

# TAGMA TIMES

NEWSLETTER

(Technical Info. on Die, Moulds & Toolroom)

Volume: XXVII / No. 12

(Private Circulation for Members Only)

August 2021

## MSMEs:

# India's Growth Engines





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# CONTENTS



## In Focus

MSMEs' quest for freedom

20

## One Q, Many Views

Stumbling blocks to MSMEs' growth

36

## 75th Independence Day

Vision for a better tomorrow

40

## Case Study

Five-axis machining lifts shop's part productivity and quality

44

## Tech Know-how

Future-proof, sustainable and flexible

46

## Tool Talk



**Vinamra Mishra**

Director (Technical & Projects),  
Ministry of MSME

32

<b>Editorial</b> .....	06
<b>Tech Update</b> .....	08
<b>Industry Update</b> .....	14
<b>Obituary</b> .....	52
<b>Ad Index</b> .....	54

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## MSMEs' freedom struggle

**F**or all of us, August is not just a month that comes after July and before September. It is an emotion that generations have inherited after India attained Independence from the British Raj on August 15, 1947. From 1947 to the present, India has flourished and how! Today, the country is listed as one of the largest and fastest-growing economies in the world. India has certainly come a long way and has become one of the most important nations for businesses around the world.

This August, as India celebrated its 75th Independence Day, Indian MSMEs are still struggling to gain freedom from the various challenges that are hampering their growth. Most tooling companies, which fall under the MSME category, face challenges related to infrastructure development, availability of finance, skill development, high interest rates on imports, and limited support for exports, among others.

MSMEs play a vital role in the development of a nation. They have, for many years, been the backbone of the Indian economy. With more than 60 million MSMEs operating across India, they contribute approximately 30% to India's overall GDP. MSMEs also contribute approximately 45% of the overall exports from India and employ approximately 120 million people, which is second only to the agriculture sector. The Government of India has set a target of ensuring that MSMEs contribute more than 50% to India's GDP and offer at least 150 million jobs over the next 5 years, which is very encouraging.

The August issue of TAGMA Times has been carefully crafted for tooling MSMEs. The 'In Focus', 'Tool Talk' and 'One Q, Many Views' sections highlight the challenges you face and what you can do to redress the same. We hope you enjoy reading this issue of TAGMA Times as we did in preparing the content for you!

Happy Reading!

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## Kennametal introduces HiPACS for aerospace fastener hole drilling and countersinking in one step

**KENNAMETAL** has introduced the HiPACS drilling and countersinking system for aerospace fastener holes. Designed to drill and chamfer holes in one operation, the high-precision tool meets the aerospace industry's stringent accuracy requirements, while delivering increased tool life in machining composite, titanium, and aluminium aircraft skins.

"Most fastener hole tools used today are complex made-to-order tools with long lead-times," says Georg Roth, Product Manager, Kennametal. "HiPACS uses standard, off-the-shelf components for quick delivery and low cost per hole, by allowing the drill and chamfer insert to be indexed independently from one another. What's more, it's the only indexable drilling and countersinking system on the market that can hold the aerospace industry's required fastener hole chamfer tolerances in just one operation."

### Three simple components eliminate the need for custom tooling

Designed to be clamped in a standard hydraulic chuck, the HiPACS modular system consists of three components that are fast and easy to assemble:

- A reducer sleeve with a built-in high-precision pocket seat. In conjunction



with a standard hydraulic chuck, this component provides ultra-secure clamping and a runout of no more than 3µm, significantly increasing tool life, and hole quality.

- A PCD countersinking insert. This eliminates the need for expensive custom solution step drills, reducing manufacturing costs while meeting the industry's accuracy requirements.
- The two series of solid carbide drills—both diamond-coated and PCD-tipped—covering all material combinations found in a typical aerospace assembly. In addition, the straight shanked tools allow for length adjustments in increments of 10mm.

The new HiPACS drilling and countersinking system can be utilized on all machines typically used for aerospace applications. In less stable conditions, such as robot end effectors, the diamond-coated carbide drills offer excellent tool life, and hole quality. PCD-tipped drills, on the other hand, excel in stable conditions, such as gantry machines.

With an industry standard interface, HiPACS can be utilized on any CNC machine, and is suitable for a variety of drilling and countersinking applications.

## GWS Tool Group releases new Alumigator™ ASR-5 End Mill

**THE** Alumigator™ ASR-5 end mill, a 5-flute high-performance carbide end mill for high-speed roughing in aluminium, is available in both coolant-through and solid configurations.

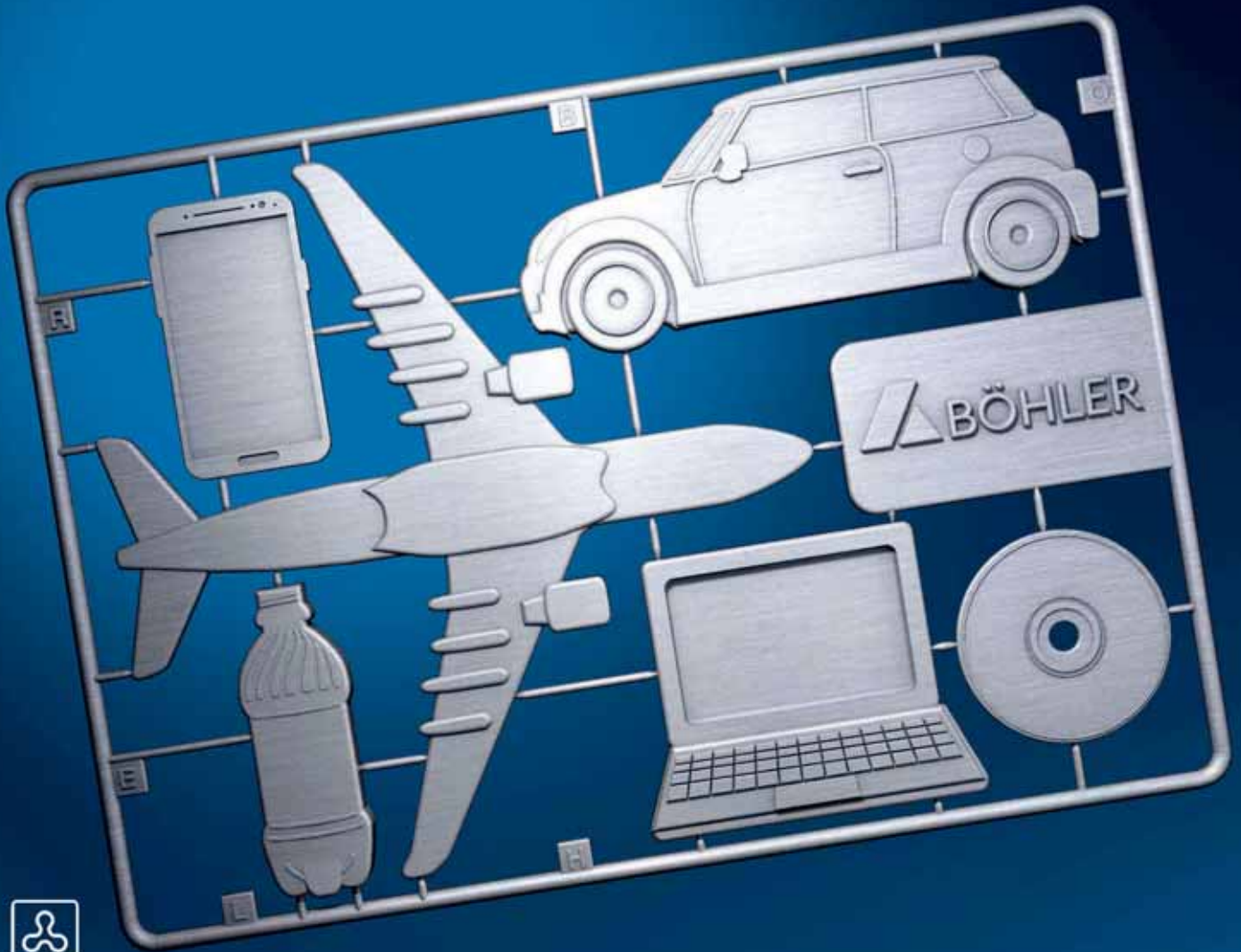
This revolutionary new end mill boasts of an unequal indexing configuration that reduces chatter for the optimized high-efficiency milling of aluminium alloys. Designed and engineered from the Alumigator family of high-performance aluminium mills, the 5-flute configuration



with polished flutes can achieve metal removal rates in excess of 100 cubic inches per minute. Staggered roughing serrations and proprietary gashing geometry ensure small chip size to enable more aggressive feed rates and depths of cut.

Be it roughing, finishing, pocketing or profiling, the Alumigator™ Super Rougher (ASR-5) end mill for ultra-high-speed roughing is designed to devour aluminium alloys and other non-ferrous materials.





# PICK UP YOUR SUCCESS

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## MHI Machine Tool to expand metal 3D-printing services

**MITSUBISHI** Heavy Industries Machine Tool Co., Ltd., a group company of Mitsubishi Heavy Industries, Ltd. (MHI) based in Ritto, Shiga Prefecture, is offering expanded services in metal 3D-printing services, including prototype production and contract production by metal 3D-printers applying laser-based Metal Additive Manufacturing (AM) technologies. In addition to its previously offered Directed Energy Deposition (DED) type metal 3D printers for large-scale parts, the Company has newly added services using binder jetting (BJT) metal 3D printers for small-scale parts. The expanded service lineup enables manufacture of a full range of metal parts, from small components of 1mm size to ultra-large-scale parts exceeding 1 meter.

The addition to MHI Machine Tool's lineup is the DMP2500 metal 3D printer developed by Digital Metal, a group company of Hoganas of Sweden. The DMP2500's BJT technology not only enables extremely precise manufacturing but also is engineered especially for high-volume production. Currently, MHI Machine Tool has provided metal-printing services applying unique DED technology of 'LAMDA' AM systems. Now, with the introduction of a different type of printer, the company can respond to a broad range of metal 3D print needs and propose and provide the optimal manufacturing method and equipment for each parts.

MHI Machine Tool concluded a contract with Digital Metal in July 2020 on marketing its DMP2500 and other metal 3D printers in Japan. By adding these BJT type systems to its own sales lineup, MHI Machine Tool will be in a position to offer a broad portfolio of not only sales but also after-sales services.

While metal 3D printers are receiving



attention for their innovative advances to production processes, they also present challenges relating to the difficulty of their production and quality assurance, etc. With the new expansion of services, MHI Machine Tool will focus on providing solutions relating to AM, including

provision of related expertise, to accelerate early adaptation to production parts.

Going forward, MHI Machine Tool will develop its metal printing services structure spanning from small-scale high-precision to ultra-large-scale items, enabling the company to respond to a broad wide-range of prototype production needs and contract production. In these ways, MHI Machine Tool will encourage manufacturers to expand into manufacturing parts using metal 3D printers and contribute to the industrial supply chain as a whole.

Main Features of DMP2500 Printer		
Item	Specifications	
Print size	mm	L 170 × W 150 × H 57
Printing speed	cc/h	60-150
Outer dimensions	mm	L 2,900 × W 1,000 × H 1,700





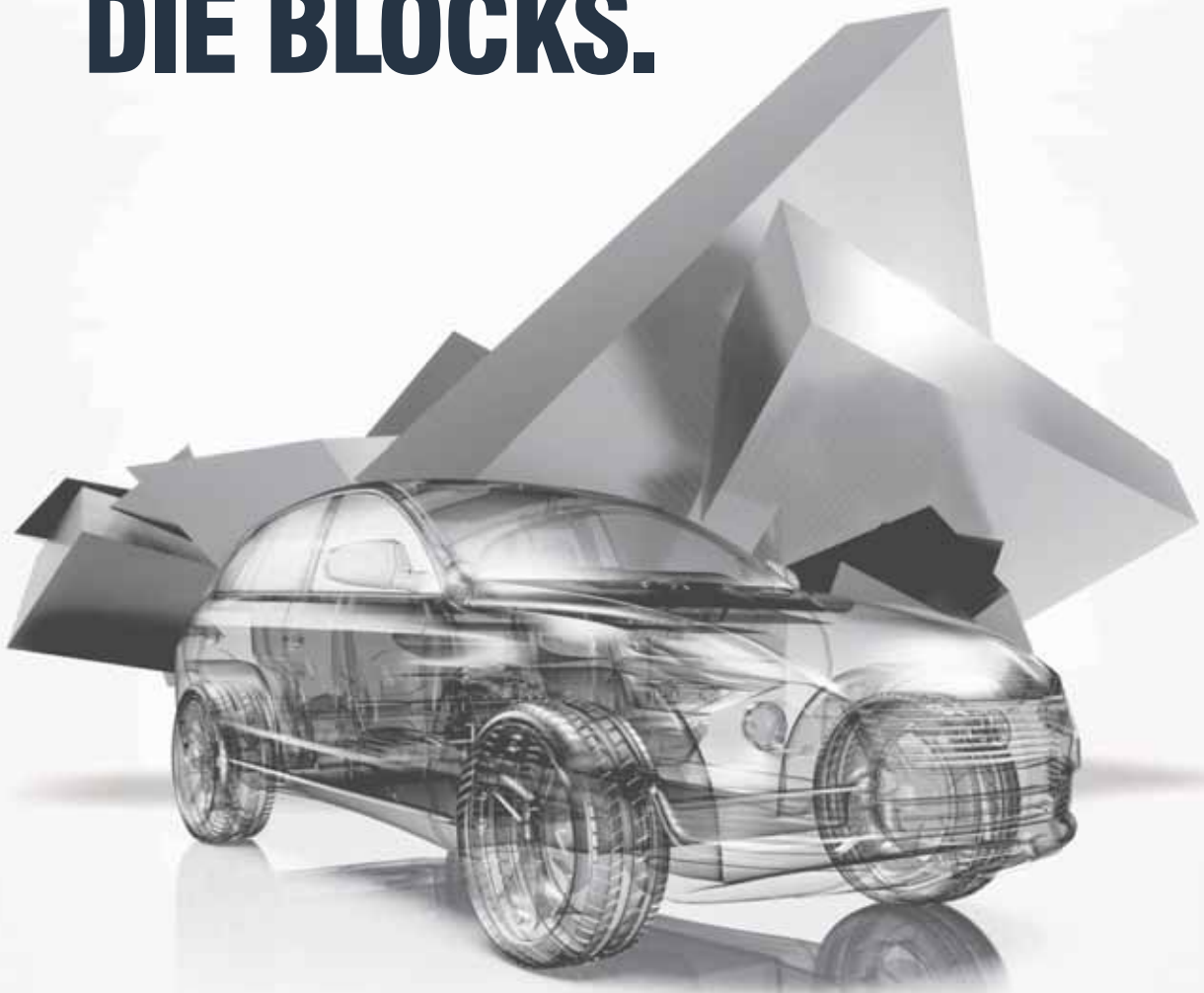
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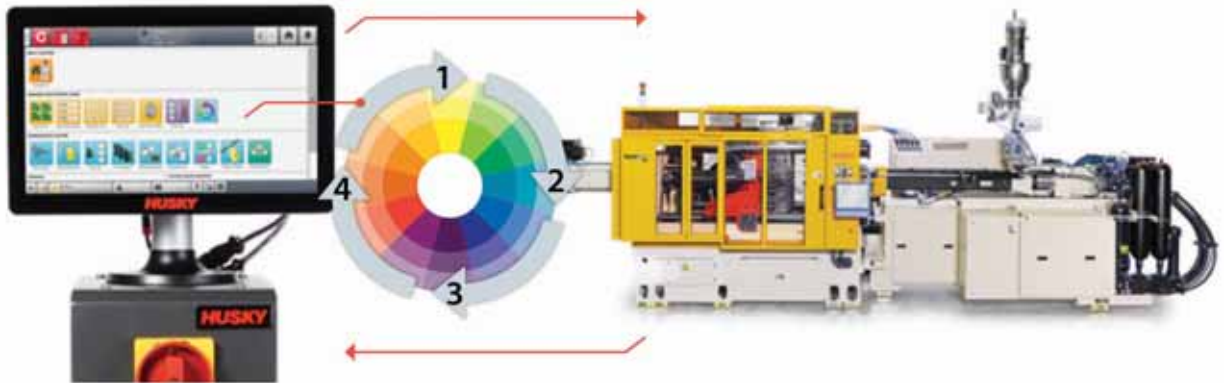
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## Husky & Chem-Trend create simple and effective colour change feature for Altanium® Hot Runner Temperature Controllers



**HUSKY** Injection Molding Systems, Ltd., a leading industrial technology provider to the plastics processing community, recently announced its collaboration with Chem-Trend on a system solution that creates repeatability during the critical colour change process to offer a faster, more accurate, and optimized approach for operators.

The team devised a new guided procedure made easily accessible to operators within the Husky Altanium® Mold Controller operator interface. The instructions outline a simple, yet highly effective approach to setting up and performing the colour change process explicitly for molds with hot runner systems.

The joint approach is based on the process for using Chem-Trend's Ultra Purge™ brand of purge compounds, which is designed specifically to reduce colour-change time and carbon formation in hot runner systems.

"Fast and effective colour change processes are essential for our customers, and we are continuing to see an upward trend in colour change applications," said Mike Ellis, global business manager for Husky® Hot Runners and Controllers division. "Our

collaboration with Chem-Trend and the integration with our Altanium® Mold Controllers addresses this critical market requirement and enables our customers to achieve more efficient and effective colour change performance."

Together, Chem-Trend and Husky aim to significantly enhance their customers' operational margins by increasing equipment and labour uptime. Trial results showed up to an 85% reduction in scrap and an 80% increase in mold cleaning efficiency when following the recommended process.

"We know a lot is at stake for processors if the right purge compound and process are not used in colour changeovers amounting to significant time and cost," said Graziano Pestarino, global account manager for thermoplastics solutions at Chem-Trend. "By combining our years of expertise in the field and our latest advancements in purging technology with that of Husky, one of the leading producers of hot runner systems in the industry, plastics manufacturers stand to reap immense benefits of productivity and control previously unachievable."

The details of the new approach are:

- Integrated Ultra Purge™ colour

change step-by-step instructions include settings, such as Shot Weight, Conversion Ratio, and Ultra Purge™ Quantity, used by the Altanium® Mold Controller throughout the colour change process.

- A Purge Booster feature, which ensures an even faster colour change time.
- A digital Cycle Count input from the injection molding machine can be configured to further automate the colour change process by signaling when the correct amount of Ultra Purge™ compound has been used before moving to the next step.
- A colour change or black speck removal mode.
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## Indian auto component industry clocks turnover of INR 3.4 lakh crore (USD 45.9 billion), de-grows 3% in FY 2020-21

**AUTOMOTIVE** Component Manufacturers Association of India (ACMA), the apex body representing India's auto component manufacturing industry, has announced the findings of its 'Industry Performance Review' for Fiscal Year 2020-21. The turnover of the automotive component industry stood at INR 3.4 lakh crore (USD 45.9 billion) for the period April 2020 to March 2021, registering a de-growth of 3% over the previous year.

Commenting on the performance of the auto component industry, Vinnie Mehta, Director General, ACMA, said, "The vehicle industry in India witnessed two successive years of de-growth of 14.6% in FY19-20 and, thereafter, of 13.6% in FY20-21. The economic slowdown of FY19-20 was compounded by the challenges of a pandemic-led national lockdown in FY20-21, resulting in a decline in vehicle production and consumption. While the first quarter of FY20-21 was a complete washout, the industry regained significant ground second quarter onwards. The component industry, in tandem, posted a subdued performance in FY20-21 with de-growth of 3% over the previous year, registering a turnover of INR 3.4 lakh crore (USD 45.9 billion). In the domestic market, auto component sales to OEMs stood at INR 2.79 lakh crore (USD 37.7 billion) declined by 3%, while the aftermarket stood at INR

64,524 crore (USD 8.7 billion) declined by 7%. Exports and imports stood at INR 0.98 lakh crore (USD 13.3 billion) and INR 1.02 lakh crore (USD 13.8 billion), respectively, thus reducing the trade balance to USD 500 million, the lowest ever; exports declined by 8%, while imports by 11%."

Sharing his insights on performance of the industry



and how it managed the supply-chain disruptions, Deepak Jain, President, ACMA, said, "The automotive value chain faced significant disruptions in FY20-21. The nationwide lockdown in

the wake of the pandemic, one of the severest in the world, put the entire supply chain in a disarray. The entire industry took significant time to stabilise again post the gradual unlocking of the economy. While vehicle sales and production improved quarter-on-quarter from second quarter of FY20-21 onwards, the first quarter of FY21-22 was once again confronted with another round of disruptions due to the second wave of the pandemic. While this wave was a much severe humanitarian crisis, the lockdowns, were regional, in line with the government's ethos of 'Lives and Livelihoods', resulting in lesser adverse impact on the economy and production."

Speaking about the headwinds being faced by the industry, Jain elaborated, "With the economy progressively returning to normal and as vehicular demand picks up, we are cautiously optimistic about the performance of the industry for this year. The challenges on the front of availability of semiconductors, escalating prices as also availability of raw materials, challenges on the front of logistics including non-availability and high prices of containers, among others, continue to hinder a smooth recovery. We are also wary of a third wave of pandemic and hope that the current revival in demand will be a sustained one."

### Key findings

**Sales to OEMs:** Auto component sales to OEMs, in the domestic market, at INR 2.79 lakh crore (USD 37.7 billion), declined 3% compared to the previous year. Sales to OEMs in the H1 2021 had declined by 31% over the first-half of the previous year. However, it witnessed a healthy recovery in H2 2021.

**Exports:** Exports of auto components witnessed a de-growth of 8% to INR 0.98 lakh crore (USD 13.3 billion) in 2020-21 from INR 1.02 lakh crore (USD 14.5 billion) in 2019-20. Europe accounting for 32% of exports, saw a decline of 4%, while North America and Asia, accounting for 30% and 26% declined 7% and 8%, respectively.

The key export items included drive transmission & steering, engine components, body/chassis, suspension & braking, etc.

**Imports:** Slowdown in the domestic market also reflected on imports of component into India. Component imports fell by 11% to INR 1.02 lakh crore (USD 13.8 billion) in 2020-21 from INR 1.09 lakh crore (USD 15.4 billion) in 2019-20. Asia accounted for 66% of imports followed by Europe and North America at 25% and 7%, respectively. Imports from Asia declined by 9%, while those from Europe by 13% and from North America by 17%.

**Aftermarket:** While the two-wheelers and passenger vehicles segments of the aftermarket witnessed strong recovery, revival in the commercial vehicles aftermarket was less than expected leading to an overall decline of 7% in the aftermarket. The turnover of the aftermarket in FY20-21 stood at INR 64,524 crore (USD 8.7 billion) compared to INR 69,381 crore (USD 9.8 billion) in the previous year.



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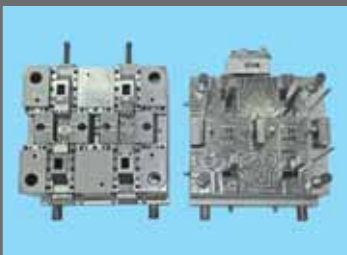


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## MSMEs in machine tools manufacturing impacted due to increase in raw material costs, says IMTMA

**THE** machine tools market has been among the worst-hit sectors due to a significant impact on the auto industry that had plummeted to zero sales in April 2020 due to the national lockdown.

The increase in the cost of procuring raw materials in machine tools manufacturing, especially when the costs of imported aggregate goods and components scale up that lead to supply chain impact, is a challenge for MSMEs as it impacted product delivery and affected business, Anbu Varathan, Director General & CEO, Indian Machine Tool Manufacturers' Association (IMTMA) told Financial Express Online. The association, formed in 1946, represents nearly 500 machine tool makers – around 90% of the organised machine tools and allied equipment manufacturers in the country. The machine tools market has been among the worst-hit sectors due to a significant impact on the auto industry that had plummeted to zero sales in April 2020 due to the national lockdown.

“The jump in the cost of aggregates has impacted us as well. For example, steel prices have gone up, and currently, we are not in a position to pass it on to our customers. Hence, our margin will take a hit. Sheet metal prices have also increased 20% due to an increase in steel prices,” Chandrashekara Bharathi, Founder, AceMicromatic Manufacturing Intelligence Technologies and member, IMTMA told Financial Express Online. Also, exchange rates have risen steadily over the years, whether it's USD or Yen, hence, “whatever imports we have made such as control systems from Japan and Germany, it has impacted our profitability particularly at a time when customers demand better pricing,” he added.

The auto sector witnessed an impressive growth during the first quarter of FY22



**“The jump in the cost of aggregates has impacted us as well. For example, steel prices have gone up, and currently, we are not in a position to pass it on to our customers. Hence, our margin will take a hit. Sheet metal prices have also increased 20% due to an increase in steel prices.”**

**Chandrashekara Bharathi,**  
**Founder, AceMicromatic**  
**Manufacturing Intelligence**  
**Technologies and member,**  
**IMTMA**

amid ease in lockdown restrictions and phased restart of factories and businesses. As per the data by the Society of Indian Automobile Manufacturers (SIAM), Q1 saw 113% growth in domestic sales to 3,180,039 units vis-a-vis 1,492,612 units during the year-ago period.

“Indian machine tools industry has been largely dependent on the auto sector. Whenever the auto sector is strong, the machine tools industry is strong. Emerging user industries such as aerospace, defence, railways, power, medical equipment, electronics, etc. also

provide good business opportunities for the machine tools industry. However, whenever there is de-growth in the auto sector or any of these other user industries, the machine tools industry is impacted,” added Varathan.

However, MSMEs have been reluctant to invest in new technologies as a large amount of capital investment is required. Varathan said companies also shy away from investing in digital technologies as they evolve at a very fast rate even as companies need to create a ready pool of workforce that can use those digital technologies. “Around 50% of our customers are MSMEs who are experiencing cost pressure on the labour front and procurement front. While growth in the auto sector is good for the machine tools sector but it isn't enough to potentially create a large-scale difference to what is happening to machine tools companies in the short term,” said Bharathi.

According to the association, the increase in budget outlay for railways, power, infrastructure, etc., is expected to trigger demand for capital goods and machine tools. The new growth sectors identified by the government with Production-Linked Incentives are also expected to spur the demand for machine tools. Moreover, IMTMA said the Reserve Bank of India's one-time loan recast for companies under stress due to the COVID outbreak is expected to benefit MSMEs that are under financial stress besides helping their cash flow situation. “The Indian machine tools industry expects a growth of around 8-10%, primarily driven by infrastructure spending and investments in emerging and champion sectors,” Ravi Raghavan, Vice President, IMTMA told Financial Express Online.

*Courtesy: Financial Express*



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## Sanco Dies & Moulds sets up a world-class tool room in Pune, D. K. Sharma inaugurates the facility

**SANCO** Dies & Moulds inaugurated their modern tool room facility in Pune on August 11, 2021. The setup exhibited its hi-tech machines in each operational area. True to the company's philosophy 'Passion for Precision', Sanco Dies & Moulds aims to deliver ultra-precision, high-quality dies and moulds to all segments. The inauguration ceremony was followed by an 'Open House' event in collaboration with its technology partners, GF Machining Solutions, Haimer India, and Hexagon Metrology.

Mr. D. K. Sharma, Member-MSME PPP APEX committee, Ministry of MSME, and Past President, TAGMA India, was the Chief Guest of the event. Congratulating Mr. Nandkumar Salunke, MD, Sanco Dies & Mould, Mr. Sharma said, "This tool room is the testimony of the Indian tooling industry. I



am very happy to see the best-in-class facility that Sanco has set up at this prime location. I am sure this will set a great example for the other tool rooms and they will be motivated to embrace the latest technologies."

"The Indian tooling industry has great potential to grow. However, we need to collaborate and work together to increase our share in the global tooling industry. Tool rooms can leverage each other's facility and expertise to earn large quantity orders and enhance

capacity utilization," added Mr. Sharma.

The new tool room setup consists of 3 latest Mikron milling machines, 2 EDM and 1 WEDM all from GF Machining Solutions, Measurement systems CMM, VMM and Scanning Systems from Hexagon. Sanco has chosen Haimer Shrink Fit, Tool Balancing and Tool Pre-setting Technology. All the machines are Industry 4.0 compatible. Haimer Power Clamp Premium i4.0 is for shrink-fitting the tools. TD-Pre-set is a unique machine containing both tool pre-

setting and tool balancing.

Ravi Sane, Business Head, DIJET India, said, "This facility is a result of the passion and dedication of Mr. Salunke. Since day one, he was very clear that he wants to invest in best-in-class technologies and set up a tool room that is at par with global standards. I congratulate Mr. Salunke and his team for this achievement."

The facility also boasts of one 3D-printing machine from Markforged and high-end cutting tool solutions from DIJET.

Mr. Manas Majumder, Country Manager - Sales, Haimer India and Mr. Suresh Peter, National Head - Machine Sales, GF Machining Solutions, believe that Mr. Salunke has chosen the best machines and synchronized them with the best metrology machines from Hexagon to create a self-sufficient tool room.

## HAL signs contract worth INR 5375 crore with GE Aviation, USA, for supply of GE F404 Engines

**HAL** has placed an order of USD 716 million (INR 5375 crore) for 99 F404-GE-IN20 engines and support services with GE Aviation, USA, to power the Tejas Light Combat Aircraft. The contract was recently signed in Bengaluru at the HAL Corporate Office.

"This is largest ever deal and the purchase order placed by HAL for LCA," said Mr. R. Madhavan, CMD, HAL. The company is working closely with GE for its support to pursue the export

potential of LCA and also to supply spares to the global supply chain of GE 404 engines, he added.

Mr. Chris Cyr, Vice President, Business Development & Sales, GE Aviation, who interacted virtually said his company is proud of the 16-year-long partnership with HAL and is happy to extend the relationship with this new order. "The F404 family of engines has proven itself in operations all over the world and we have committed to deliver all 99

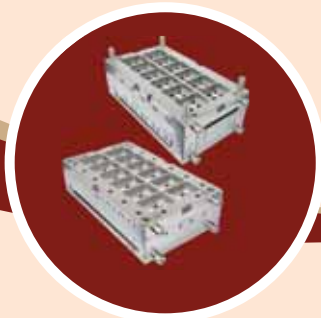
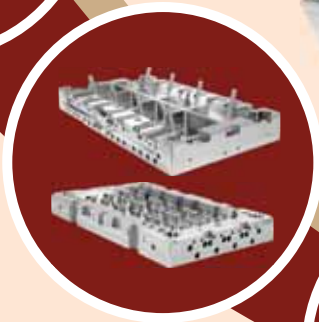
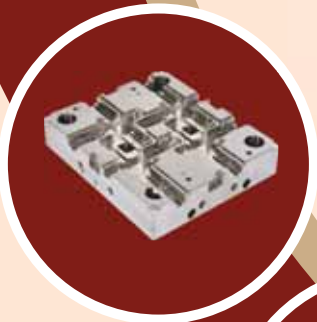
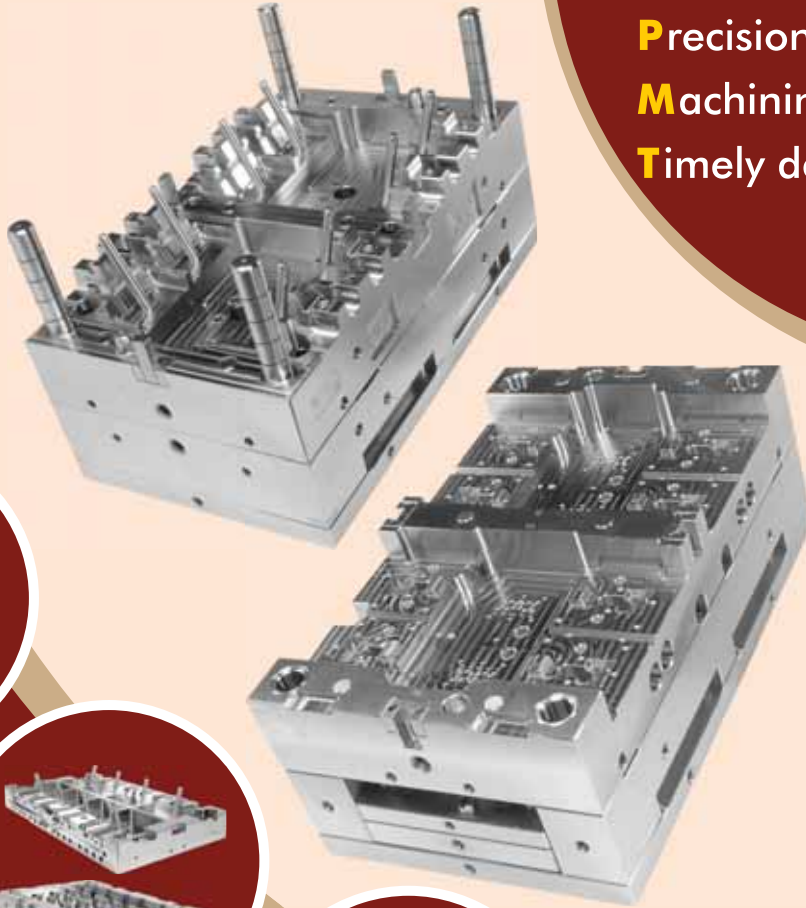
engines and support services by 2029," he added.

The indigenously built Tejas aircraft is one of the best in its class globally, powered by F404-GE-IN20 engines and has been in service since 2004. Ordering of the engines, marks a major milestone in the execution of 83 LCA contract with IAF. The co-operation will be further enhanced with the manufacturing of GE F414 engines in India for the upcoming LCA MkII program.

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# MSMEs' quest for freedom



Graphic courtesy: Envato Elements

Indian Micro, Small and Medium Enterprises (MSMEs) have made major contributions to the economy. Sadly, most MSMEs are still in the micro phase of their development. The MSME sector faces some major challenges with regard to finances, resources, and adoption of technology, to name a few, as a result of which they cannot function efficiently and have low productivity levels. The government and organisations, like the UN and SIDBI, have taken measures to ease the MSMEs' burden. It remains to be seen how MSMEs succeed in freeing themselves from their challenges.

**Kimberley D'Mello**

**M**icro, Small and Medium Enterprises, or MSMEs, as they are universally known as, are "the growth engines of the economy". The sector fosters entrepreneurship and generates many employment opportunities. "The Micro, Small and Medium Enterprises (MSMEs) sector is a major contributor to the socio-economic development of the country. In India, the sector has gained significant importance due to its contribution to the Gross Domestic Product (GDP) of the country and exports. The sector has also contributed immensely with respect to entrepreneurship development, especially in semi-urban and rural areas of India," states the India Brand Equity Foundation on its website, [ibef.org](http://ibef.org). MSMEs also complement large industries as ancillary units.



## How are MSMEs classified?

According to the provisions of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006, Micro, Small and Medium Enterprises are classified into two classes i.e. Manufacturing Enterprises and Service Enterprises. The enterprises are further categorised based on their investment in equipment and annual turnover.

Criteria	Manufacturing		Service	
	Turnover	Investment	Turnover	Investment
Micro	INR 5 crore (US\$ 0.6 million)	Less than INR 25 lakh (US\$ 0.03 million)	INR 5 crore (US\$ 0.6 million)	Less than INR 10 lakh (US\$ 0.01 million)
Small	INR 50 crore (US\$ 6.8 million)	More than INR 25 lakh (US\$ 0.03 million) but less than INR 5 crore (US\$ 0.6 million)	INR 50 crore (US\$ 6.8 million)	More than INR 10 lakh (US\$ 0.01 million) but less than INR 2 crore (US\$ 0.3 million)
Medium	INR 250 crore (US\$ 34 million)	More than INR 5 crore (US\$ 0.6 million), but less than INR 10 crore (US\$ 1.4 million)	INR 250 crore (US\$ 34 million)	More than INR 2 crore (US\$ 0.3 million) but does not exceed INR 5 crore (US\$ 0.6 million)

Source: ibef.org

### MSMEs' contribution to GDP

As per the information received from the Central Statistics Office, Ministry of Statistics & Programme Implementation, "the share of MSME Gross Value Added (GVA) in all-India Gross Domestic Product at current prices (2011-12) for 2018-19 and 2019-20 were 30.5% and 30.0%, respectively. The share of the MSME manufacturing in all-India manufacturing gross value output during 2018-19 and 2019-20 were 36.9% and 36.9%, respectively", revealed a government press release.

As per the information received from the Directorate General of Commercial Intelligence and Statistics, the share of export of specified MSME-related products to all-India exports during 2019-20 and 2020-21 was 49.8% and 49.5%, respectively, added the release.

### Challenges tooling MSMEs face

"MSMEs are the backbone of our economy with capacity to ward off economic shocks and adversities," Pratap Sarangi, a Member of Parliament from Balasore, Odisha, had recently tweeted. Undoubtedly, MSMEs have, over the years, made significant contributions to the economy. But tooling MSMEs have been facing a number of challenges, which have only worsened with the pandemic. Some of the key challenges include:

**'Higher risk category':** MSMEs, as the term suggests, are generally small in size when compared to large enterprises. According to most of the credit models, this factor automatically puts them in the 'higher risk category', irrespective of the number of

years they have been in business, their profit margin or even their payment track record.

**Access to finance:** This factor has been one of the main constraints to the growth of MSMEs. Based on the 'high risk' involved as well as owing to reasons such as small scale of production, lack of formal documentation, unclear credit history, and lack of transparency in audited financial records, among others, MSMEs usually feel it is a big challenge to find willing lenders of money. And, even if they do manage to arrange for the finance, the approval process is long and requires them to offer movable property as collateral. Added to this hassle is the process of collating the long list of documents.

**Delayed payments:** Quite a few MSMEs are ancillary units, which cater to the needs of large industries. MSMEs, very often, face delayed payments. This affects their cash flow and impacts the availability of their working capital. Delayed payments not only increase their operating cycle but also inhibit their ability to fulfil existing orders and bagging new ones.

**Low adoption of technology:** Digitization, automation, robotics, artificial intelligence, etc., have already begun the 'tech invasion' in tool rooms across the world. Many MSMEs in different countries believe these technologies have the potential to overcome many hurdles. Sadly, the adoption rate of technology in Indian tool rooms isn't high. Most Indian toolmakers fear the cost of investing in online technologies is too high, making them an expensive option.

**Lack of skilled labour:** MSMEs need to focus on reskilling and upskilling their workforce. With Industry 4.0 and digital technologies set to make their way into tool rooms, it's important to ensure that demand-driven skill development is on their agenda. Besides, MSMEs need to have on board workers with technical skills, like welders and CNC machine operators, as well as employees with soft skills like those with problem-solving abilities; employees with financial management skills will be a bonus. To reskill the youth, the industry and academic institutions need to work together. "The education system should be reoriented by ensuring greater linkage between academia and industry to make students employable," said M. Venkaiah Naidu, the Vice President of India, while addressing a gathering at the Vel Tech University in Chennai in March 2019.

**Quality issues:** Quality hasn't been a strong point for most tooling MSMEs, reports reveal. To qualify for orders from large firms, MSMEs need to focus on consistency when they manufacture parts, opine industry experts. Failure to manufacture identical parts (in terms of shape and size) has resulted in MSMEs losing out on many good contracts. Toolmakers need to put in more effort on their designing and invest higher amounts in R&D if they want to understand how they can improve on their quality.



### Government's initiatives

In July-August this year, the government announced a slew of initiatives aimed at helping MSMEs. Some of them are:

**Inclusion of retail and wholesale traders as MSMEs:** Minister of MSME and Road Transport and Highways Nitin Gadkari had recently announced the revised guidelines for MSMEs and included retail and wholesale traders as MSMEs. In a tweet he said, "Under the leadership of PM Shri Narendra Modi Ji, we are committed to strengthening of MSME and make them engines for economic growth. The revised guidelines will benefit 2.5 Cr Retail and Wholesale Traders."

Under the revised guidelines, retail and wholesale trade will get the benefit of priority sector lending under RBI guidelines, he said, adding that with the revised guidelines, the retail and wholesale traders will be now be allowed to register on the Udyam Registration Portal.

**Making registration easy:** In a recently issued press release, the Government of India stated that it has simplified the registration process for MSMEs by replacing the Udyog Aadhaar Memorandum (UAM) with Udyam Registration (UR). "UR is free of cost, transparent, online, hassle free and is based on self-declaration. It does not require any documents and has an automatic integration with ITR and GSTIN. During the second wave of the COVID-19 pandemic MSMEs continued to register on the UR Portal," it said.

**Funds to expand and increase capacity:** The Government of India recently announced 'Fund of Funds' with the nomenclature 'Self-Reliant India (SRI) Fund' to infuse INR 50,000 crore as equity funding in those MSMEs, which have the potential and viability to grow and become large units, informed a government press release. "Under this scheme, the total size of fund of INR 50,000 crore has a provision of INR 10,000 crore from the Government of India and INR 40,000 crore leverage through private equity/ venture capital funds. The guidelines of the fund have been issued. This initiative is aimed at providing growth capital to the deserving and eligible units of the MSME sector," stated the press release.

**Loans under CGS:** According to a government press release, new and existing MSMEs, who are engaged in manufacturing or services, including trading activity, are eligible to be covered under

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Credit Guarantee Scheme (CGS) implemented by the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE). "No eligible proposal is denied. Up to June 30, 2021, CGTMSE has approved 53,86,739 guarantees cumulatively for an amount of INR 2,72,007 crore. CGTMSE has reported that guarantee approvals with respect to banks and NBFCs are INR 6,693 crore and INR 6,603 crore, respectively, during the first quarter of Financial Year 2021-22, as against INR 6,041 crore and INR 2,934 crore, respectively, during first quarter of Financial Year 2020-21," it stated.

**Disbursal of loans under ECLGS:** The Emergency Credit Line Guarantee Scheme (ECLGS), which is under the operational domain of the Ministry of Finance, Department of Financial Services (DFS), is a demand-driven scheme, whereby sanctions/disbursements are made by lending institutions based on the assessment of a borrower's requirements and eligibility. The DFS informed that as of July 2, 2021, guarantees have been issued for loans granted to around 1.09 crore MSMEs.

**E-commerce portal to enhance global reach:** The National Small Industries Corporation, a PSU under the Ministry of MSME, has a B2B MSME Global Mart Portal and efforts have been made to further strengthen activities under it, said a government press release. The salient features of the portal include: online registration, web store management, multiple payment options, customer support through call-centres, and enhanced security features. The revenue generation from the portal depends on the portal's membership, informed the press release.

## Ministry's Schemes for MSMEs

The Ministry of MSME implements various schemes and programmes for the growth and development of the MSME Sector in the country. These schemes and programmes include:

- ▶▶ Prime Minister's Employment Generation Programme (PMEGP)
- ▶▶ Scheme of Fund for Regeneration of Traditional Industries (SFURTI)
- ▶▶ A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)
- ▶▶ Interest Subvention Scheme for Incremental Credit to MSMEs
- ▶▶ Credit Guarantee Scheme for Micro and Small Enterprises
- ▶▶ Micro and Small Enterprises Cluster Development Programme (MSE-CDP)
- ▶▶ Credit Linked Capital Subsidy and Technology Upgradation Scheme (CLCS-TUS)

Source: Press Information Bureau, Government of India

## World Bank approves \$500-million program for MSMEs in India

In June this year, the World Bank's Board of Executive Directors approved a \$500-million program to support the Government of India's nationwide initiative to revitalize the MSME sector, which has been heavily impacted by the COVID-19 crisis. The program targets improvements in the performance of 555,000 MSMEs and is expected to mobilize financing of \$15.5 billion, as part of the government's \$3.4 billion MSME Competitiveness – A Post-COVID Resilience and Recovery Programme, informed a press release issued by World Bank.

The \$500-million Raising and Accelerating Micro, Small and Medium Enterprise (MSME) Performance (RAMP) Program is the World Bank's second intervention in this sector, the first being the \$750 million MSME Emergency Response Program, approved in July 2020 to address the immediate liquidity and credit needs of millions of viable MSMEs severely impacted by the ongoing COVID-19 pandemic. To date, 5 million firms have accessed finance from the government program. Currently, the World Bank's financing towards improving the productivity and financial viability of the MSME sector amounts to \$1.25 billion over the past year, it added.

The press release stated that having supported the immediate liquidity and credit needs of viable MSMEs in the first phase, the RAMP Program will support the Government of India's efforts to increase MSME productivity and financing in the economic recovery phase, crowd in private sector financing in the medium term, and tackle long-standing financial sector issues that are holding back the growth of the MSME sector. "The MSME sector, a critical backbone of India's economy, has been hard hit by the COVID-19 pandemic," said Junaid Ahmad, World Bank Country Director in India. "The RAMP program will intensify efforts to support firms to return to pre-crisis production and employment levels, while laying the foundations for longer-term productivity-driven growth and generation of much-needed jobs in the MSME sector."

## SIDBI's contributions

Small Industries Development Bank of India (SIDBI), which aids in the promotion, financing and development of MSMEs, launched various Initiatives focused on cluster development under its developmental ambit. It has been supporting MSMEs through its focused cluster development initiatives such as support for technology



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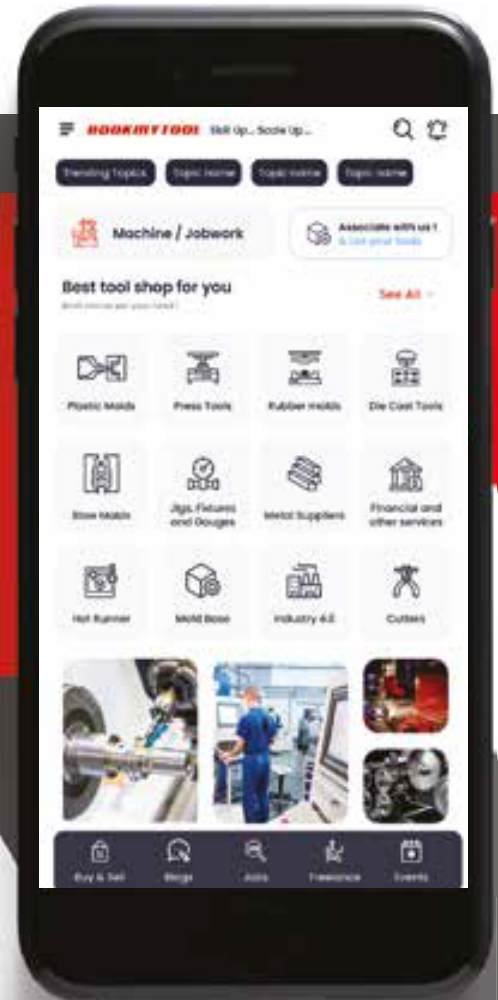
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## Did you know?

- ▶ **The General Assembly declared 27 June Micro-, Small and Medium-sized Enterprises Day, to raise public awareness of their contribution to sustainable development and the global economy.**
- ▶ **In 2021, the theme was 'MSME 2021: Key to an inclusive and sustainable recovery'.**
- ▶ **Formal and informal MSMEs make up over 90% of all firms and account, on average, for 70% of total employment and 50% of GDP.**

Source: un.org

upgradation/modernization, skilling/re-skilling/up-skilling and market linkages.

SIDBI's Cluster Development Strategy has evolved over time. Now, it caters to more than 600 MSME clusters through its offices and supports the entire value chain (Micro Finance, Missing Middle and Small and Medium Enterprises). "Some of the unique engagements in clusters include: EU Switch Asia in 18 clusters of 9 states, cluster outreach program followed by setting up of Project management Unit (PMU) in 11 states with thrust on clusters and state cooperation, State Rural Livelihood Missions (SRLM), artisanal cluster and engagement in One District One Product (ODOP) districts of Uttar Pradesh," explained a press release issued by SIDBI.

Sivasubramanian Ramann, Chairman and Managing Director, SIDBI said, "SIDBI has identified a multi-

pronged strategy to impact local, regional, national and global value chains through MSE clusters. We are giving a thrust to hard infrastructure support to state governments. DFS GoI and Reserve Bank of India have supported us in setting up the SIDBI Cluster Development Fund. The soft infrastructure engagement shall complement the hard infrastructure. In line with cluster experts, we have initiated the mapping exercise of 100 clusters such that the implementation by SIDBI and other institutions can lead to sustainable growth of clusters."

### Time to look forward

"When we least expect it, life sets us a challenge to test our courage and willingness to change; at such a moment, there is no point in pretending that nothing has happened or in saying that we are not yet ready. The challenge will not wait. Life does not look back," reads an insightful passage in 'The Devil and Miss Prym' by Paulo Coelho.

Likewise, MSMEs, too, can overcome the challenges that come their way. A little help from the policymakers and the government can help MSMEs better understand how to optimally use their limited manpower and resources.

However, MSMEs also need to make an effort to help themselves. For instance, by educating themselves about the latest developments in technology and world-class best practices or even by upgrading their employees' skills and infrastructure. Such initiatives will not only empower MSMEs but also can put them in a better position to deal with their competitors worldwide. 🌈

## Indian Tool Room Industry Analysis January 2020

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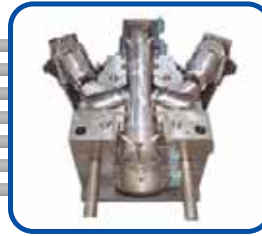
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# ‘Indian toolmakers need to work on developing their capacity and capability’



**“While the policy aspects and interventions by the government will be ensured to a large extent, toolmakers need to intrinsically figure out what they need to work on to become more competitive,” says **Vinamra Mishra**, Director (Technical & Projects), Ministry of Micro, Small and Medium Enterprises.**

**Q The ongoing pandemic has impacted the global economy, including India. How would you describe the present state of the Indian manufacturing sector? What role do you think will MSMEs play in the development of the Indian economy?**

The pandemic has impacted the whole world. It has been very challenging for governments and businesses the world over. Recently, I attended

the Asian European MSME Summit, where the experts were of the opinion that during 2021-2025, the Asian economies will be more likely to progress at a faster pace as compared to their European and American counterparts. The Asian subcontinent is expected to rebound in the most robust way compared to any other continent with India being at the centre of this growth spurt. This is going to create a huge opportunity for Indian companies.

For years, MSMEs have played a crucial role in a country’s development. In India, MSMEs are considered the growth engines of the Indian economy. As per reports, we have more than 60 million MSMEs operating in India, which contribute approximately 30% to India’s overall GDP. They also contribute to approximately 45% of the overall exports from India and employ at least 120 million people, which is second only to the agriculture sector. The Government of India has set a target of ensuring that MSMEs contribute more than 50% to India’s GDP and offer at least 150 million jobs over the next 5 years, which is very encouraging.

Indian MSMEs have taken a big hit during the pandemic. However, with the various schemes and government interventions, the access to finance, marketing, technology and infrastructure will get better. I foresee good opportunities for Indian MSMEs and tooling industries in the coming days. Currently, the contribution of the manufacturing industry to the Indian GDP is about 15%; we expect this to increase to 25% by 2025. This is definitely good news for manufacturing MSMEs.

**Q How can MSMEs gear up for this huge growth spurt?**

Before I answer this question, we need to understand what scenarios are going to improve. Our indigenous production will enhance, our exports will grow and imports will reduce, we will



# Tool Talk

have better R&D facilities, and definitely more employment opportunities. So, the impact on the entire industry will be positive.

But first, we, as a country, need to collectively work on certain things. Like, for example, the government needs to focus on making the policies more business-friendly. There has been considerable progress in recent time, but we still need some more corrective measures in place. For example, tool rooms need to invest in R&D, they need to aim to become experts in certain processes/technologies, they need to enhance their design capabilities, and work collaboratively in order to reduce the imports.

**Q In recent times, we seem to have been witnessing growth in all the sectors, but are still facing challenges with regard to skill development, infrastructure, adequate availability of finance, etc. What initiatives has the government undertaken to help the tooling industry grow?**

Countries with a strong automotive industry are usually leaders in the tooling industry as well. India, however, is an exception. There is a lot of work going on in the Indian automotive sector but the tooling companies need to rise to the occasion and grab the opportunities. The Indian tooling industry also faces issues related to finance, infrastructure, availability of skilled manpower, etc. But these issues can be resolved by toolmakers. All they need to do is put in efforts. However, what toolmakers cannot resolve are issues related to policy because that is what the government needs to address.

Policy-wise, I think, there is a major irony. On the one hand, we want to make the tooling industry export oriented but on the other hand, we are still offering waivers and duty-free imports of tools. This is making the situation very challenging for domestic toolmakers. Another challenge is that of the high import duty on some critical raw materials and machines. We have a system where it is easy to import tools, but there are high taxes on imports of tool steel and 5-axis CNC machines, which are key for tool manufacturers. The policy needs to be amended in these cases.

However, I can assure you that some serious work is going on to make the policies business-friendly for all SMEs, including tooling suppliers. For instance, when it comes to finance, the Government of India has come up with quite a

**“Countries with a strong automotive industry are usually leaders in the tooling industry as well. India, however, is an exception. There is a lot of work going on in the Indian automotive sector but the tooling companies need to rise to the occasion and grab the opportunities.”**

few schemes, policies and programs, which are helpful for SMEs. These include:

- ▶ Credit link capital subsidy scheme, which helps companies purchase state-of-the-art machinery with 15% of subsidies. This scheme has been helpful for many companies. As per the clause, this scheme was supposed to be discontinued in 2021. However, at the ministry level, we are clear that this is a great scheme for companies to get access to the latest technologies. So, we are in the process of revamping it with more capital and might increase the 15% barrier to 20% or 25%.
- ▶ Another good initiative is Trade Receivables Discounting System (TReDS) platform. This platform ensures timely payment for the smaller players.
- ▶ Also, Emergency Credit Line Guarantee Scheme (ECLGS) is a great scheme, which has now come under the ambit of the Ministry of MSME from the Ministry of Finance. During the pandemic, there were a lot of defaults. The ECLGS scheme is promising close to 100% repayment in case of a default. There are many such good schemes and companies need to be aware of them to reap their benefits.
- ▶ For skill development, government tool rooms have been set up in various parts of the country. They are equipped with the latest machines and technologies. Various skill development programs are conducted at these centres.

**Q Among other initiatives, the government is setting up technology centres for MSMEs. What is the ministry doing to increase its intervention in private technology centres and tool rooms?**

Around 18 MSME tool rooms were set up in various parts of the country between 1969 and 1999 with the goal to help the Indian tooling fraternity get access to the latest technologies and develop skilled manpower. These technology centres have played a significant role in the development of the Indian tooling industry. However, looking at the demand and size of our industry, we needed more. So, we started working closely with the

## We are in the advanced stages of finalising about 10 locations for big technology centres, which will be set up with a budget of around INR 200 crore.

World Bank and, in 2014, we got approval for 20 new technology centres under the TCSP Program.

To ensure maximum reach, the government instead planned to launch 100 small technology centres that will work as an extension of these 20 technology centres. This is going to be the game changer, as once these tech centres are in place, they will give access to a larger audience.

Also, we understand that in order to succeed in this initiative, there is greater need for the participation of private players. So, we have planned to implement these technology centres in PPP mode. It will be a great opportunity for private players and government tool rooms to learn from each other and leverage on each other's strengths.

We are in the advanced stages of finalising about 10 locations, which will be set up with a budget of around INR 200 crore. These are going to be big technology centres, which will be focused on futuristic technologies such as industry 4.0, AR, VR and all the other modern machines and technologies. This will immensely help the industry. I welcome all toolmakers to work closely with MSME tool rooms.

### **Q That's very informative! Could you explain how these technology centres will help the industry?**

Merely having 20-odd technology centres is not sufficient for a country like ours. We need at least 100 technology centres. Only then will we be able to reach out to every corner of the country. With more technology centres, access to manufacturing technology and skilled manpower will increase, which will vastly benefit Indian tool rooms.

The technology centres can be utilised by tool rooms. This means that companies, which do not have access to the required technology

in their own tool rooms, can get access to the technologies they need to carry out their projects in these technology centres. Also, a prime agenda of these technology centres is skill development. So, a higher number of tech centres are more likely to ensure a high number of skilled manpower in the country.

### **Q In what ways could there be a collaboration between MSME tool rooms and private tool rooms?**

While the final policies are yet to be finalised, I can say for sure that we are going to invite an expression of interest from private partners. But first, we would like to understand what exactly they plan to offer. Do they intend to offer capital investment, or a built-up area where the extension centres could be set up, or operational or maintenance assistance? Once we understand their interest, we can accordingly form PPP agreements with them. However, one thing is clear: we definitely want to engage more with private players.

### **Q What would you suggest to the Indian tool and mould fraternity?**

The tooling industry is considered to be the "mother" of manufacturing industries. In order to build a robust manufacturing industry, we first need to have a competitive tooling industry in place. Indian toolmakers need to work on developing their capacity and capability.

While the policy aspects and interventions by the government will be ensured to a large extent, toolmakers need to intrinsically figure out what they need to work on to become more competitive. I believe one aspect they definitely need to work on is quality.

They also need to work on the efficiency of the processes. Energy efficiency is something, which is usually ignored. But it comprises about 30% to 40% of the entire expenditure. So, I think, energy efficiency must be looked into. Besides this, toolmakers must also consider diversifying. We are seeing incredible growth in various sectors. It would be worth venturing into those industries.

In the past few years, the Indian tooling industry has witnessed remarkable growth. Many companies have started exporting and many are investing in the latest technologies to be at par with global tool rooms. I am very positive about the growth of the Indian tooling industry. 🌈

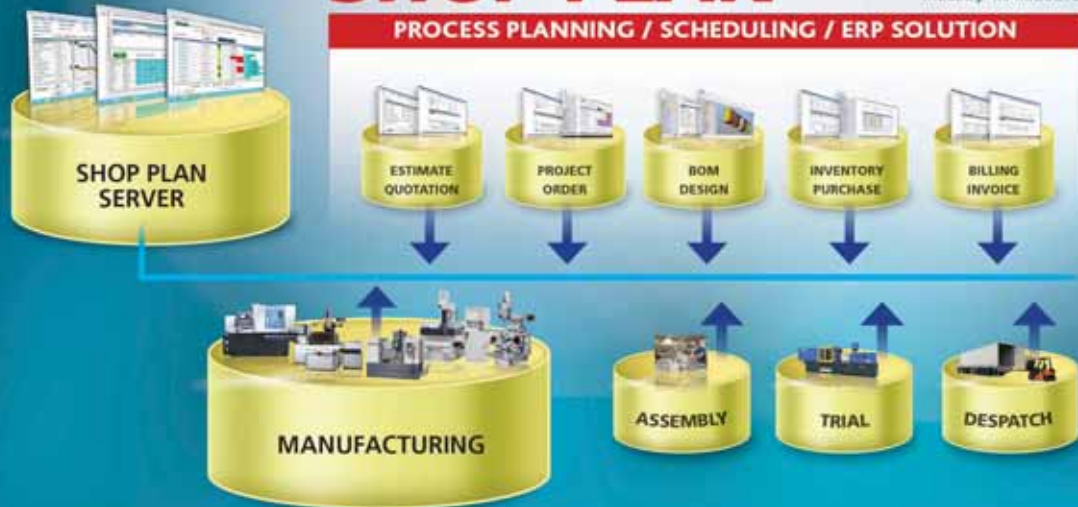
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# Stumbling blocks to MSMEs' growth

**Micro, Small and Medium Enterprises (MSMEs) have made macro contributions to the Indian economy. In spite of their significance, they are forced to deal with several challenges impeding their growth. Entrepreneurs share their views on what could be done to create a win-win situation for all.**



**Arvind Chawla,**  
Managing Director,  
Zahoransky Moulds and Machines Pvt. Ltd.

"MSMEs are the backbone of a nation. Every nation's manufacturing output, exports and GDP are directly proportional to health of their MSMEs. Tooling MSMEs have been facing many challenges like lack of proper infrastructure, unavailability of easy loans or quick finance to counter bad payment terms of customers, upgradation of technologies, unavailability of skilled labour, and lack of investment towards R&D. With the pandemic, they face the threat of losing business. Many successful industries closed, as the requirements changed. While sectors related to medical and hygiene care witnessed additional growth opportunities, a majority of MSMEs are still bearing the brunt of raw material price increase, unavailability of skilled workforce, additional burden of handling Corona safety precautions, logistics issues, and uncertainty or no continuity of new orders. Various measures have been taken to revive the MSME sector. But I feel that the government must do something about the people who need to pay the salaries to their staff without work. For example, the government could support MSMEs by contributing 50% of the salaries of workers, especially those who have returned home due to no work opportunities. Doing so, will really help MSMEs and all those working in the sector."

## One Q, Many Views



**C. H. Balan,**  
Managing Director,  
Precision Punch & Dies and  
Kalyani Mould Base Pvt Ltd.

“MSMEs lend significant support to the economy as well as OEMs. In fact, all OEMs need MSMEs’ support to function. Even though MSMEs play such a crucial role, they are often neglected by several companies and are not paid on time. The ongoing pandemic has worsened the situation, as cash flow has become one of the biggest challenges MSMEs are currently facing. There are business opportunities, but MSMEs need to be paid on time. Indian OEMs need to trust their domestic suppliers. It’s only then that we will be able to grow, and OEMs will be able to reduce their costs. If OEMs and MSMEs jointly work we can considerably reduce the imports. It will help OEMs in reducing their product development cost & time while helping suppliers with good business which will help them compete in the global market. Another challenge MSMEs are facing is related to raw material procurement. Most of the quality raw materials are imported, and we face high duties for the same. It becomes challenging for us to maintain the cost. However, I also feel there has been good development over the past few years and things have become better than before.”



**D Ravi,**  
Managing Director,  
Classic Dies & Moulds

“MSMEs and mould makers are sandwiched between OEMs and raw material vendors. Our customers and suppliers comprise big corporates, and so, our customers need to pay us on time and suppliers should not increase the cost so much. It becomes very difficult for small companies to survive. Many OEMs have an agreement with overseas companies to increase the price on a y-o-y basis, but, with Indian companies, even for 5 years, they want to retain the same price. Apart from this, MSMEs also face challenges related to infrastructure and availability of skilled manpower. Also, in the past couple of years, the logistics’ costs have increased drastically.”



**Jiten Shah,**  
Managing Director,  
Ashna Enterprise

“MSMEs are the backbone of India’s economy and play a major role in its growth. In fact, I would say they are the lifeline of the Indian economy. When it comes to challenges faced by MSMEs, specifically talking about the tooling industry, I would say that the tooling industry is highly capital intensive. Also, the turnover is directly propositional to the investment you make. So, the availability of adequate finance becomes very important. Another challenge is that the industry demands skilled manpower and getting skilled manpower is highly difficult in the industry. Also, retaining them poses a big challenge. In my opinion, having a cluster and common facility would be highly beneficial for the development of the tooling industry.”



**Vineet Seth,**  
Managing Director,  
Mastercam India Pvt. Ltd.

“MSMEs are truly the backbone of our manufacturing industry. Amongst the many challenges this sector faces, some of the most prominent ones are to do with financing, training and technology gap, and industry-ready manpower. Skill development initiatives, setting up of multiple Centres of Excellence in Technology services, and enabling simpler, accessible financing, will go a long way in strengthening MSMEs.”



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# Vision for a better TOMORROW!

On August 15, 2021, India celebrated its 75<sup>th</sup> Independence Day. On the occasion of “the Amrit Mahotsav of freedom”, **Prime Minister Narendra Modi** addressed the country from the iconic Red Fort and shared the government’s plans for India. Here are some excerpts from his speech published on the Press Information Bureau website.

“

#### **On manufacturing in India:**

“Treading ahead on the path of development, India will have to augment both its manufacturing and exports. You have witnessed, just a few days ago, India launched its first indigenous Aircraft Carrier, INS Vikrant, for trial in the sea. Today, India is making its own indigenous fighter aircraft, its own submarine. Gaganyaan is also slated to hoist India’s flag in space. This itself is evidential of our immense capabilities in indigenous manufacturing.”

“The country has also announced Production Linked Incentive to consolidate our ‘Make in India’ campaign in the wake of the new economic conditions that have emerged due to Corona. The electronic manufacturing sector stands as an example of the change that is enforced through this scheme. Seven years ago, we used to import mobile phones worth about eight billion dollars. However now, the import has reduced considerably, and today, we are also exporting mobile phones worth three billion dollars.”

”

# 75<sup>th</sup> Independence Day

“

“Today, when our manufacturing sector is gaining momentum, our focus should be that whatever we make in India should be of the highest quality standards so that we sustain in the global competition. Rather, if possible, we should aim at going a step ahead and take proactive steps to prepare ourselves for the global market. We have to target that. I want to say emphatically to all the manufacturers of the country, that you should never forget that the product you sell overseas is not just a product made by your company, it is the identity of our nation, India's prestige and the faith of all the citizens of our country.”

“That is why I tell all our manufacturers that each of your products is a brand ambassador of India. When someone will buy and use your product, the customer should say with pride: “Now, this is Made in India”. That's the mindset we need. You all should now aspire to win over the global market. The government is fully with you in realising this dream.”

”

“

## On start-ups:

“Today, several new start-ups are being formed in different sectors of the country and even in smaller tier-2, tier-3 cities of the country. They also have a big role to play in getting entry of their Indian products into the inter-state market. The government stands with all its might, with these start-ups. Whether it is giving them financial help, cash discounts, rules simplification for them, the government is fully with them. We have seen that thousands of new start-ups have emerged in this difficult period of Corona. They are moving forward with great success. Yesteryear's start-ups are becoming today's unicorns. Their market value is reaching thousands of crores of rupees.”

“These are new types of wealth creators in our country today. They are standing on their feet with the power of their unique ideas, moving ahead and walking with the dream of conquering the world. They are new kinds of wealth creators. They are moving by the force of their unique ideas and a dream to win over the world. In this decade, we need to relentlessly work towards making India's start-ups and the start-up ecosystem the best in the whole world.”

”

“

## On ease of doing business:

“Freedom from the clutches of unnecessary laws is very important for both ease of living as well as ease of doing business. Our country's industries and businesses are experiencing this change today.”

”

Images Courtesy: Press Information Bureau





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# Five-axis machining lifts shop's part productivity and quality

Coldwater, Michigan-based Sport Truck USA (Sport Truck), a division of Fox Factory Holding Corp., knows a thing or two about automotive suspensions. Since 1991, the shop's been designing, manufacturing, marketing and distributing high-quality aftermarket off-road suspension components, such as lift kits, for pickup trucks and 4x4s through its family of brands that includes BDS Suspension, Zone Offroad Products, JKS Manufacturing and 4x4 Posi-Lok. But as consumer demand grows for suspension lift kits for today's newer, more sophisticated models, so too does the need for more complicated parts necessary for those kits.

**A** key part Sport Truck makes for its lift kits is the steering knuckle, which also happens to be the most complex component and one that takes the longest to make. The part is critical because it keeps a vehicle's upper A-arm in the stock location while being lifted – and

the quality and supply of knuckles are critical to the shop's continued success.

At one point in its manufacturing operations' history, Sport Truck machined some knuckles on one of its 4-axis horizontal machining centers and outsourced the production of the rest overseas. But quality and lead time issues forced most of the knuckle machining production back in-house at Sport Truck, according to Design Manager Jared Ball.

"Today, we machine most knuckles in-house so we can control the quality to our high standards," Ball said.

"When we outsourced, and performed our quality testing, we were finding only about 80% of the finished product met our standards. The fit of the knuckles is critical to the overall performance of our kits and to meeting customer expectations, so how they're machined is equally as critical."

## The Challenge

But more manufacturing change was on the horizon for Sport Truck in 2015. That's when the shop received a project for the new model year Ford F150 pickup truck, and the vehicle's new design required a more complex knuckle, in particular, one with a compound-angle design.

"We asked ourselves if there was a different, more efficient way to make the part," Ball



The VARIAXIS i-800 vertical machining center.

# Case Study

explained. “That’s when we began our search for a machine technology that could do more and give us higher levels of efficiency to produce those complex parts in fewer operations.”

## The Solution

As a satisfied, long-time Mazak customer, it didn’t take long for Sport Truck to contact its Mazak distributor, Addy Machinery, to help identify a solution. The shop knew it wanted an easy-to-use machine that would combine operations and reduce setup times so the shop could quickly and efficiently deliver products to market faster and keep up with the trend of more sophisticated – and frequent – vehicle suspension design changes.

That solution turned out to be a Mazak VARIAXIS i-800 5-axis Vertical Machining Center with rotary/tilt table and 50 taper spindle. It was perfect for the shop because of its advanced multiple-surface, simultaneous machining capabilities that include milling, drilling and tapping – ideal for the knuckles’ profiled surfaces. As a result, the shop was able to eliminate three operations, reduce production lead times, improve machining accuracy and lower operating expenses.

“We were already using the 4-axis Mazak HCN-6000 Horizontal Machining Center,” said Ball. “One of the good things about it is that it’s the same machine that our other suppliers use when they make parts for us. And it’s the reason we got the 5-axis VARIAXIS – we already trusted Mazak machines and knew they’re reliable and user friendly in addition to being able to make quality parts.

The shop saw immediate boosts in production efficiency and accuracy. According to Ball, competitors were using a horizontal plane, three chuckings, and multiple operations to produce a single knuckle. On its VARIAXIS i-800, Sport Truck now machines the same part, completed and ready-to-ship, in one setup made possible by Mazak’s DONE IN ONE® technology. Operators only touch parts twice – once to load and again to unload – as opposed to moving parts around the shop to multiple workstations.

“For us, this is a huge deal. I’ve been on the technical support side in the years I’ve been at Sport Truck, and something you never, ever want to hear from a customer is that a part isn’t meeting their expectations,” said Ball. “One of the things about Mazak machines, and the VARIAXIS i-800 in particular, is that they can make the same identical part every single time, without quality issues, which results in a better customer experience.”

The machine also features extra tooling capacity for longer unattended operation. Its higher feed and speed capabilities generate smooth surface finishes, while a high-pressure coolant system helps extend tool life.

When paired with an optional two-pallet changer, the machine provides additional unmanned operations and off-cycle part setup. This simple, efficient form of automation allows the shop to load, unload and inspect parts on one pallet while the machine works on the other. The machine’s MAZATROL SmoothX CNC offers easy 5-axis programming and, according to Ball, the control’s touch-screen functionality linking program, process list and 3D tool path display enables him to take 3D models of the fixturing and use the screen to easily program the job.

## The End Result

Sport Truck began in 1982 as a retail store specializing in lifted suspensions. Through a series of acquisitions over the next few years, the company broadened its product offerings until, in 1994, it began focusing solely on suspension products. The shop prides itself in making high-quality parts and backs them up with one of the industry’s best customer care programs.

Today, the employee-owned company has around 275 workers. The shop’s production operations include machining, laser cutting, sheet metal fabricating, CNC robotic welding and manual welding. For its suspension kits, the shop produces, in addition to the knuckles, control arms and shock bodies.

“The biggest thing in our business is being first to market, so part production cycle time is important. When a new model truck comes out, we want to be the first to get a kit for it out in the market,” said Ball. “Being first to market with a quality kit has driven our business and resulted in consistent growth over the years.”

Ultimately though, he adds, it all comes down to taking care of customers. “If you don’t, they’re not coming back to you – they’ll go to your competitor. The reason our customers keep buying from us is because we make excellent products, they’re confident in our quality and they know they’re getting the best support. It’s a model that has worked for us and one that wouldn’t be possible without our Mazak partnership.” 🌈

*Article courtesy: Copyright © 2021 Mazak Corporation.*

# Future-proof, sustainable and flexible

**Mercedes-Benz plant in Wörth, Germany, sets course for future series production of battery-electric and fuel-cell trucks.**

**S**ustainable, highly flexible and ideally positioned for the future of transport: The Mercedes-Benz plant in Wörth, Germany, is becoming the center for emission-free transport within the Mercedes-Benz truck production network. Management and works council have agreed on a corresponding target picture for the site. Both the parties agreed on key points for the future development and safeguarding of the future of Mercedes-Benz Trucks' largest location. Among other things, this includes the

decision to locate the production of further trucks with CO<sub>2</sub>-neutral drive systems at the Wörth location. In addition to the Mercedes-Benz eActros, which will already go into series production there in October 2021, the production of further Mercedes-Benz zero-emission trucks, such as the eEconic and eActros LongHaul, is also planned for Wörth in the future. Accordingly, Daimler Truck will continue to invest substantially in the location in the coming years — a clear commitment to Germany as a business location and to the Mercedes-Benz plant in Wörth.



Image Courtesy: © 2021 Daimler AG



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“Today, we are laying the foundation for the future of the Mercedes-Benz truck production. The technology shift in our industry towards locally emission-free trucks also implies an immense transition for our locations and production. With the new target picture for the Wörth plant, we are securing the competitiveness and thus, the long-term future of the location: In the future, we want to greatly expand the series production of our electric trucks here and are already creating the conditions for this,” says Sven Gräble, Head of Mercedes-Benz Trucks Operations, responsible for the global production network of Mercedes-Benz Trucks.

Thomas Zwick, Chairman of the Works Council Mercedes-Benz Wörth plant, says: “After intensive negotiations with the management, we agreed on a strong and viable vision for the future of our plant. We have thus succeeded in securing employment and complying with the existing collective agreements. I am proud that the works council has received a commitment to produce the new models in Wörth. We have thus secured the long-term future of the site and can confidently shape the transformation together with the employees. The new products offer many career opportunities and development possibilities.”

The vision for the future of the Mercedes-Benz plant in Wörth is determined in a works agreement with a term until the end of 2029. The details for implementation will be further elaborated between

management and works council in the coming months. Substantial funds will be required for the upcoming transformation of the site, including the conversion of production. The company will continue to invest in the site for this purpose in the coming years; however, the transformation also requires support from the public sector. Accordingly, Daimler Truck AG has submitted an application to the German government as part of the funding for hydrogen and fuel-cell technologies, which also includes the conversion at the Wörth plant. The state government of Rhineland-Palatinate has already signalled its support in the last government declaration.

The decision about the location for trucks with alternative drive systems forms an important pillar of the plant’s new strategic orientation. Sven Gräble says: “Though, we are going even further: Wörth is becoming the hub for the transport of the future in the Mercedes-Benz truck production network. We are bundling our technological know-how with fully flexible and thus, even more efficient production,

**“With the new target picture for the Wörth plant, we are securing the competitiveness and thus, the long-term future of the location: In the future, we want to greatly expand the series production of our electric trucks here and are already creating the conditions for this.”**

**Sven Gräble,  
Head of Mercedes-Benz Trucks Operations, responsible for  
the global production network of Mercedes-Benz Trucks**



and all of this in a CO2-neutral, digitalized factory with corresponding logistics and infrastructure.”

At the German Powertrain sites, the Mercedes-Benz plants in Gaggenau, Mannheim and Kassel, management and works council are also currently engaged in intensive talks on the future orientation of the sites. The talks are already at an advanced stage and an agreement is to be reached as soon as possible.

### **Zero-emission trucks secure long-term capacity utilization and employment at the location**

In its transformation toward CO2-neutral transportation, Daimler Truck is consistently relying on two all-electric drive technologies: Battery and hydrogen-based fuel-cell. With these, every customer application can be covered with full flexibility in terms of routes - from well-plannable, urban distribution to difficult-to-plan, multi-day transports. Which solution is used by the customer depends on the specific application.

As the first battery-electric truck, the Mercedes-Benz eActros for routes in distribution transport will go into series production at the Mercedes-Benz plant in Wörth in October 2021, followed by the eEonic next year. The battery-electric eActros LongHaul for long-haul transport will follow from the middle of the

decade. With the decision to manufacture the zero-emission trucks in Wörth, the company is securing the long-term capacity utilization of the plant and stable employment at the site.

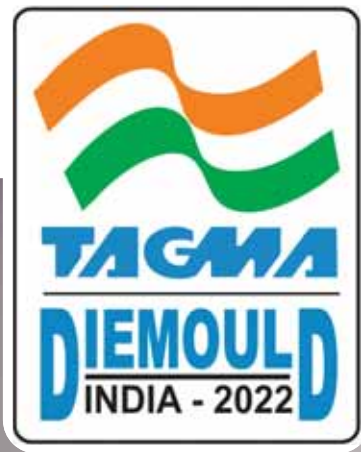
### **Qualification and flexibilization as the key to the future**

New assembly processes are being introduced at the Wörth plant for the production of trucks with alternative drive systems, including the necessary infrastructure. Daimler Truck is thus doing pioneering work for CO2-neutral transport “made in Wörth”. Decisive factors on the way to this goal are both the qualification and further development of the workforce and the greater flexibilization of production. The aim is to prepare the workforce for future tasks. Since 2018, around 2,000 employees have so far gained further qualifications in the handling of high-voltage vehicles and components at the site’s own training and development center in Wörth — and acquired indispensable skills for the assembly of electrically powered trucks.

Highly flexible production will ensure the efficient production of both conventional and zero-emission trucks at the Mercedes-Benz plant in Wörth in the coming years — and thus, the competitiveness of the entire site. The so-called fullflex concept makes it possible to integrate zero-emission trucks into existing production. In this way, the plant is able to



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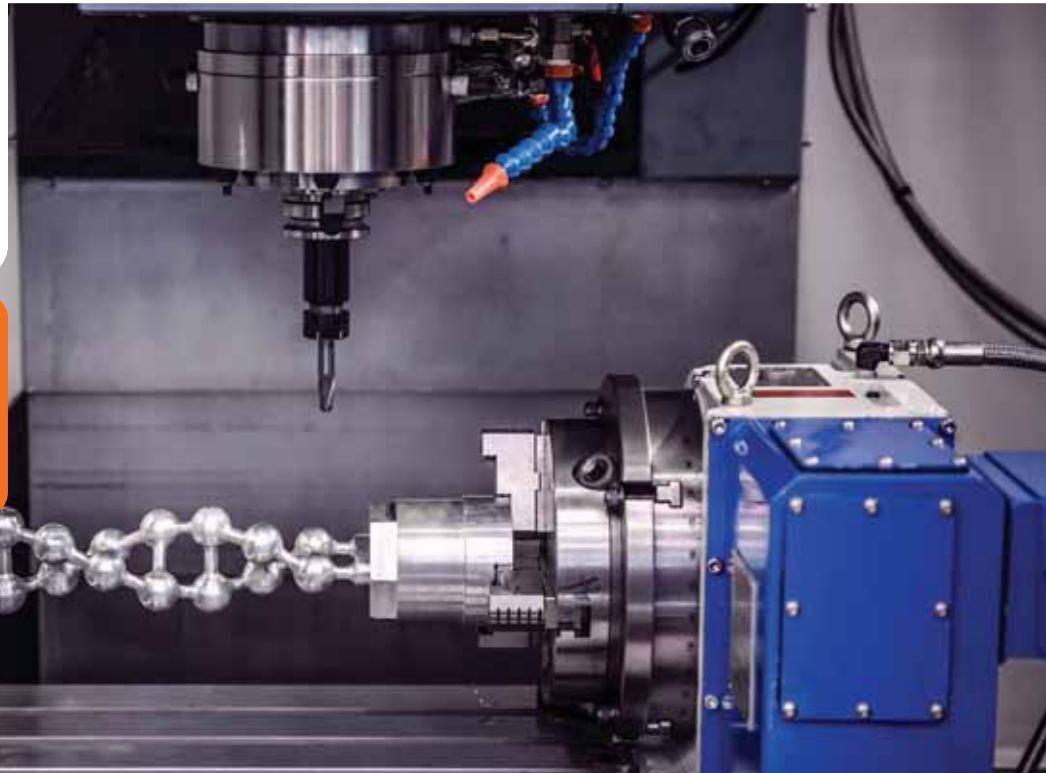


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including production, will be CO2-neutral from 2022, just like all other European Daimler Truck plants. A unique green power concept at Daimler makes it possible, among other things: CO2-free power procurement from renewable energy sources will form the basis for CO2-neutral production. As part of this, the site will obtain electricity from wind and solar farms as well as hydroelectric power plants from 2022 onwards. On the way to becoming a green factory, the Mercedes-Benz plant in Wörth is also to operate CO2-free in the long term by successively establishing a completely renewable energy system over the next few years. The constant improvement of energy efficiency at the plant also plays an important role. One example: In the long term, a central absorption refrigeration system will replace hundreds of decentralized air-conditioning units at the site, using existing heat instead of electricity for air conditioning. Existing buildings and infrastructure are also being completely renovated in terms of energy efficiency, and new, more climate-friendly technologies are being used in production, such as the "Eco Paint Process" in the paint shop.

## About the Mercedes-Benz Wörth plant

The largest truck assembly plant of Mercedes-Benz Trucks was founded in Wörth am Rhein in 1963 and produces the Mercedes-Benz Arocs and Atego trucks – as well as the Actros, the world's most successful heavy-duty truck, for more than 20 years. The Mercedes-Benz special trucks Econic, Unimog and Zetros are also built here. Up to 470 trucks customized according to customer requirements can leave Wörth plant every day. Customers in over 150 countries value the "quality made in Wörth". The location on the Rhine is the center of competence for the global Mercedes-Benz Trucks production network. The Mercedes-Benz plant in Wörth also has more than 50 years of experience in CKD (Completely Knocked Down) production, and delivers vehicle kits to numerous overseas markets for local final assembly – more than 750,000 kits in total until today. With about 10,000 employees, the Mercedes-Benz Wörth plant is the second-largest employer in the state of Rhineland-Palatinate. 🌈

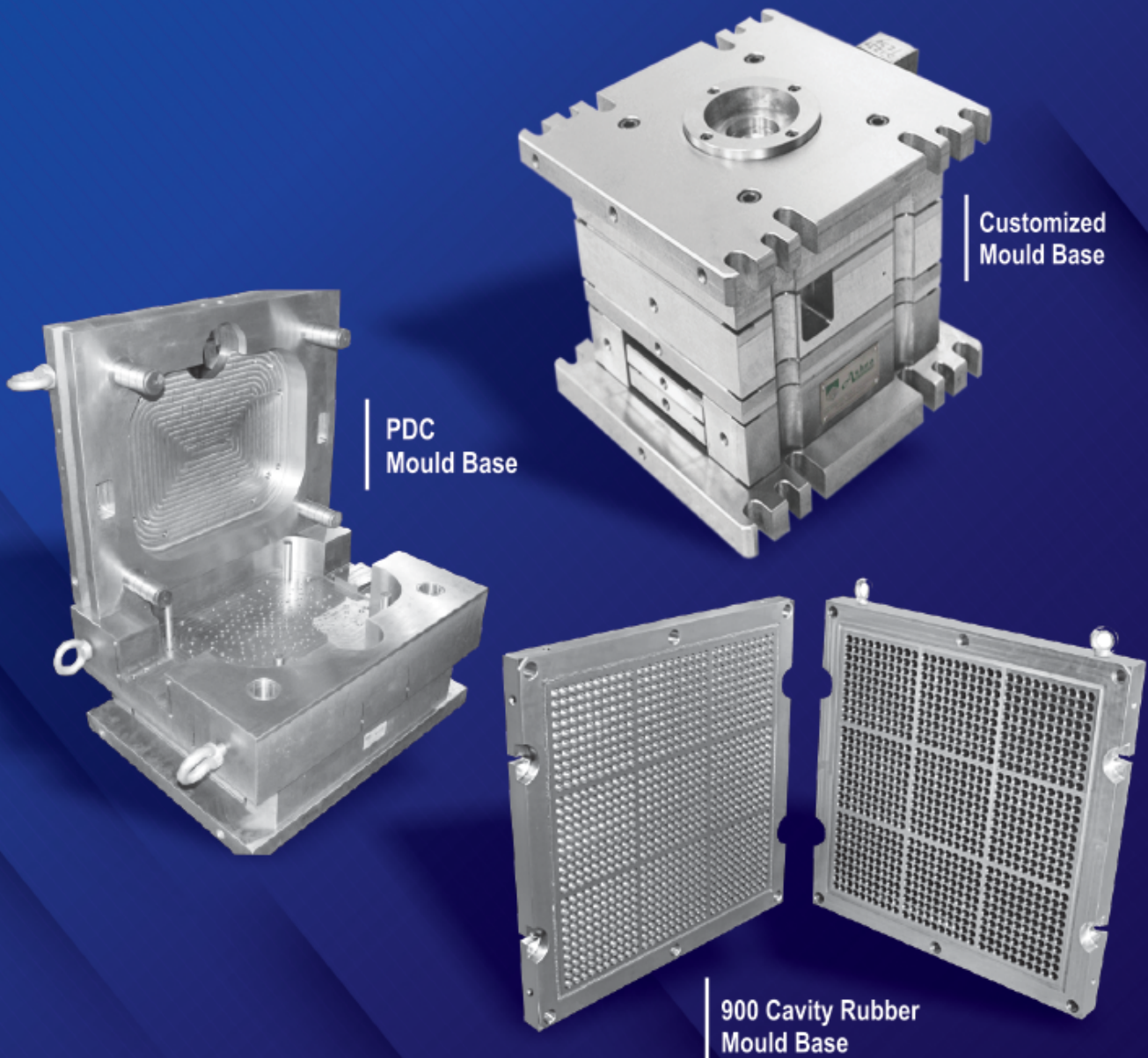
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The graphic features a blue and orange background. At the top left is the TAGMA INDIA logo. To its right, the text reads 'TOOL AND GAUGE MANUFACTURERS ASSOCIATION - INDIA'. Below this, the heading 'Become a TAGMA Member' is followed by a list of steps to join: 'Enrol now, to be part of the Tooling Fraternity by following simple procedure: 1) Fill the online Membership Application 2) Pay requisite fees depending on your company's turnover slab (NEFT details available online)'. Contact information for TAGMA India is provided: 'For any further details (if any) please feel free to contact us on: Email: tagma.mumbai@tagmaindia.org; tagma.diemould@tagmaindia.org Mobile: 9769407809 / 9653427396'. On the right side, there are logos for 'TAGMA DIEMOULD INDIA - 2022', 'TAGMA TIMES', 'TAGMA INTERNATIONAL TOOLING SUMMIT', and 'TAGMA CET'.



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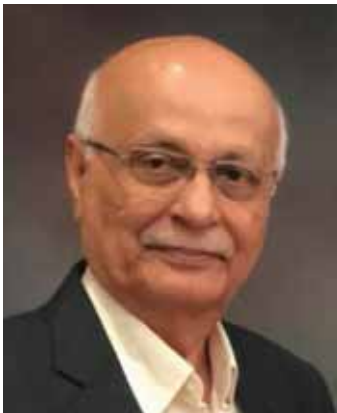
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# Manufacturing industry loses two pioneers

'Life well lived' is the thought that comes to mind when one remembers the significant contributions of **Mr. K. P. Bhansali**, Founder, Anand Mould Steels Pvt. Ltd., and **Mr. Nickunj Shah**, Founder Chairman, Nickunj Group. They were brave, followed their instincts, and made their dreams come true. Their lifetime was defined by inspiring many entrepreneurs and teaching by example. TAGMA Times pays tribute to these two great visionaries.



**Mr. K. P. Bhansali,**  
**Founder,**  
**Anand Mould Steels Pvt. Ltd.**

Mr. K. P. Bhansali, Founder of Anand Mould Steels Pvt. Ltd., passed away on August 5, 2021. The Bhansali family and employees of Anand Mould Steels Pvt. Ltd. are deeply saddened by this loss. Mr. Bhansali laid the foundation of Anand Mould Steels Pvt. Ltd. in 1972. With a drive and desire to lead change, Mr. Bhansali helped shape the Indian die & mould industry with advanced special steel used in the international market. The legendary Mr. Bhansali will always be remembered for his significant contributions to Indian tool rooms. 🌈



**Mr. Nickunj Shah,**  
**Founder Chairman,**  
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Mr. Nickunj Shah, Founder Chairman, Nickunj Group, was a visionary and an innovative genius. He played a critical role in the development of the Indian machine tool and tooling industry. The contributions he made to the transformation of the businesses cannot be measured. He led the company with intelligence, humour, integrity, and passion. Mr. Shah has left behind companies that only he could have built, and his spirit will forever be the guiding beacon for the Nickunj Group and the industry at large. 🌈

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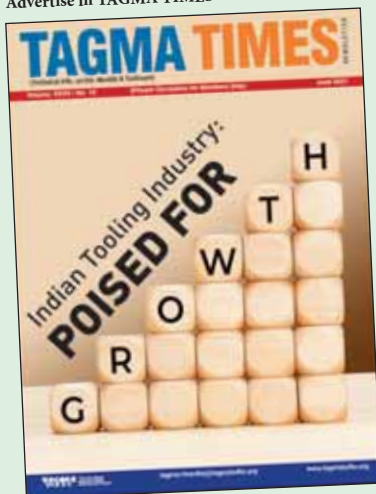
## Advertisers Index

Advertiser .....	Pg. Nos.
AMPCO Metal India Pvt. Ltd.....	55
Ashna Enterprise .....	51
Cad Macro Design & Solutions.....	35
Devu Tools Pvt. Ltd. ....	Back Cover
Dijet Industrial Co. Ltd.....	23
DMI 2022 .....	49
Hasco India Pvt. Ltd.....	17
Kalyani Mould Base Pvt. Ltd .....	13
Lucchini RS .....	11
Madhu Machines & Systems.....	1
Meusburger.....	7
Millutensil SRL .....	5
Mold Masters .....	39
Mould Studio LLP.....	31
PCK Buderus (India) Special Steels Pvt. Ltd.....	3,28,29,30,42,43
Precision Mould Tech .....	19
Precision Punches & Dies.....	27
Purohit Steel India Pvt. Ltd.....	Front Inside Cover
Schimmel Online India Pvt. Ltd .....	25
Schneider Electric India Pvt. Ltd .....	15
Swiss Steel India Private Limited .....	53
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