Furthermore, the enhancing computing power is further estimated to cushion the growth of the artificial intelligence (AI) in manufacturing market. Moreover, the growing venture capital investments is further estimated to cushion the growth of the artificial intelligence (AI) in manufacturing market... In addition, the development operational efficiency of manufacturing plants and growing adoption of automation technologies to curb effects of COVID-19 will further provide potential opportunities for the growth of the artificial intelligence (AI) in manufacturing market in the coming years," added the report.

Cutting-edge solutions

Even though AI offers firms with the required tools to improve their predictive maintenance and machinery inspection processes, some manufacturers are skeptical about incorporating AI-based solutions into their expensive machines and equipment. They reason that errors while managing AI could prove to be expensive, AI may not be able to accurately perform maintenance and inspection tasks, etc. But then, there are others who have been willing to take the plunge to avail of the potential benefits of AI-based solutions.

Over the years, some major players have been operating in the AI in manufacturing market. Let's take a look at some of their offerings:

➲ ABB invests in AI startup Viking Analytics

In January 2023, ABB through a press release announced it acquired a minority stake in Swedish start-up Viking Analytics via its venture capital unit, ABB Technology Ventures (ATV). Using AI-based algorithms, Viking Analytics has created an analytics engine that automatically detects unseen or pre-failure operational conditions for electrical equipment. This makes it easier for operators to prevent costly failures, plan maintenance efficiently and maximise uptime. "With the pressure on to ensure uptime and prolong the lifecycle of electrical assets, the partnership with Viking Analytics allows us to develop analytics that will help customers maintain their operations and cut costs. Customers will get the insights they need to make informed decisions about their electrical equipment fleet and take preventative actions to avoid costly failure," said Sherif El- Meshad, Digital Lead, Electrification at ABB.

➲ FANUC's new Machine Learning tool for Predictive Maintenance

Leading global automation solutions provider FANUC introduced a new Industrial Internet of Things (IIoT) software designed to prevent production problems before they happen. AI Servo Monitor uses artificial intelligence to predict possible failures of the drive systems for FANUC servomotors and spindle motors. AI Servo Monitor, in conjunction with MT-Linki through machine learning, analyses the daily performance of machines equipped with FANUC CNCs. Daily data is displayed in intuitive graphs, which allows users to easily monitor abnormalities on these machines. MT-Linki is FANUC's machine status monitoring and data collection software that connects shop floor

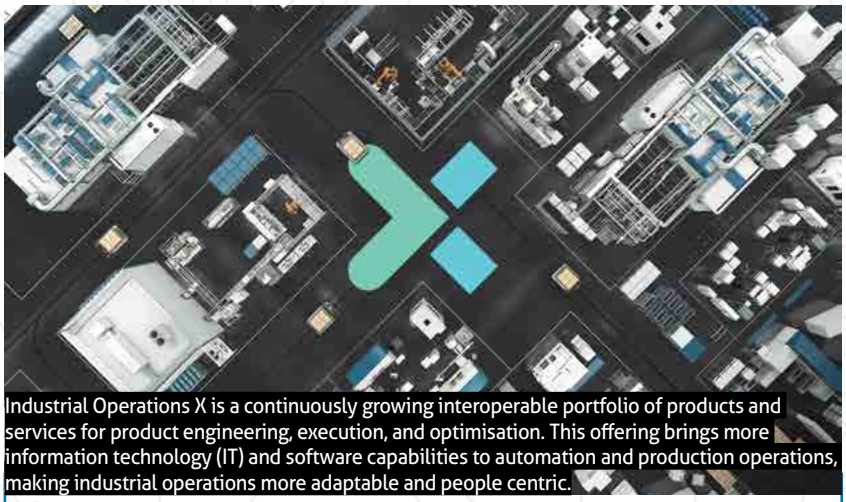


Image courtesy Siemens

Industrial Operations X is a continuously growing interoperable portfolio of products and services for product engineering, execution, and optimisation. This offering brings more information technology (IT) and software capabilities to automation and production operations, making industrial operations more adaptable and people centric.

Siemens introduces Industrial Operations X

Siemens introduced Industrial Operations X, an open and interoperable portfolio to automate and operate industrial production. The new portfolio is part of Siemens Xcelerator, the open digital business platform comprising a portfolio of software and connected hardware, an ecosystem of partners, and a marketplace. Industrial Operations X is the solution for production engineering, execution, and optimization in the new world of IT/OT convergence. It focuses on integrating cutting-edge IT capabilities and proven methods from software operations in the world of automation: low code, edge, cloud computing and AI are combined with industry-leading automation technology and digital services. The result: plants and production lines become more flexible and modular so customers can react to changes at the click of a button, the company said in a press release issued in April 2023.

Image courtesy Invisible AI

Invisible AI's state-of-the-art edge AI devices in production.

Invisible AI Partners with Toyota

Through a press release issued in May 2022, Invisible AI, a company building state-of-the-art AI solutions for manufacturing, announced a partnership with Toyota Motor North America. Invisible AI technology helps Toyota better understand manual assembly operations, which accounts for a majority of the work performed in manufacturing. "Invisible AI has been a great partner for Toyota as we work toward building the manufacturing processes of the future," said Jihad Abdul-Rahiim, an advanced technology engineer at Toyota. "Invisible AI is not only helping us find opportunities for improvement on the assembly lines, but we're also constantly finding new use cases for their technology such as ergonomics analysis to proactively prevent injuries."

Image courtesy BMW

The AI dataset SORDI – consisting of more than 800,000 photorealistic images - includes objects of particular relevance to the core technologies of automotive engineering and logistics.

BMW Group publishes SORDI

In March 2022, the BMW Group published the world's largest data set to streamline and significantly accelerate the training of artificial intelligence in production. The synthesised AI dataset – known as SORDI (Synthetic Object Recognition Dataset for Industries) – consists of more than 800,000 photorealistic images. By publishing SORDI, the BMW Group together with its partners Microsoft, NVIDIA and idealworks has made available the world's largest reference dataset for AI in the field of manufacturing. The visual data is of particularly high quality, and the integrated digital labels enable basic image processing tasks to be carried out, such as classification, object detection or segmentation for relevant areas of production in general, the company stated in a press release.

equipment, including machine tools, robots and PLCs, the company informed in a press release issued in June 2022.

➲ Rockwell Automation's AI Module to improve industrial production

In April 2019, Rockwell Automation announced through a press release an AI module, which provides predictive analytics without a data scientist, and eases decision-making. The FactoryTalk Analytics LogixAI module, formerly known as Project Sherlock, uses AI to detect production anomalies and alert workers so they can investigate or intervene, as necessary. Many existing analytics technologies require deep expertise in both data science and industrial processes. But this add-on module for ControlLogix controllers reduces that burden by doing the job of a data scientist. It fits directly into a control chassis and streams controller data over the backplane to build predictive models. It can continuously monitor a production operation, detecting anomalies against its derived understanding, the company stated.

Future outlook

AI has the potential to impact the manufacturing industry. However, incorporating AI can be very demanding in terms of investing time, effort, and resources, as well as upskilling your workforce. Even though the demand for AI is on the rise, there is not enough skilled manpower to meet the demand. There is a need for experts who are trained in supervised and unsupervised learning, mathematical and heuristic techniques and hands-on modeling.

Ringing in a new era in the digital transformation journey, AI can transform industries to achieve greater efficiency, sustainability and workforce engagement. Using AI tools to identify the opportunities to improve operations can help businesses deliver their top as well as bottom-line objectives. ◆

HIGH QUALITY PRECISION COMPONENTS

For Moulds And Dies

PPD®

Mould and Die components

PRECISION PUNCHES & DIES

+91-7777039765 / +91-7777039632

5-B, Raju Industrial estate,Penkarpada Street, Near Dahisar Check Post,P.O.Mira, Mumbai-401107, Maharashtra,India

Email : info@ppdejectorpin.com, ppd.punches@gmail.com Web : www.ppdejectorpin.com

'The Indian die & mould industry has now become a major player in the global manufacturing industry'

"Indian die & mould companies are catering to the needs of automotive, plastic, electronics and electrical, healthcare and machine tools sectors. With the clear message of 'Make in India' from the government of India, we expect the die & mould industry to grow at a much faster rate in the coming years," says Dario Compagni, Sales Director – USA & APAC, Breton S.p.a.

Nishant Kashyap

Q Can you briefly describe your company and its solutions for the die & mould industry?

Breton is a family-owned Italian company with its headquarters in Castello di Godego (Treviso). It has two more production plants it at Campiglia dei Berici and Vedelago, and six foreign branches.

Breton has become a global organisation and a technological leader in all its areas of expertise, including machine tools for metals, carbon fibre and plastics, and additive manufacturing plants. We have a range of products for the die & mould industry such as a long list of 5-axis CNC machining centres and large-scale production 3D printers. We also have our partner in India, who is technically sound and can help Indian buyers with after-sales support.

The die & mould industry is an engineering business that needs an artistic approach and an engineered technical way to find new solutions. Breton also strongly believes in the same philosophy and approach – using innovation to improve products and solutions.

Q You deal with CNC machining centers and production 3D printer machines, which are the core of any mould making activity. What are the latest developments in the machining and additive manufacturing technologies for die and toolmakers?

For those working in the die & mould industry, milling machining centers are certainly an important asset. However, with the rapid increase in the use of additive technologies changing the values in the field, the two technologies (additive and subtractive) are increasingly being placed side by side in the part-making process. The production of final parts with less material removal is, wherever possible, a winning choice in terms of both cost and environmental sustainability. Breton offers solutions for both processes. This allows us to have a broader, more objective, and more comprehensive view when advising our customers. We also have concrete, high-performance applications for all kinds of troubles or needs.

Q As someone who represents Breton S.p.a., an Italian brand in India, what are your views on the Indian tooling industry?

The Indian die & mould industry has evolved over the past few decades and has now become a major player in the global manufacturing industry. Indian die & mould companies are catering to the needs of automotive, plastic, electronics and electrical, healthcare and machine tools sectors. With the clear message of 'Make in India' from the government of India, we expect the die & mould industry to grow at a much faster rate in the coming years.

With many mobile phone and computer manufacturing companies setting up their production bases in India, we feel that the demand for ultra-high precision tool rooms is

going to increase. The die & mould industry will have to act swiftly to meet the requirements of these industries in terms of new designs, high production, etc.

Q In your opinion, what are toolmakers' expectations from CNC machine manufacturers?

I feel that toolmakers expect:

- **Maximum returns from minimum investment:** We feel there should be an optimum level of investment to get the maximum return from the equipment/ machine, if the company is catering to the industry's high level of demands.
- **A reliable product:** When a toolmaker buys a large machine, he expects the machine to work for at least 15-20 years or longer. The machine builders should keep this in mind while designing and manufacturing the machines and while using the bought-out components.
- **Experienced service team:** Toolmakers need a local or remote experienced service team to handle queries for the main machine. Also, for the critical bought-out components, the suppliers should have local service offices.
- Good relations between the machine manufacturer and CAD/ CAM suppliers' development of post processors to exploit maximum of both the machine & CAD/CAM.

Regardless of where a machining center is sold, customers look for performance solutions that are defined by high technology and reliability. Thanks to our continuous process of improvement and development of new products, Breton represents an excellence of Made in Italy machining centers. Our machining centres are made with high-technology and continuous innovation both at the level of SW solutions (implemented the most performing CNC configurations provided by Siemens and Heidenhain) and at the level of design and construction of structures.

Finally, it is important to be close to the customer from the choice of the most suitable products to after-sales services.

Q What should die & mould manufacturers consider when investing in CNC machining centers for their operations?

It is important that the investment be evaluated over several years and not just on the mere cost-effectiveness of buying the machines. Sometimes, people overlook the economic benefit of espousing a solution. It may initially seem more expensive. However, factors like performance, reliability, and the response time with which the supplier supports the customer, make it a win-win investment!

I always say that it is not just about buying a machine, it is about espousing a philosophy and a company. You can't overlook the great value we place on customers, who are not considered just one more number to be counted, and on the fact that behind the products sold is a healthy company that invests and guarantees support for years to come.

The people/teams involved in the die & mould industry keep getting components with new designs, most of the time with more challenges involved. After many years of usage, a rigid, long-lasting machine will perform with the same precision as a new machine.

> With many mobile phone and computer manufacturing companies setting up their production bases in India, we feel that the demand for ultra-high precision tool rooms is going to increase.

The other two points to keep in mind while buying a machine are – experience & reputation of the machine manufacturer and application support from OEMs. Machine manufacturer's financial health is another area to consider. Many companies have gone bankrupt or have been acquired and the buyers are known to face problems in terms of support and spare parts. The purchaser should refer to the D&B ratings of suppliers in such a scenario.

Q You probably deal with toolmakers from around the world. What are the fundamental differences you observe while dealing with Indian toolmakers vs overseas toolmakers?

Every country has its own peculiarities. I don't think there are right and wrong solutions. I would say that the main difference between India and other parts of the world are the technical choices that sometimes too often are tied to specifications or documents that are not up to date and inflexible on real needs. There should be fewer committees and more people, who take responsibility for a technical choice with all the risks that this solution can bring. This applies more to public rather than private, which has the aggravating factor of giving few funds and many investments to be made. Often, one can't make an investment plan that has a defined guideline for years.

Q In your opinion, what are the challenges that Indian toolmakers face? How should they resolve them?

I would say:

- **High cost of finance:** European manufacturers may investigate solutions like deferred LC.
- **Skilled manpower to operate high-speed machines:** Often, we have observed that industries don't use the machines to their full potential, as they lack skilled manpower to operate them. ◆

PCK-Buderus | Special Steels Your Reliable

The Partner for Plastics Industry

- Comprehensive Stock Holding of Plastic Mold Steels
- Service centers at Chennai, Pune and Ludhiana
- Express delivery in cut to lengths for blocks and rounds
- Contour Sawn Blocks for Cores and Cavities
- Machining Facility to handle piece weights upto 60 tons
- Delivery of 3D pre-machined Mold halves upto Bumper dimensions
- Deep Hole Drilling
- Technical Support on Steel Selection, processing, welding, Polishing and Texturising.

Stockholding Steels

6 Sides milled with Lifting hole

3D pre-Milled Dash board Mold

3D Machining to CAD Data

Grades in Program : • Buderus 2311 ISO-BM mod • Buderus 2738 ISO-BM • CONQUEROR SUPER CLEAN ISO-B • Buderus 2083 ISO-B

Partner in India for Buderus | Edelstahl

Partnership of 50 years with

Buderus | Edelstahl

and Indian Industry,
based on Reliability and Trust.

ALL FROM ONE SOURCE

Corporate Office
PCK HOUSE,
New No. 84, Old No.13,
South West Boag Road,
T. Nagar, Chennai - 600 017
Tel : + 91 44 2434 6503 / 1904 / 8638
Fax : + 91 44 2434 1181
Email : info@pck-buderus.com

Pune Office :
Warehouse & Machining Division:
Gat. No. 191, 192, 193, Alandi-Markal Road,
VaduKhurd, Tal. Haveli, Pune - 412216/INDIA
Tel. : 020 66783000/66783002 to 66783023
Fax : 020 6678 3001
E-mail : punewh@pck-buderus.com
pckpune@vsnl.net

Ludhiana Stock Holding Center
C-I, Industrial Area C, Jaspal Main Road,
Kanganwal, Ludhiana - 141 120. Punjab.
Tel : + 91 161 6532016 / 2017 / 2510073
Fax : +91 161 2510072
Email : ludwh@pck-buderus.com

Kolkatta Office
Flat No. 403, Vishal Apartments,
4th FloorNo. 18,
Prince Anwar Shah Road,
Kolkatta - 700 033
Tel : + 91 33 2417 1078
Email : info@pck-buderus.com

www.pck-buderus.com

• THRUHARD SUPREME HH/HG • Buderus 2711 ISO-B • Buderus 2344 ISO-B
• Buderus 2316 ISO-B mod • Buderus 2767 ISO-B • Buderus 2379 IOSO-B

'Indian toolmakers must invest in modern technologies and Industry 4.0'

"Even if India has implemented digital solutions lately, the digital adoption rate is still low... In order to guarantee progress, it is crucial to focus investments on the development of specific skills and on continuous training day by day," says **Veronica Just, Vice President, Millutensil S.r.l.**

Nishant Kashyap

Q Can you briefly describe your company and its solutions for the die & mould industry?

Founded in 1955, Millutensil is currently a worldwide leader in the production of die and mould spotting presses, die-splitters and machinery for sheet metal working. With almost 70 years of experience, the company has been able to consolidate its presence in Italy and penetrate international markets with three main production lines, namely, Blue Line, Green Line and Yellow Line.

The Blue Line, which is the iconic production line, offers a wide range of spotting presses, machinery used to adjust and validate moulds, die splitters and tool movers. It provides different series according to the size and type of mould taken into consideration.

Millutensil mould spotting presses are designed according to the needs of the personnel using them. In order to facilitate access to the moulds and avoid uncomfortable handling, both the platens have the ability to tilt at various angles. So, the operator doesn't need to use old, inaccurate and unsafe methods, such as overhead cranes, anymore.

Q You deal with die & mould spotting presses and die splitters, among other machinery. What are the latest developments in these technologies that are helping toolmakers enhance their productivity and efficiency?

Nowadays, the three main issues that manufacturing companies need to take action on include: reduction of production time and costs and environment sustainability.

Our spotting presses are designed to allow the simulation of production conditions, in order to prevent quality problems and production stops. This not only enhances productivity but also saves time and money. Besides, thanks to predictive maintenance, it is possible to grant higher quality and avoid plant downtime.

As far as environmental sustainability is concerned, Millutensil relies only on energy-efficient and smart processes that reduce the amount of energy consumption. Besides, the company has implemented low-consumption LED lamps in their machines to ensure optimal lighting of the working area.

Q How do you foresee these technologies evolve? How will they impact the die & mould industry in the future?

In an increasingly dynamic world with limited resources at our disposal, process optimization will become an increasingly important issue in the years to come. Consequently, technological innovations in this area will be constantly evolving.

A very important example of this is represented by the current trend of mega casting introduced by Tesla. It consists of the production of larger moulds implemented to optimise assembly processes, which results in material, time and costs savings. In line with this tendency, Millutensil has recently developed the first GIGA MIL 409 die spotting press with a load capacity of approximately 160 tonnes on the lower platen and 60 tonnes on the upper platen.

Generally speaking, there is a growing need for integration between the physical and digital worlds. The human factor cannot be completely

replaced, as specific technical skills are prerequisites for technological progress. Digital innovations must be conceived and implemented to support the operators, improve their working conditions, and ensure their well-being and safety.

Q As someone who represents Millutensil, an Italian brand in India, what are your views on the Indian tooling industry?

The Indian tooling industry is currently recording a surge in demand, particularly with regard to the automotive sector, after the COVID-19 crisis. The measures taken by the government to encourage global manufacturers to invest in India have significantly boosted the manufacturing industry, which has improved the existing plants and facilities and developed new ones. There are also good premises for the maturing of small and medium-sized companies, which are the engine of the country's economy. The situation is similar in the Italian manufacturing industry, which is mainly characterized by family-run businesses. The current issues at stake concern the development of specific skills and the implementation of technological innovations.

Q In your opinion, what are toolmakers looking for from solution providers?

Apart from all the negative issues, the COVID-19 crisis has offered a boost to technological development. Manufacturers have realised that they cannot ignore digital transformations anymore. Worldwide, customers are becoming more and more demanding from this point of view. They look for ultimate innovations and state-of-the-art technology. In order to be competitive and keep pace with the current market needs, Indian toolmakers must invest in modern technologies and Industry 4.0. An important innovation includes the possibility of inserting sensors in the mould, in order to keep track of its 'history'.

Q You probably deal with toolmakers from around the world. What are the fundamental differences you observe while dealing with Indian toolmakers vs overseas toolmakers?

Even if India has implemented digital solutions lately, the digital adoption rate is still low. This is mainly due to the lack of financial resources as well as shortage of skilled workforce in tool rooms. In order to guarantee progress, it is crucial to focus investments on the development of specific skills and on continuous training day by day. Passion and dedication to work are not lacking, it is just a matter of teaching and learning the required specific competencies. Besides, quality is an important issue, since high quality spotting presses require high-quality moulds and vice versa.

Q In your opinion, what are the challenges that Indian toolmakers face? How should they resolve them?

Indian toolmakers have to deal with a tooling industry that, like in the rest of the world, is highly dependent on the automotive sector. A potential solution to redress this could be to adopt a diversification strategy. This will help avoid concentration of investments in one industry, consequently mitigating the risks.

Another obstacle for Indian toolmakers is restricted access to financial resources. It should be taken into consideration that import duties on tools are lower than import duties on raw materials used to manufacture tools. That's why, it is important to concentrate the production internally, focusing on the quality of materials and products.

Besides these, a great difference lies in high delivery times and a slow response pace. These contrast the general growing tendency of immediacy and rapidity.

In order to be competitive, it is crucial to build a relationship with the customer based on mutual dialogue. Technology makes it possible to share information with customers in real time, keeping them informed about the latest developments in the project. It is also important to ask customers for feedback, because this helps keep track of what works and what doesn't. Analyzing results, both positive and negative, will eventually help improve and speed up the response time. In addition, as mentioned earlier, the shortage of skilled workforce in tool rooms is still an important topic of debate.

> The Indian tooling industry is currently recording a surge in demand, particularly with regard to the automotive sector, after the COVID-19 crisis. The measures taken by the government to encourage global manufacturers to invest in India have significantly boosted the manufacturing industry.

Q What advice would you give die & mould manufacturers, who are considering integrating CNC machining centers into their operations? What do they need to look out for and be mindful of?

Nowadays, technology integration is a must because it gives customers the possibility to rely on a unique supplier. However, it is not enough to grant competitiveness. As a matter of fact, a managerial approach includes a wider concept of integration, which considers three main topics: economic, social and environmental sustainability. Implementation of these three dimensions can help achieve transversal optimization of business processes and support the development of new products. ◆

Automation, robotics, and the factory of the future

Manufacturing facilities of the future will utilise automation that is exceedingly simple to operate, safe, adaptable, and economical, assisted by AI and standardised software and hardware interfaces. The disruptive technologies necessary to make all of this happen are now here in many crucial ways, driven by demand from inside the industrial industry itself. These technologies provide a tantalising view of factory automation's future.

Traditional industrial automation was the only game in town twenty years ago, and only major corporations were invited to participate owing to its complexity and the expense it demanded. Traditional industrial automation best suits low-mix/high-volume manufacturing needs, costly programming skills, and has a big footprint. To safeguard human employees, considerable safety guarding and fences are also required.

Traditional industrial automation continues to dominate the worldwide industrial robots industry. However, collaborative robots (or cobots) are the fastest-growing section of the industrial robot industry, providing crucial insights into the future of production automation.

The introduction of cobots and lightweight industrial robots over the last 15 years has enabled small- to medium-sized businesses (SMEs) to profit from automation for the first time, owing to their simplicity of use, minimal capital investment, tiny footprint, flexibility, and safe operability around people. It has also demonstrated the need to offer automation firms of all types with high safety, usability, and adaptability solutions to their clients.

What the factory of the future will look like?

The future factory is a concept for how manufacturers might boost output in three dimensions: plant structure, plant digitalisation, and plant operations. Here's a glimpse of how manufacturing operations could appear in the not-too-distant future:

- **Human-tech augmentation:** Artificial intelligence (AI) technologies automate processes and machines, increasing the flexibility and adaptability of manufacturing systems. Data-driven analytics in the smart factory is very adaptable and capable of playing many functions in the business, such as counselor or supporter. For example, an AI-powered cobot can help with industrial

operations by keeping staff on track, maintaining efficiency, and finally, resolving certain basic concerns. At its heart, augmentative systems enable firms to satisfy increasing demand while improving worker efficiency, safety, and productivity.

- **The use of low-code/no-code:** Low-code/no-code (LCNC) tools are intended to make it relatively easy for non-technical persons to develop, construct, and launch applications swiftly. These technologies use visual programming interfaces to answer business challenges faster than traditional software development. Manufacturers benefit from LCNC tools because they enable the creation of various applications necessary to construct data-driven factories. LCNC systems are becoming increasingly popular among manufacturers because of their ability to modernise processes, customise digital solutions, and provide flexibility for installation and, ultimately, effective digital transformation.
- **Robotics in collaboration with people:** A new form of the robot is rising, namely, 'cobots' or 'collaborative robots'. Cobots are intelligent robots that work alongside humans to help them accomplish more with less effort. Previously, factory robots were meant to work alone and do single jobs.
- **A connected and flexible digital shop floor:** Manufacturers will use the Internet of Things (IoT) to transform product development and manufacturing in the smart factory. IoT refers to a group of technologies that connect physical items into networks so that they may monitor their immediate environment, gather data, and interact with one another and with external elements such as other systems and humans. When paired with analytics and artificial intelligence (AI), IoT and connectivity will increase asset efficiency while reducing downtime and unexpected maintenance. This involves measuring productivity across the manufacturing floor and expediting new product development by delivering data to decision-makers faster than ever before. This will also allow manufacturers to discover new sources of value in services, such as IoT devices tracking the finished product from the factory to the customer's hands. These devices may send back location, time, and other parameters to improve services and products in a smart manufacturing product lifecycle.
- **Sustainable supply chains:** The factory of the future is highly efficient and environmentally friendly. Manufacturers may get more insight into their manufacturing processes, equipment wear and tear, and, most critically, energy use by utilising digital technologies. Armed with this information, businesses can then optimise production, increase asset efficiency, and perform predictive maintenance to minimise energy loads as well as material and water waste – all of which are critical aspects of building sustainability.

Tangible Benefits

- **Integration simplicity:** Because of advances in processing power, software development methodologies, and networking technologies, constructing, deploying, and maintaining robots is now faster and less expensive than before. Sensors and actuators, for example, used to have to be individually linked to robot controllers with dedicated cabling via terminal racks, connectors, and junction boxes; currently, plug-and-play technologies allow components to be connected using simplified network wiring.
- **Robots take on new responsibilities:** Today, these features are assisting in increasing robot adoption in the kind of applications where they already excel: repetitive, high-volume industrial jobs. As the cost and complexity of automating jobs with robots decreases, it is probable that the firms presently utilising robots will utilise them even more. However, we anticipate a more fundamental shift in the kind of jobs for which robots will become both technically and economically viable in the next five to ten years.
- **Complex tasks:** While today's general-purpose robots have a repeated precision of 0.10 millimeters, certain modern robot designs have repeatable accuracy of 0.02 millimeters. Future generations are anticipated to provide even more accuracy. Robots are also getting more coordinated, thanks to the advent of controllers that can drive dozens of axes simultaneously, allowing numerous robots to collaborate on the same job.

Such talents will enable kids to take part in more sensitive jobs like threading needles or manufacturing very complicated electrical equipment.

India's manufacturing sector

According to the Indian government, India's manufacturing industry will surpass $1 trillion by 2025. However, manufacturers must go beyond the current state, characterised by manual inputs, a lack of ICT integration in production, and major capability gaps, to advance to the next stage and close the crucial technological gaps.

To that aim, the government's 'Make in India' initiative lays the framework for small and large businesses to build sophisticated manufacturing skills and invest

in technological advancement. Furthermore, programs such as green corridors and smart cities have been developed to promote vital technological interventions in a variety of industries. In addition to producing employment, these programs appeal to a new generation of employees with diverse values and talents, which increases synergy.

Given India's ambition to increase manufacturing's contribution to GDP, creating 100 million new jobs in the process, corporations must develop medium and long-term strategic plans to capitalise on the benefits of Industry 4.0.

Collaborating with others

Thanks to advanced safety systems, robots may work alongside humans in new jobs. If sensors detect a collision with an operator, the robot will automatically slow down or change its direction to avoid it. This technology enables the employment of robots for specific jobs on formerly manual production lines. And the elimination of safety fences and interlocks means cheaper expenditures, which is especially beneficial to small businesses.

The capacity to place robots and humans side by side and reallocate duties between them boosts of efficiency by allowing businesses to adjust manufacturing lines when demand varies. Companies will also have significantly greater flexibility in deciding which activities to automate with robots and which to perform manually.

Making the right automation decisions

With so much technical potential at their disposal, how do businesses choose the optimum automation strategy? It's too easy to get carried away with automation for its sake. Still, the end consequence is that initiatives that cost too much, take too long to deploy, and fail to meet their business objectives.

An effective automation approach necessitates sound judgments at several levels. Companies must decide which operations to automate, how much automation to deploy (from simple programmable logic controllers to very sophisticated robots led by sensors and clever adaptive algorithms), and which technologies to implement.

Automation systems that are less expensive, smarter, and more flexible are already revolutionising manufacturing in a variety of ways. While the technology becomes easier to apply, the business considerations will not. Companies will need to take a comprehensive and methodical approach to capture the full value of the potential given by these new systems, aligning their automation strategy closely with the current and future demands of the business. ◆

Pawan
Standard Engineering Products

MAKING THINGS POSSIBLE

ADDED NEW SERIES TO GAS SPRINGS.

Rod sealed, colour coded mini nitro springs- NFS-S6

Slow return Die separation Gas springs- NFS-S7

'Made In India, Made For World'

MADE IN INDIA Pawan MADE FOR WORLD

Practic®

www.pawan-ec.com

N FORCE®

'The Indian market is currently at the cusp of significant growth and development'

"As a piece of advice to fellow toolmakers, I would suggest prioritising quality over quantity or price. It is important to change our mindset and strive for perfection in our work," says Maurizio Delnevo, CEO, ERMO.

Q What is ERMO all about? What do you manufacture?

ERMO is a French company with almost five decades of experience of specialising in the conceptualisation and manufacturing of injection moulds. We primarily focus on four sectors – multi-cavity for beauty & care, thin-wall packaging, medical parts, and cosmetics & food/ beverage packaging. To expand our horizons and explore new business opportunities in the booming packaging, medical equipment, and FMCG industry, we established a subsidiary in India called ERMO India Pvt. Ltd. in 2022.

Our objective with ERMO India is to gain a better understanding of the market and leverage the growth opportunities that the Indian market offers. We are fully committed to the Indian market and are planning to start local manufacturing of moulds soon. We believe that the Indian market is growing at an unprecedented pace, which presents significant business opportunities for us to explore.

Q Speaking of opportunities in India, what business opportunities do you see for toolmakers in the Indian market?

I have observed that most toolmakers in India are focused on the automotive industry, which is understandable, as it is the largest consumer of moulds globally. However, at ERMO, we have a different focus. Our core expertise lies in the production of moulds and parts for the medical, pharmaceutical, and packaging industries. We see tremendous potential in the Indian market for these sectors.

With the increasing demand for quality medical equipment and pharmaceutical products, we recognise that there is a need for mould makers, who can supply high-quality tools. We believe that we can provide that value to our Indian clients. Although we are already supplying moulds to several companies in India from France, we felt that there was a significant opportunity for us to expand our business and establish a subsidiary in India.

Based on my research and analysis of the Indian market, I strongly believe that India has the potential to become a global hub for pharmaceutical and medical equipment. With over 8 million engineers graduating each year, who possess a good command of the English language, India is becoming a manufacturing hub for many global giants. This, coupled with the increasing demand for high-quality moulds, leads me to believe that the future looks bright for ERMO in India.

Q What upcoming technologies are slated to shape the future of the tooling industry in the years to come?

In the tooling industry, many technologies are continually improving, and high-speed machining is at the center of this transformation. With the latest developments, machines have become more flexible, efficient, and equipped with AI, giving us better control over our production. The latest software for design, manufacturing, and simulation has also become more user-friendly and advanced, allowing us to automate our processes.

Injection moulding machines play a vital role in our work, as we deal with numerous injection moulded parts. I am pleased with the advancements in this technology as well. Additionally, additive manufacturing has revolutionised mould making activities, especially

with features like conformal cooling. This technology has helped toolmakers reduce time, achieve accuracy, and improve delivery timelines.

Smart manufacturing is taking shape in the mould making industry as well, and we have already developed smart moulds. When connected to injection moulding machines, smart moulds collect data such as cycle time, cooling temperature, etc. We analyse this data to perform preventive maintenance and increase productivity by predicting maintenance requirements before any problems arise.

Q What are your plans for the Indian market? Are you going to start manufacturing in India as well?

As mentioned earlier, we have significant plans for our business in India. Step one involved establishing a commercial office in India, while step two was focused on hiring designers and technical professionals, who can provide after-sales support for the moulds that we are currently supplying from France. Our third and final step involves hiring manufacturing engineers and commencing local manufacturing operations in India.

In fact, we are already in the process of establishing our manufacturing setup in India. Currently, we are in discussions with some machine makers to procure high-quality milling machines. This is a crucial step towards achieving our goal of locally manufacturing moulds in India.

Q As an overseas company, what were the challenges you faced while establishing a company in India?

Establishing a business in India can be a complex process, particularly due to the bureaucratic procedures involved. Compared to Europe, where it is relatively easy to start a company, navigating the legal and regulatory requirements in India can be challenging.

To illustrate this, let me share an example from our own experience. We had simultaneously planned to establish two subsidiaries – one in India and the other in Mexico. Surprisingly, in Mexico, we were able to register our company within two weeks. In contrast, it took us almost two months to establish ERMO India due to the bureaucratic procedures involved.

Q Do you think that the ecosystem established in India can help toolmakers grow?

As a toolmaker, we do not necessarily need to have all the services in-house. We often require certain services such as additive manufacturing, heat treatment, and design, which we outsource to specialised vendors. It was not a challenging task for us to establish such vendor relationships in India.

However, what concerns me more is the volatility of manpower in the industry. It is common for employees to switch companies frequently, which poses a risk to our business. We invest time, effort and resources in developing and training our employees, but they may leave for better opportunities elsewhere, putting us in a challenging situation. This is a tricky problem, and we need to find a suitable solution to redress it.

Q In India, apart from automotive, many industries like aerospace, defence, railways, home appliances, electronics, and mobile making, among others, are emerging. Do you have any plans to venture into these sectors?

No, not at all! We are completely focused on our core competencies, which is designing and manufacturing high-quality plastic injection moulds for the medical, pharmaceutical, and packaging industries. In fact, ERMO's history began in the automotive industry in France, but we decided to shift our focus entirely to these key markets in order to establish ourselves as experts in these fields. We strongly believe that these industries are among the most important in the world, with a global population of 8 billion people in need of products such as shampoo bottles, packaged goods, medical equipment, and medicines. Therefore, we will continue to develop our expertise in these areas and remain dedicated to serving our clients in these industries.

Q What would you suggest to an entrepreneur, who wants to venture into the packaging industry? How does the automotive industry differ from packaging?

First, it is important to understand that automotive and packaging industries are very different from each other. The packaging industry requires a higher level of technical precision, with dimensions measured in microns instead of millimeters. To transition from the automotive industry to the packaging industry, there needs to be a change in the culture and mindset.

Investments in machines and software are also necessary to meet the demands of the packaging industry. This industry requires smaller machines that are highly precise and can produce components with high precision in terms of measurements.

In addition, the materials used in the packaging industry are different. So, there is a need to develop specialised skills to meet the specific needs of this industry.

Q Do you have any words of advice for toolmakers?

I would like to add that the Indian market is currently at the cusp of significant growth and development. As a piece of advice to fellow toolmakers, I would suggest prioritising quality over quantity or price. It is important to change our mindset and strive for perfection in our work. ◆

Manleo Designs helps mould maker achieve <5 microns consistency

With the help of Manleo Designs' probes and tool setters, Pune-based B N Tools And Components has successfully optimised the entire machining process.

The die and mould making segment is growing rapidly in India and its future looks promising. As various industry leaders look to outsource their machining activities, this segment is likely to witness a lot more. Many MSMEs, especially those in the micro category, are getting into mould making of which western India is a hub. These companies face stiff competition from similar size companies as well as large corporates, and MNCs. They need to find ways to not only survive but also keep growing. One such company that is keen to deliver their best in order to tap the opportunity is Pune-based B. N. Tools And Components Pvt. Ltd.

B. N. Tools And Components Pvt. Ltd. (formerly known as B. N. Enterprises) was established in 1996 to meet the high demand for precision engineering in plastic moulds, die casting mould, and other integrated tooling solutions. This IATF 16949:2016 certified company is extremely process oriented and is relentless in its pursuit of excellence and continuous improvement in all steps pertaining to the design, manufacture and assembly of products.

With a workforce of 50 people working in its tool room, advanced machinery and equipment to ease the manufacturing, production and quality validation processes, they cater to diverse industries such as automotive, packaging, medical, home appliances and electronics sectors. Mr. Sibin Babu, the company's director, says: "As an organization, we have and will continue to invest for the future. Let us work together towards the objective of 'Make in India'."

The Challenges

Challenges and opportunities go hand-in-hand. Any opportunity will have its own set of challenges too. The Indian manufacturing industry, since the past few years, has been growing rapidly and generating enough demand for machine tools and mould makers.

During the pandemic, when the domestic market was faced with several challenges caused by the slowdown and customers were exploring reliable partners, B N Tools And Components was all geared up. Even though the company was equipped with high-end machines and all the required technologies, Mr. Sibin was looking to enhance the speed of the machining process and improve productivity to cater to the global demand and match the quality standards.

"Speed, accuracy and productivity drive the demand for mould manufacturers. Day-by-day the development and manufacturing time is reducing and tolerance accepted by customers is only getting tighter. It becomes challenging for mould manufacturers, especially when we have to supply to Tier-1 OEMs. Reducing the cycle time while maintaining the quality and keeping the cost low is the biggest challenge mould makers are facing these days. The only way to tackle this challenge is to reduce your machining cycle

SKITEK

S&T ENGINEERS

ADVANCED
SURFACE GRINDING MACHINE
SK50100 ADS

The SK50100 ADS Series is a next-generation MDI Control surface grinder that provides the robust design & construction, ease of use, and standard high-performance features that today's production shop requires.

- **Programmable Dressing with Dress Compensation standard**
- **High-efficiency Shift / Plunge Cycle for Fast Stock Removal**
- **Versatile Grinding Capabilities for Crossfeed Position: Surface Grinding / Plunge Grinding / Criss Cross Grinding / Two Sides Feed Grinding**
- **User-Friendly MDI Touchscreen Control**
- **AC-driven Crossfeed with a minimum increment of 0.0001"**
- **AC driven vertical feed with a minimum increment of 0.00001" / Manual Pulse Generator also built into the controller**

Corporate Office:

S&T ENGINEERS (P) LTD.

22, Vasanth Nagar, Singanallur, Coimbatore - 641 005, Tamilnadu, India.

+91-422-2590810, 2591470, 2593487 +91 98422 35936, 95665 12345

info@stengineers.com www.stengineers.com

25+ YEARS

S&T GROUP SINCE 1996

MAKING TECHNOLOGY AFFORDABLE

time, reduce rework and rejections by getting it right the first time," says Mr. Sibin.

The Solutions

Since the challenges at B N Tools And Components were well defined, namely, to reduce milling cycle time and to reduce rework and rejections, Mr. Sibin was looking for a solution that could help him tackle these challenges. He was more interested in technology that was indigenously made in India because of the challenges with regard to the service and repair of imported solutions whenever there was product damage due to accidents or human error. So, during the pandemic, when the economy faced a slowdown, the company started looking for cost-effective and durable solutions that could help them achieve higher precision while reducing the cycle time. It was even more challenging because the company already had all the right technologies from renowned brands in place but was still not able to get the desired result.

B N Tools And Components then purchased the high-end and cost-effective solution, Opto Z from Manleo Designs. Manleo Designs' CNC probes and tool setters are high precision and are designed for Indian operating conditions. Operators who do not possess high skill levels or experience can also confidently operate them.

According to Mr. Sibin, "Often, mould manufacturers purchase expensive imported probes, the best cutting tools, adaptors and CNC machines but still face rework and rejections. Manleo's reliable and affordable solutions focus primarily on these issues. Our shop floor staff find their products easy to use, which makes process improvement and change management easy for us.

After Sales and Service

Sales service plays a major role when a manufacturer purchases a machine or accessories. For its customers, Manleo always makes an extra effort. Manleo sends their application engineer to the customer's factory to train them and returns only after the operator gains the confidence and required expertise.

Apart from this, they visit them to provide time-to-time training and inform them about the new updates. They provide free trial of a few weeks and only when the operators give feedback to the owner about the usefulness of the solution, Manleo engages in commercial discussion with them.

"For probing and tool setting products, customers are always worried about the after sales service and training. I appreciate Manleo Designs' work in India. The team here has helped us in experiencing their product first hand on a no-cost basis. I really appreciate their effort in training our operators and programmer about the cycles. I will always recommend Manleo Designs' tool setters to others. It is made for Indian companies, especially MSMEs like us," says Mr. Sibin.

Benefits observed

- **Errors and rework reduced by >75%**
- **Enhancement in productivity and quality**
- **Consistent Z height leading to <5 microns repeatability**
- **100% acceptance & usage across labour**

The Outcome

B N Tools And Components believes in investing in the right technology. From having the best-in-class CNC machines, CAM software, probing and tool setting solutions, the company is well equipped to tackle the changing market dynamics and manufacture complex parts. With the help of Manleo probes and tool setters, now, B N Tools And Components is able to optimise the entire machining process. This has cut down on the time consumed, quality of output and higher efficiency.

"Our focus was to reduce rework, rejections and cycle time on milling machines. Here, Manleo Designs' probes & tool setters have fulfilled most of our requirements. We have been using their probes for >15 years and since 6 months, adopted their auto tool setter and have observed overall > 70% rework, rejection reduction, which is huge for mould makers. Their dedication to customer service is top class and better than the foreign alternatives available," concludes Mr. Sibin.

The above shows that the right technology and adequate knowledge can positively impact your overall productivity. It is high time Indian SMEs think beyond the cost and look at the bigger picture – the right investment today can lead to a brighter future. B N Tools And Components is one such example of how investment in technology is actually investment in future. ◆

Article and images courtesy Manleo Designs

CUTTING BUSHES

CONFIGURED QUICKLY AND EASILY

Thanks to the Meusburger configurator, you can configure your cutting bushes to match the punches with contour.

HOW YOU BENEFIT

- Easy selection in the cutting elements configurator
- CAD data is available for download
- Short lead times thanks to in-house production

meusburger

Standards for your success.

Meusburger India Pvt Ltd.
T +91 98450 62529
sales@meusburger.in

CRISIL forecasts India's GDP growth at 6% next fiscal, corporate revenue to log double-digit rise again

Image used for representation only. Courtesy Envato Elements.

Average GDP growth over the next five fiscals seen at **6.8%**

CRISIL Ltd., the leading global analytics company, expects India's gross domestic product (GDP) growth to touch 6% in fiscal 2024, compared with 7% estimated by the National Statistics Office (NSO) for fiscal 2023.

A complex interplay of geopolitical events, stubbornly high inflation — and sharp rate hikes to counter that — have turned the global environment gloomier.

On the domestic front, the peak impact of the rate hikes — 250 basis points since May 2022, which has pushed interest rates above pre-**Covid-19** levels — will play out in fiscal 2024.

Consumer inflation is expected to moderate to 5.0% on average in fiscal 2024 from 6.8% in fiscal 2023, owing to high-base effect and some softening of crude and commodity prices. A good rabi harvest would help cool food inflation, while the slowing economy should moderate core inflation.

The risks to inflation are tilted upward, given the ongoing heat wave and the World Meteorological Organization's prediction that an El Niño warming event is likely over the next couple of months.

Says Amish Mehta, Managing Director and CEO, CRISIL Ltd., "India's medium-term growth prospects are healthier. Over the next five fiscals, we expect GDP to grow at 6.8% annually, driven by capital and productivity increases. What is also good to see is the increasing sustainability footprint of capex. At present, nearly 9% of the infrastructure and industrial capex is green. We see this number rising to 15% by fiscal 2027. Down

the road, the impact of climate risk mitigation will be felt across revenue, commodity prices, export markets and capital spending."

Capital investments, at a higher scale by the government and expected fresh ones by the private sector, will drive medium-term growth, while digitalisation and efficiency-enhancing reforms will raise the contribution of productivity.

We expect the economy to continue reaping efficiency gains from structural reforms such as the Goods and Services Tax and the Insolvency and Bankruptcy Code.

Better physical infrastructure will improve connectivity and lower logistics costs for industries, while digital infrastructure will bring efficiency gains by serving as a platform for innovation and efficient payments systems.

Says Dharmakirti Joshi, Chief Economist, CRISIL, "India's external vulnerability is expected to decline with a narrower current account deficit (CAD) and modest short term external debt. While CAD is expected to narrow to 2.4% of GDP (~$88 billion) next fiscal from an estimated 3.0% (~$100 billion) this fiscal, its financing may face challenges as foreign portfolio flows remain volatile and external commercial borrowings are less attractive."

As for India Inc., revenue growth is expected to touch double digits in fiscal 2024 despite a global slowdown and interest rate hikes, an analysis of 748 listed companies from fiscal 2011 onwards (excluding those from the oil and gas, and banking, financial services and insurance sectors) shows.

This will be driven by a 10-12% growth in revenue for the non-commodity sectors, even as commodity prices remain benign.

Importantly, this will follow a 16-18% on-year rise in revenues in fiscal 2023 after the commodity supercycle boost in fiscal 2022.

Image used for representation only. Courtesy Envato Elements.

The revenue increase in fiscal 2023 has been led by an estimated 18-20% on-year increase in non-commodity segments, with commodities recording an anemic 5-7% growth coming off a high base.

Operating margin is expected to improve 120-170 basis points in fiscal 2024 aided by three factors — benign commodity prices, the full effect of price hikes taken in fiscal 2023 playing out, and volume growth.

In fiscal 2024, margin expansion is projected to be broad-based, with margin improvements across sectors as cooling commodity prices reduce costs, while revenue gets a lift from volume expansion.

While government policies will continue to push industrial capex and new-age opportunities, infrastructure spending will drive 12-16% growth in overall capex next fiscal. This is to achieve nearly 75% of the initial targets set under the National Infrastructure Pipeline by fiscal 2025.

Says Suresh Krishnamurthy, Senior Director, CRISIL MI&A, "Overall industrial capex is seen rising to nearly INR 5.7 lakh crore on average between fiscals 2023 and 2027, compared with INR 3.7 lakh crore in the past five fiscals. Nearly half of this incremental capex is being driven by the Production-Linked Incentive (PLI) scheme and new-age sectors."

Capacity utilisation across sectors will top decadal averages despite modest growth in the domestic and export markets. But many sectors will show below-peak utilisation, which will limit a sharp uptick in investments in legacy assets.

Says Hetal Gandhi, Director - Research, CRISIL MI&A, "As for domestic demand impetus, growth in urban incomes and government employee payouts should once again outperform rural incomes in fiscal 2024. This would continue to skew consumption towards premium products and stoke the two-speed recovery underway."

Merchandise exports are expected to grow a moderate 2-4% in fiscal 2024 after an estimated 5-7% increase in fiscal 2023, with the PLI scheme supporting demand owing to global supply chain diversification and 'friend-shoring' strategies. ◆

Accenture and IIT Madras to Conduct Deep Technology Research for Industrial Automation, Robotics and Advanced Automotive Technologies

Accenture and the Indian Institute of Technology Madras (IITM) have set up a Center of Excellence (CoE) to undertake collaborative research projects and jointly develop intellectual properties and thought leadership focused on digital engineering and manufacturing across industries.

Specific areas of collaboration will include autonomous robotics systems (ARS), industrial internet of things (IIoT), digital twin systems (DTS) and advanced automotive technologies such as electric mobility services. The CoE will also work as an incubator and identify disruptive early-stage start-ups to drive innovation and research in these areas.

"Advanced digital technologies can help enterprises drive new levels of productivity, competitiveness and sustainable growth in a fluid and rapidly changing environment, and industry academia partnerships are crucial for developing solutions and talent for the future," said Mahesh Zurale, Senior Managing Director, Lead – Advanced Technology Centers in India, Accenture.

"With increasing use of digital technologies in manufacturing, breakthrough innovations in areas such as AI, IoT, autonomous robotics systems and digital twins are necessary to fuel the next era of industrial revolution," said Raghavan Iyer, Senior Managing Director, Innovation Lead - Integrated Global Services, Accenture Technology. "Through our collaboration with IITM, we look forward to working with some of the brightest talent in technology to create powerful and purposeful solutions that can drive impact."

Welcoming this partnership, Dr. V. Kamakoti, Director, IITM, said, "As a premier technology institution in India, we have been actively collaborating with innovative organisations globally to co-innovate disruptive products and services in new and emerging areas. We are excited to be setting up this new Center with Accenture, as it not only aligns with our interest and objectives, but also brings intellectual and practical skills that are necessary for our student researchers for the future."

University collaboration has been key to Accenture's innovation agenda. The company has been collaborating with leading universities around the world to jointly develop forward-looking thought leadership, research, educational programs, and other activities. Most recently, Accenture collaborated with the Indian Institute of Science (IISc) Bengaluru to establish Accenture Center for Advanced Computing. ◆

Article and image courtesy

TAGMA

INTERNATIONAL

Tooling SUMMIT 2023

Powered by

SSPL
MULTIPLE SPECIAL STEEL PVT LTD.

AUGUST 24 & 25 | Shereton Grand Bangalore Hotel at Brigade Gateway

EXPLORING DIVERSITY IN THE TOOLING INDUSTRY

ENHANCE KNOWLEDGE

Update your knowledge with engaging panel discussions and technical sessions

NETWORK WITH LEADERS

Meet subject experts and professionals from 15+ industries to make new business contacts

EXPAND YOUR BUSINESS

Observe industry trends and customer expectations by engaging with leaders

35+ Speakers

350+ Delegates

4 Panel Discussions

15+ Technical Sessions

CONTACT US

tagma.mumbai@tagmaindia.org
+91 - 96534 27396 / 97694 07809

Swiss Steel Group

Discover tool steels for Plastic moulding application North American

Together. For a

Our Service Center locations In India.

MUMBAI

SWISS STEEL INDIA PRIVATE LIMITED
Plot No. B-102, MIDC ADDL., Ambernath,
Thane- 421506, Maharashtra, India

Email: salesindia@swisssteelgroup.com
Contact: +91 9320299101

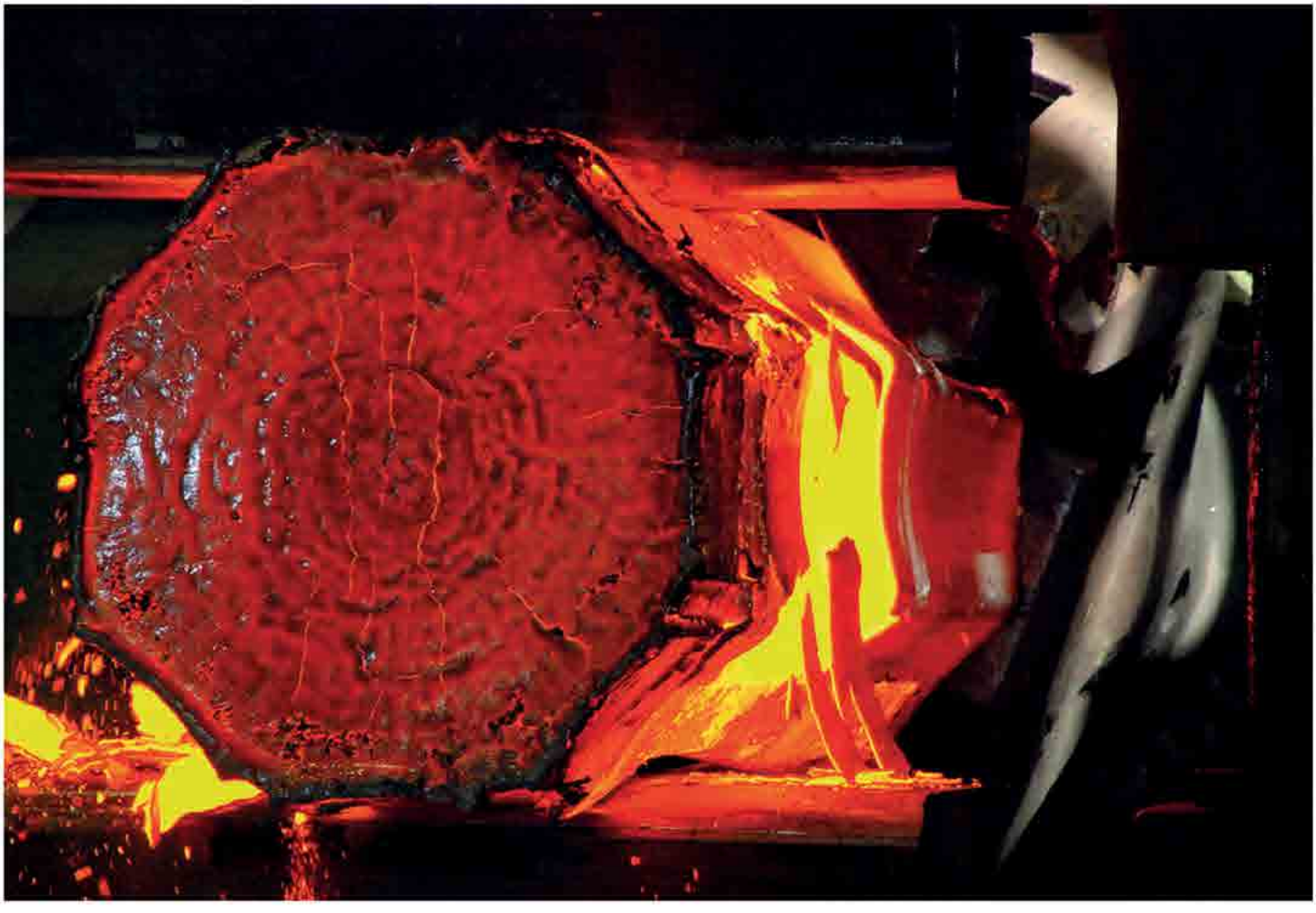
CHENNAI

SWISS STEEL INDIA PRIVATE LIMITED
Shed No. 3, Kamaraj Main Road, TASS Industrial Estate,
Ambattur,Chennai - 600 098,Tamil Nadu, India

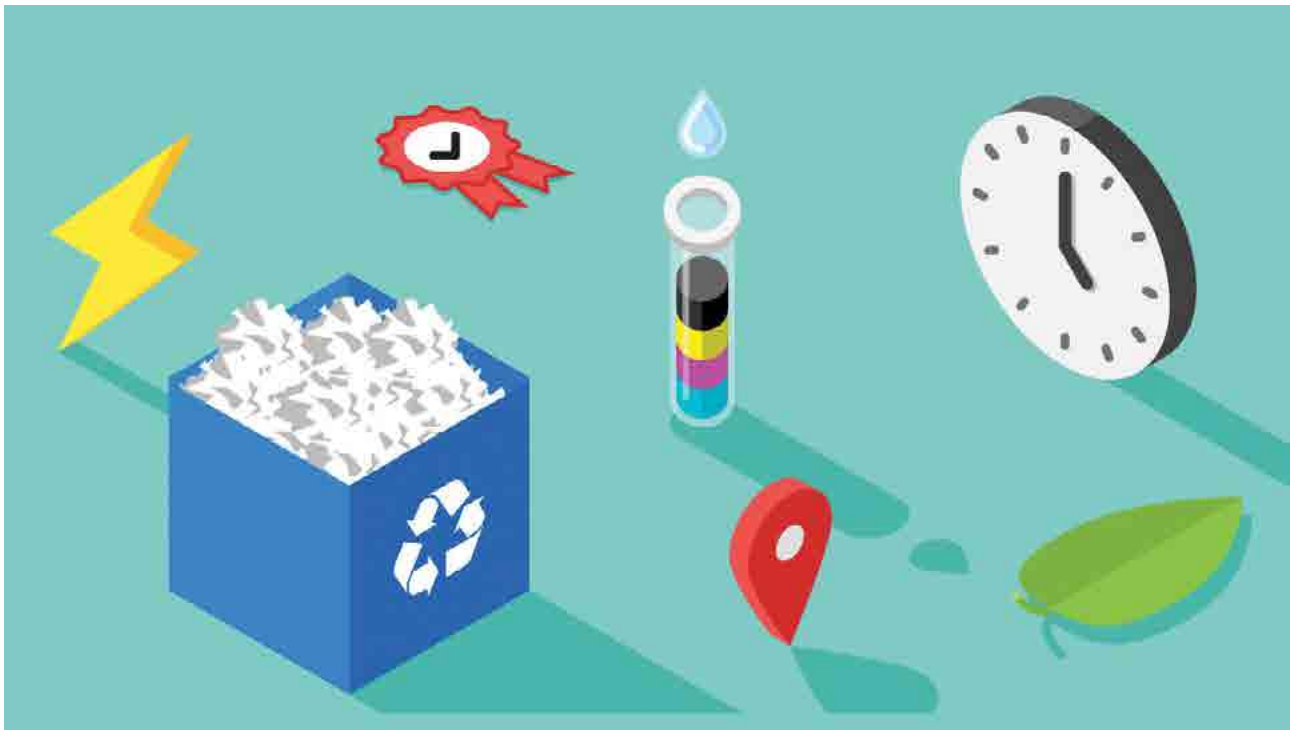
Email: salesindia@swisssteelgroup.com
Contact: +91 7358678250

Hot work, Cold work and from our German and Group mills.

future that matters



On-demand manufacturing – a perspective on India's digitalized players



Think for a moment about the fabricator in your industrial park, who has been making CNC parts or cutting laser sheets for you for years. It's probably been a great relationship over the years. Unfortunately, this type of company will soon cease to exist. There is a revolution in manufacturing on the horizon that will overtake contract manufacturers and job shops. It's called the wave of online manufacturers — and it is an international phenomenon. Already, many countries have launched similar offerings and are gradually displacing the old players. Let's take a closer look at the Indian landscape in this article.

The hardest part of this article was finding the right terminology. Distributed manufacturing, manufacturing on demand, smart manufacturing, manufacturing-as-a-service (MaaS), online manufacturing, cloud manufacturer, and the AWS of manufacturing. There is virtually an infinite number of descriptions that online manufacturers find for a simple effect: The industrial manufacturing landscape is digitizing, and with it, new players are entering the market to displace the old top dogs with software-enabled business models.

The current trend

We are all (at least everyone under 50) used to shopping online. The online shopping world is always available, prices are transparent, and most of the time it's just more convenient to make three clicks instead of driving across town for a pair of shoes. Corona has further strengthened this trend worldwide. In B2B purchasing, and especially for buying manufacturing services, the world still looks somewhat different. Long-standing supplier relationships, trust and a long-term approach seem to determine the choice of suppliers.

However, this all applies more to series parts. Because possible defects or unreliability lead to intense problem chains for the buyer. The costs of which significantly exceed the procurement costs of the individual parts.

Prototypes and small series, on the other hand, have a different set of requirements: They must be quickly, cheaply and conveniently procured by development departments, because every day of delay in market entry costs enormous amounts of money. This is where online manufacturers come into their own.

Automation in on-demand manufacturing

Increased cost-efficiency is the result of automating various aspects of production, as enterprise-scale manufacturers have proved time and again. For example, automating production line control through

HASCO
hot runner

Vario Shot Xgate

Wear-resistant needle valve pre-chambers

The new interchangeable needle valve pre-chamber Vario Shot Xgate simplifies the maintenance of the injection moulding tool and significantly reduces the maintenance costs.

- Gating in a minimum of space
- High wear-resistance
- Easy to exchange
- Variable gate diameter
- Compact design

www.hasco.com

Built to Perform.

advanced tracking and analytics systems can save hundreds of thousands in annual salary — and millions in potential damage from factory incidents.

However, installing such systems can be very beneficial for smaller businesses that want to scale their operations.

Design for manufacturing

It means finding the optimal product design to provide the required product functionality while meeting the market expectations and using the most cost-effective materials and production methods available.

There is a very old rule of thumb proven to be correct time and again: the decisions you make when starting any process impact the outcomes and accompanying costs to the utmost degree. Up to 70% of project outcomes are influenced by the choices made at the design and planning stage. With additive manufacturing (3D printing), this importance is even larger, because the development cycle is much shorter. The stakeholders that influence the first 20% of the project lay the rails for the rest of the product lifecycle and the budget will follow.

Modern manufacturers can use a wide variety of software tools, from nimble 2D design solutions (free CAD/CAM/CAE products) to enterprise-grade full-cycle CAD platforms intended to design and track the development of any product, simple or complex.

Going ahead

Virtual prototyping and modelling software, coming as an integral part of 3D printing, provides a great illustration of the ways automation software can augment and improve the outcomes of the pre-production stage. With virtual prototypes, designers and engineers can visualize spatial parameters of any surface of the future product, and forecast the potential deformities during the manufacturing process. This helps cut the trial-and-error losses greatly, which were a huge part of the product development costs previously.

The central goal of the automation process is to deliver as much value to the manufacturer in the long run, as possible. This result is largely based on the degree of automation maturity a particular business has achieved. Moving fast is hard in this journey due to the relatively high CapEx and OpEx of installing and managing such systems, which might seem too costly for startups or SMEs. ◆

Article and image courtesy Frigate®

WELCOME

New members

AMAXE TECHNOLOGIES PVT. LTD.
B2/ 404, The Plaza 106,
Sector 106, Dwarka-Expressway,
Gurgaon – 122006, Haryana
Contact Person: Mr. Puneet Aggarwal (Director) / Ms. Alka Aggarwal (Director)
Tel : +91 9818837585
Email Id: amaxetech@gmail.com
Website: www.amaxe.in
Activities: Trading and Manufacturing of Dies & Moulds. Suppling Plastic & Sheet Metal Components/ Trading of Mould Parts.

ORION INNOTECH PVT. LIMITED
Plot No. 38, 1st Floor, Sector-7,
IMT Manesar,
Gurgaon – 122050, Haryana
Contact Person: Mr. Vishal Verma (Director-Sales) / Sakshi Verma (Director)
Tel: 0124-4225210
Email Id: info@orioninnotech.com
Website: www.orioninnotech.com
Activities: Distribution of Precision Shrink-Fit Tool Holders, Tool Holders, Precision Carbide End Mills, Micro Drills, Micro Boring Head, EDM Tooling, EDM Wire, EDM Consumables etc.

POLY PRODUCTS
Corporate office: A303 Western Edge 2,
Off Western Express Highway,
Behind Metro Mall, Borivali East
Mumbai – 400066, Maharashtra
Contact Person: Mr Anil Kumar (Managing Partner) / Mr Akshay Nambiar (COO)
Tel: 022 28548315/6
Email Id: anilkumar@polyproducts.com
Website: www.polyproducts.com
Activities: Manufacturer of Plastic Injection Moulds and Moulded components in variety of engineering plastics.

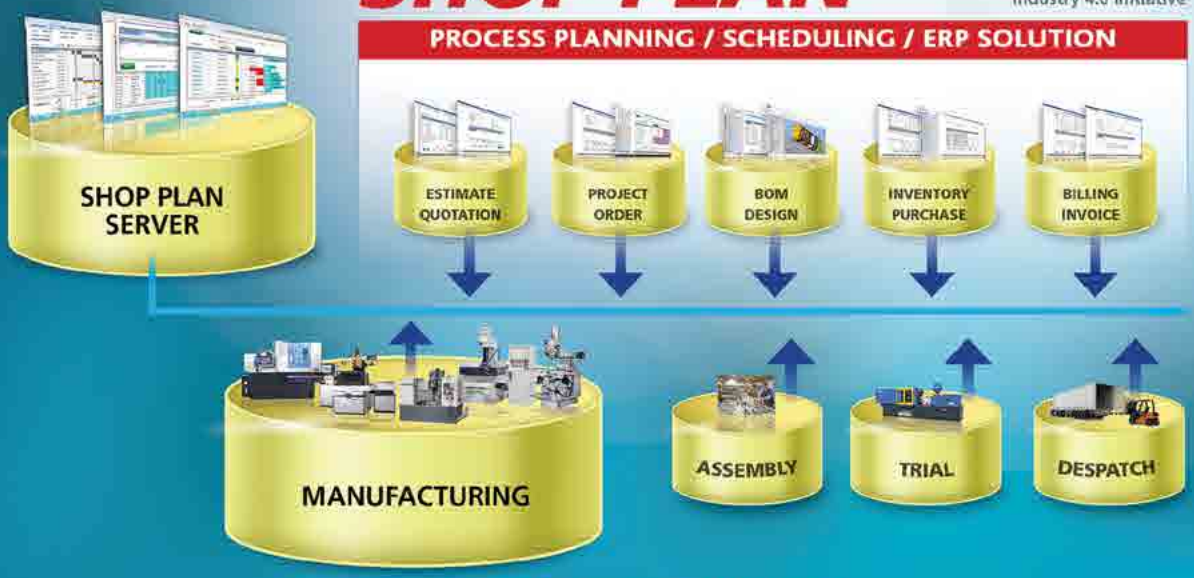
CAD MAcRO

Be part of Smart and Digital Tool Room

SHOP PLAN

eFACT Industry 4.0 Initiative

PROCESS PLANNING / SCHEDULING / ERP SOLUTION



OUR EXISTING SHOP PLAN CLIENTS

Sivananda Moulds & Dies · CNN MOULDS PVT LTD · GOEL · Goldmedal · INDO-MIM · Savitri Automation · AMARA RAJA · CIT · kangaro · MPI MODERN · ENDURANCE · Dispesafe · Hitech · ICS designs · MUTUAL

OTHER PRODUCTS

MACRO EDM — EDM DETAILING AND CAM

MACRO WIRE — WIRE EDM SOLUTIONS

SHOP MOLD — MOLD MAINTENANCE SOFTWARE

Visit us @

Hall No G , Stall No G4

IMTEX 15th International Machine Tools Exhibition

An AIEMA Initiative

Date 15-19 June, 2023

CAD Macro Design & Solutions Pvt Ltd

33, CREW Building, Sapthagiri Colony, KR Layout, Jafferkhanpet, Chennai-83

Phone: **96000 13015-18, +91 44 43589050**

E-mail : info@cadmacro.com • **www.cadmacro.com**

MSME · MAKE IN INDIA

Hot Runner Systems

Pronto hot runners from Husky are performance-proven for markets including automotive, packaging and consumer electronics. Pronto hot runners are also excellent prototyping and scale-up tools—the perfect options for customers who want to test out applications and develop key understandings about prototype molding before scaling up into more complex cavitations. It is available in over 100 manifold layouts, with cavitation options from 2+2 to 16+16. Pronto hot runners enable you to make parts from multiple resins or multiple colors of the same resin, with either sequential or simultaneous injection. Plus, now Husky makes Pronto 2K hot runners available for multi-material applications.

Contact Details:
Email: spsalesindia@husky.ca
Phone: (91) 44 27 47 6426
Web: www.husky.co

CMM

GLOBAL CMMs from Hexagon are built on advanced design principles to inspire certainty and confidence. They combine quality components and state-of-the-art technologies for long-term stability, reduced measurement uncertainty, adaptability to harsh measuring environments, fast measuring point capture and an advanced user experience. These metrology solutions will provide manufacturers with maximum value over the entire lifecycle. Using a highly versatile and accurate 6-way touch-trigger probe with a motorised indexing probe head to flexibly position the probe during measurement, the GLOBAL Touch+ model is configured to provide outstanding tactile single-point measurement performance on prismatic parts.

Contact Details:
Phone: +91 879 309 3946
Email: info.psindia.mi@hexagon.com
Web: www.hexagon.com

5-axis VMC

G670-5ax is High Precision Simultaneous 5 Axes Vertical Machining Center with built in Rotary tables. The G670-5ax delivers high performance in all types of machining processes that demands rigorous indexing accuracy & high machined surface quality. G670-5ax is built with ergonomically designed structure for outstanding dynamic rigidity & totally isolated working zone for better chip and coolant management system.

Contact Details:
Micromatic Machine Tools Pvt Ltd
Email: salesmmt@acemicromatic.com
Phone: 9972092970
Web: www.acemicromatic.net

National

ACMEE 2023

ACMEE is India's premier International Machine Tool Show with exhibit range such as CNC Machines, CNC & PLC Controls, Cutting Tools and Accessories, Special Purpose Machines, Pneumatics, Hydraulics, Industrial Robotics & Automation, Instrumentation, Machinery & Machine Tools, Welding, Material Handling Systems, Sheet Metal Press, Laser Cutting, Cleaning Systems, among others.

Date: Jun, 15-19
Venue: Chennai Trade Centre, Chennai
Organiser: Ambattur Industrial Estate Manufacturers Association
Contact: +91 - 73052 82228
info@acmee.in

ITS 2023

International Tooling Summit - the FLAGSHIP event of the Tool and Gauge Manufacturers Association of India (TAGMA India), is a platform that brings together the tool-making fraternity and the user industry under one roof. The two-day event provides a unique platform for industry professionals to network with potential customers, learn from subject experts and update their technological know-how.

Date: August 24 - 25, 2023,
Venue: Hotel Sheraton Grand (Brigade Gateway)
Organiser: TAGMA India
Contact: 96534 27396 / tagma.mumbai@tagmaindia.org

Plastvision 2023

The exhibition today has become the platform for companies to launch new products, grow their network within and outside the industry, learn new technologies and exchange ideas on a global level. Such is the influence of the show that today it is ranked amongst the top 10 plastic industry events globally.

Date: Dec, 07-11
Venue: Bombay Exhibition Centre, Mumbai
Organiser: All India Plastics Manufacturers' Association
Contact: 022 6777 8842/46/48
marketing@plastivision.org

International

Intermold Japan

Largest exhibition for tooling industry in Japan with global participation. The exhibition showcases latest in the die mould industry and provide ideal opportunities for technology providers to showcase their capabilities.

Date: Apr, 12-15
Venue: Tokyo Big Sight, Tokyo
Organiser: Japan Die & Mold Industry Association
Contact: +81-6-6944-9911 / iminfo2023@tvoe.co.jp

Hannover Messe 2023

HANNOVER MESSE is the most important international platform and hot spot for industrial transformation - with excellent innovations or unusual products.

Date: April 17 - 21
Organiser: Deutsche Messe AG
Contact: +91 022 41562727 / yash.panchal@hmf-india.com

Moulding expo 2023

Moulding Expo is one of the most important European events for tool, pattern and mould making.

Date: Jun, 13-16
Venue: Messe Stuttgart
Organiser: Landesmesse Stuttgart GmbH
Contact: +49 711 18560 0 / info(at)messe-stuttgart.de

Taimold

Taipei International Smart Mold & Die Industry Fair 2023 is set to highlight latest developments and innovations in die mould manufacturin and related technologies.

Date: Aug, 23 - 26
Venue: Taipei Nangang Exhibition Center, Taipei
Organiser: Chan Chao International Co., Ltd
Contact: +886 2-26596000 (ext.176)
show@chanchao.com.tw

Index

Patron Members of TAGMA

No.	Existing Patron Members	CITY
1.	AAKAR DIES & MOULDS	Pune
2.	ABHIJEET DIES & TOOLS PVT. LTD.	Vasai
3.	ANAND MOULD STEELS PVT. LTD.	Navi Mumbai
4.	BHARAT TECHNOPLAST PRIVATE LTD.	Mumbai
5.	BRAKES INDIA PRIVATE LIMITED	Chennai
6.	CRAFTSMAN AUTOMATION LIMITED	Coimbatore
7.	DAXTER TOOLS	Vasai East
8.	DEVU TOOLS PVT. LTD.	Mumbai
9.	DMG MORI INDIA PVT. LTD.	Bangalore
10.	ELECTRONICA HITECH MACHINE TOOLS PVT. LTD.	Pune
11.	EXCELLENCE ENGINEERING SERVICES	Navi Mumbai
12.	GF MACHINING SOLUTIONS PTE LTD	Bangalore
13.	GODREJ & BOYCE MFG. CO. LTD - TOOLING DIVISION	Mumbai
14.	HASCO INDIA PVT. LTD.	Bangalore
15.	HTS HOT RUNNER SYSTEMS INDIA PVT. LTD.	Pune
16.	HUSKY INJECTION MOLDING SYSTEMS PVT. LTD.	Tamil Nadu
17.	JAIN IRRIGATION SYSTEMS LTD.	Jalgaon
18.	JOBTECH MOULD LLP	Gujarat
19.	KAPSUN RESOURCES CORPORATION	Gujarat
20.	KINETIC TECHNOLOGIES (A DIVN. OF JAYAHIND SCIAKY LTD.)	Pune
21.	LMT TOOLS INDIA PRIVATE LIMITED	Pune
22.	LUCAS TVS LTD.	Chennai
23.	MAHINDRA UGINE STEEL CO. LTD.	Raigad
24.	MANGAL INDUSTRIES LIMITED	Chittoor
25.	METALS INDIA	Faridabad
26.	MISUMI INDIA PVT. LTD.	Gurgaon
27.	MULTIPLE SPECIAL STEEL PVT. LTD.	Bangalore
28.	MUTUAL ENGINEERING PRIVATE LIMITED	Vasai East
29.	NTTF	Bangalore
30.	PCK BUDERUS (INDIA) SPECIAL STEELS PVT. LTD.	Chennai
31.	PUROHIT STEEL INDIA PVT. LTD	Vasai East
32.	S&T ENGINEERS (P) LTD	Coimbatore
33.	SANDVIK COROMANT INDIA AT SANDVIK ASIA PVT. LTD.	Pune
34.	SCHUNK INTEC INDIA PRIVATE LIMITED	Bengaluru
35.	SECO TOOLS INDIA (P) LTD.	Pune
36.	SRIDEVI TOOL ENGINEERS PVT. LTD.	Vasai
37.	STITCH OVERSEAS PVT LTD	Gurugram
38.	SUBROS TOOL ENGINEERING CENTER (STEC)	Noida
39.	SUNDARAM CLAYTON LTD.	Chennai
40.	UE PRESS TOOLS PVT. LTD.	Chennai
41.	USBCO STEELS PVT. LTD.	Wes't Bengal
42.	VASA SPECIALITY STEELS PVT. LTD.	Mumbai
43.	XCEED TOOLINGS PVT. LTD.	Mumbai
44.	YUDO HOT RUNNER INDIA PVT. LTD.	Vasai East
45.	ZAHORANSKY MOULDS AND MACHINES (P) LTD.	Coimbatore

Advertisers Index

www.ampcometal.com

AMPCO®

AMPCO METAL

Expert materials for plastic injection and mould applications

AMPCOLOY®

AMPCOLOY® advantages

- Excellent corrosion resistance
- High strength and thermal conductivity
- Good machinability
- Easy to polish and weld repairable
- Reduce risk of jamming and largely facilitate the heat dissipation

Mechanical and Physical Properties	Unit	Beryllium-Free Copper Alloys		2% Beryllium Copper Alloy
		AMPCOLOY® 940	AMPCOLOY® 944	AMPCOLOY® 83
Rockwell Hardness	HRB / HRC	95 HRB	30 HRC	40 HRC
Thermal Conductivity λ 20°C	W / m ·K	208	156	106
Electrical Conductivity	% I.A.C.S.	48	30	22

Reduce cycle time in plastic injection by up to 25% with AMPCOLOY® alloys

Food Approval of AMPCO®, AMPCOLOY® Materials
AMPCO® 18, AMPCO® M4, AMPCOLOY® 940, AMPCOLOY® 944

Address

AMPCO METAL INDIA PVT. LTD.
A-8/4, At Village - Nighoje. Chakan MIDC,
Phase IV, Tal : Khed, Pune – 410501
MAHARASHTRA, INDIA
Tel. +91 2135 610 810 | Fax. +91 2135 610 811
infoindia@ampcometal.com
An ISO 9001:2015 Certified Company

AMPCO METAL S.A
Route de Chesalles 48 P.O Box 45,
1723 Marly Switzerland
Toll Free Phone: 800 8080 5050
Tel.: +41 26 439 93 00
Fax.: +41 26 439 93 01

AMPCO METAL EXCELLENCE IN ENGINEERED ALLOYS

LEADING INNOVATION 503 PATENTS

YUDO
Leading innovation

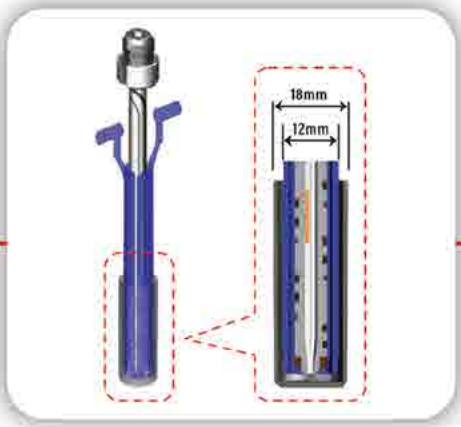
3PLATE MOLD
WITH COLD RUNNER

LIPSTICK CAP WITH
YUDO MICRO BORE NOZZLE

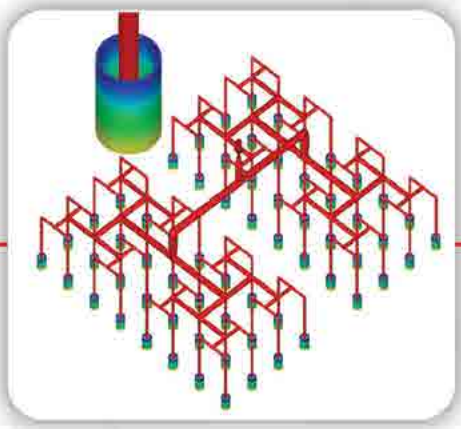
ACHIEVE MAXIMUM PRODUCTIVITY WITH YUDO ADVANTAGE IN

DEEP CORE SOLUTIONS

Deep core gate is a patented system with advanced nozzle design and ISO technology. It improves gate quality and reduces cycle time resulting in remarkable productivity gains



MICRO NOZZLE WITH COOLING



ANALYSE & VALIDATE CYCLE TIME

The Economic Times BrandEquity BEST PLASTICS & POLYMERS BRANDS 2022

Great Place To Work. Certified INDIA

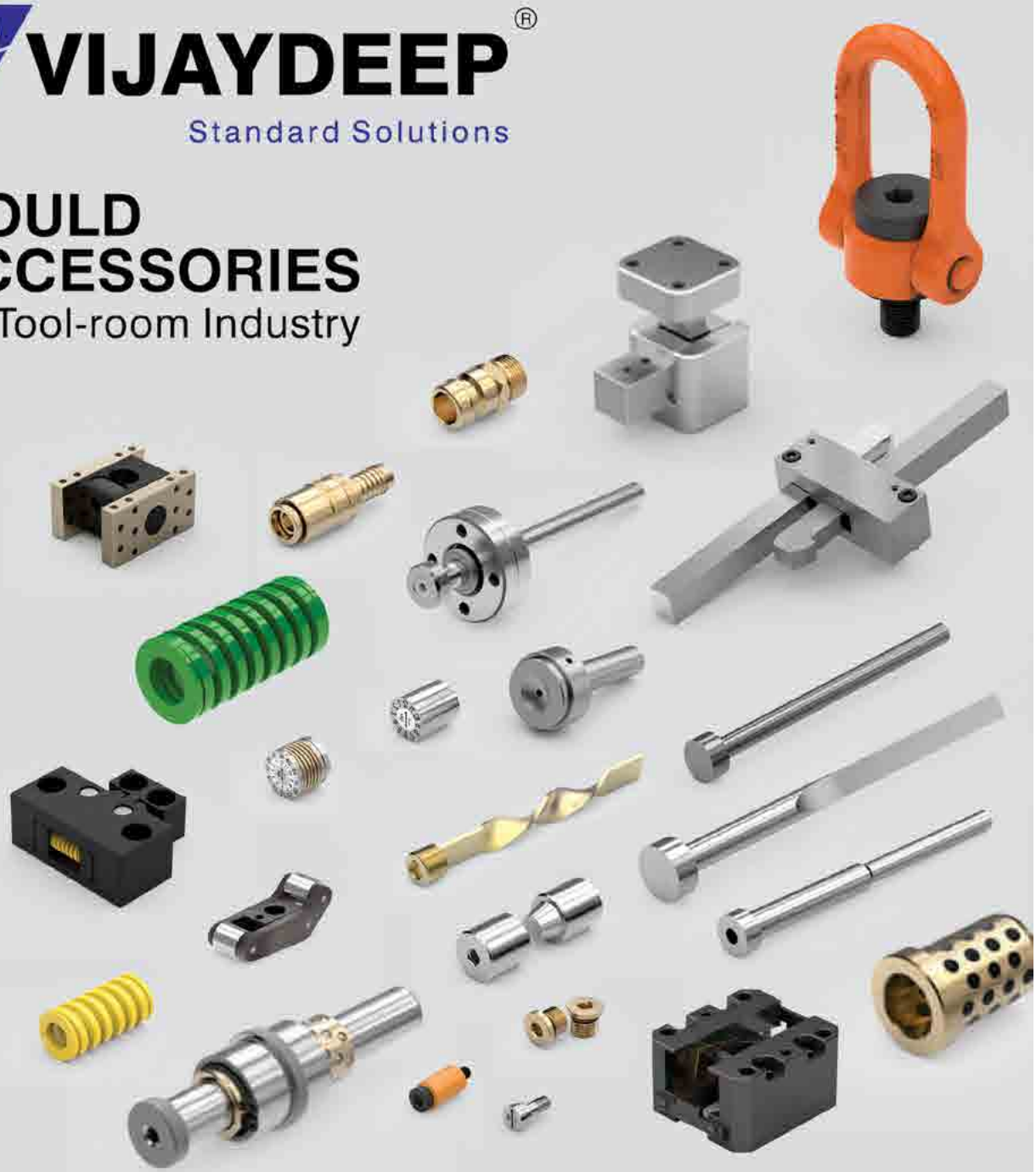
YUDO Hot Runner India Pvt. Ltd.
Mumbai(HO), Pune, Chennai, Delhi, Ahmedabad, Bengaluru, Coimbatore, Ananthapuram
sales@yudo.co.in | +91 7666390458 | www.yudo.com

VIJAYDEEP®

Standard Solutions

MOULD ACCESSORIES

for Tool-room Industry



- Injection Accessories
- Mould Alignment
- Three Plate Mould Accessories
- Slides & Accessories
- Ejection Accessories
- Undercut Release Systems
- Die Springs
- Mould Cooling Accessories
- Part & Mould Identification
- General Mould Accessories

+91-6107 7900 (100 lines) | sales@vijaydeep.in | www.vijaydeep.in

LOWER GRILL FRAME

ACCELERATE YOUR PERFORMANCE

When it comes to the automotive industry, precision and quality are non-negotiable. That's why you need Devu Tools - the trusted name in automotive moulds. With our state-of-the-art technology and years of expertise, we're well-equipped to handle any automotive mould requirement you have.

Why Choose us?

- Industry-leading expertise and technology
- Quality and precision guaranteed
- Dedicated customer service

On Time Delivery

Our streamlined process ensures ontime delivery for your project success

First Time Right

Quality checks at every step ensure our first-time-right policy

Skilled manpower

Experienced team delivering on-time, high-quality moulds tailored to yourrequirements

Estd. 1993

DEVU TOOLS PVT. LTD.

MOULD MAKERS

MANUFACTURER & EXPORTER

- Mobile: +91-9820030764
- Email: marketing@devutools.com
- Web: www.devutools.com