TAGMA TIMES

NEWSLETTER

(Technical Info. on Die, Moulds & Toolroom)

Volume: XXVII / No. 03 (Private Circulation for Members Only) November 2020

"Tooling industry is like the HEART of the manufacturing industry": Nitin Gadkari

"We have the potential to emerge as a powerful tooling destination"

DK Sharma, President, TAGMA India

Tool Steel Solutions
For Better Life & Dimensional Stability

DON'T WORRY, WE HAVE GOT YOU COVERED.

Quality Steel providers from the world's best manufacturers

Hot & Cold Work Steel

White goods Mould Steel

Automotive Mould Steel

PVC Mould Steel

PUROHIT STEEL
GLOBAL STEEL SOLUTIONS

Phone: 7798815678 / 25678 / 35678

www.purohitsteels.com
info@purohitsteels.com

NLMK Verona BÖHLER DEUTSCHE EDELSTAHLWERKE

EXAFILT™

Hot Runner Filtration Solutions

Goodbye to gate blockage in hot runner molds...!!!

Contact us, and we will propose the best solution for your machine...!

OVER 450 INSTALLATIONS

German unique filter element using 'flight filtration principle'. Suitable for gate diameters from 0.7mm to 3.5mm upto shot weights of 1900g. Filteration levels of 0.25mm, 0.40mm & 0.60mm available. Complete unit with customized machine filter nozzle supplied for optimum performance.

Model No.		EF/0.25	EF/0.4	EF/0.6
Gap size (S)	mm	0.25	0.4	0.6
Gate diameter	mm	0.7 - 1.5	0.7 - 1.5	2 - 3.5
Pressure loss, approx.	%	8	6	4
Total flow opening	mm^2	130	200	300
Injected weight, max.	g	650	1200	1900

MADHU®

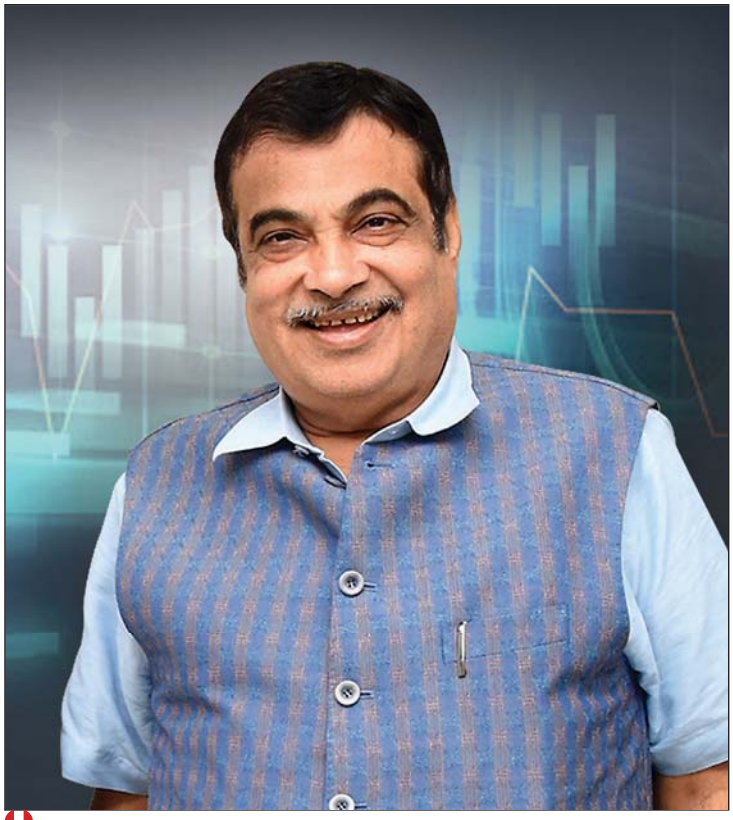
Madhu Machines & Systems Pvt. Ltd.

Registered Office:
Vadodara.
91-265-2353886
info@madhu-group.com

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

SERVING THE PLASTICS INDUSTRY • Since 1984

CONTENTS



Opinions & More

Editorial & Design Team

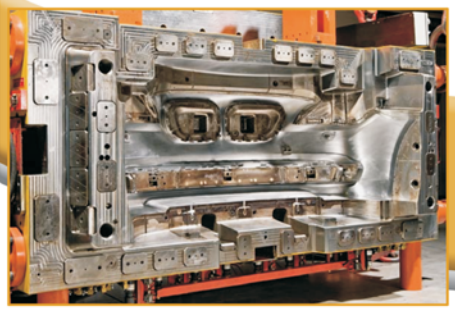
Nishant Kashyap	Kimberley D'Mello	Amol Padhye	Abhijjeet Bhowmik
Editor	Associate Editor	Design & Operations	Sr Technical Writer

PCK-Buderus | Special Steels

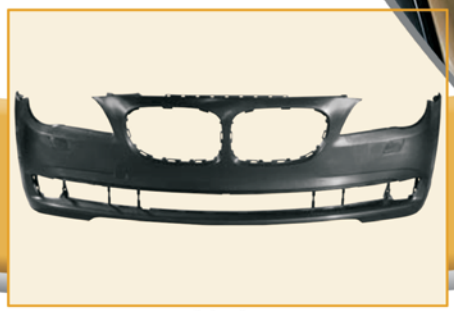
Buderus | Edelstahl

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

TAGMA Executive Council

PRIVATE CIRCULATION FOR MEMBERS ONLY

EXECUTIVE COUNCIL 2017-2020

PRESIDENT

Mr. D. K. Sharma

Godrej & Boyce Mfg. Co. Ltd. (Tooling Divn.) Mumbai - 400 079
Email: president@tagmaindia.org

VICE PRESIDENT

Mr. D. Shanmugasundaram

S & T Engineers (P) Ltd. Coimbatore - 641 005.
Email : shan@stengineers.co.in

MEMBERS

Mr. D. M. Sheregar
Devu Tools Pvt. Ltd. Mumbai - 400 072.
Email: sheregar@devutools.com

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

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

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

CO-OPTED MEMBER

Mr. D. Ravi
Classic Moulds & Dies, Chennai - 600058
Email: ravi@classicmoulds.com

SECRETARIAT

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

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.
Tel.: 022-28526876 / 28508976
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

EDITED & PUBLISHED BY : D. K. SHARMA FOR TAGMA INDIA at A/33, Nand Jyot Indl. Estate, Safed Pool, Mumbai - 400 072.
Tel.: 2852 6876 • 2850 8976 / Cell.: 96534 27396, 97694 07809

THE NEW ART OF TECHNOLOGY

MILLUTENSIL spotting **presses provide the most advanced** technology for testing and proving the quality of your moulds and dies.

System

- ✓ Very high technological standard
- ✓ Best ergonomics
- ✓ Compact room-saving structure
- ✓ Very easy management

Services

- ✓ Ad hoc customer-specific solutions
- ✓ Multilingual professional assistance
- ✓ Special care to design
- ✓ Integrated diagnostic system

Security

- ✓ Maximum work safety
- ✓ Optimal access
- ✓ No dangerous handling of mould and dies
- ✓ Great saving of time and manpower

THE BEST SOLUTION TO VALIDATE YOUR MOULDS AND DIES

TAGMA DIEMOULD INDIA-2021

12th DIE & MOULD INDIA
INTERNATIONAL EXHIBITION
28th April to 01st May 2021
Bombay Exhibition centre, Goregaon, Mumbai, India

NEW! BV 34 PLUS SPOTTING PRESS
size of press plates: 1.500x2.000 mm

MILLUTENSIL®
SINCE 1955

Plant Via delle Industrie, 10
26010 Izano (CR) - Italia
info@millutensil.com
millutensil.com

Office Corso Buenos Aires, 92
20124 Milano - Italia
Tel. +39 02 29404390
Fax +39 02 2046677

There's hope for a promising future

Let me begin by saying that I am a proud toolmaker. I come from the industry that forms the manufacturing sector's backbone. The tooling industry is often referred to as the mother industry because tools, dies, and moulds are the building blocks for manufacturing industries without which the dream of building world-class products would be far from fulfilled.

Late Dr. A.P.J. Abdul Kalam, the former President of India and a world-renowned Space Scientist, while inaugurating TAGMA's 9th edition of Die Mould India Event in 2014, reiterated the importance of the tooling sector in manufacturing with these words: "Dies and moulds, as we all know, are indispensable tools for mass production. We are surrounded by products and services made possible because of this industry, its people, and their passion. Dies and moulds are a cluster of product manufacturing know-how, a critical element for a country hopeful of developing its industrial sector to acquire manufacturing might. As India strives for manufacturing-led growth, it is upon all of us to optimise the opportunities and accelerate growth!"

His words of encouragement are still relevant even after six years.

Critical growth aspects

The Government of India has stated that the Indian manufacturing sector has the potential to reach US$ 1 trillion by 2025 and contribute almost 20% of the total GDP. Over the last few months, the government has announced various production-linked incentives for different manufacturing sectors, which is also a welcome move. However, to fully realise the potential of the Indian manufacturing sector, localisation of the tooling ecosystem would be pivotal. To put things in perspective, all the major manufacturing hubs across the globe boast of an equally strong tooling industry. India, however, is a notable exception.

The whole ecosystem of the industry, including OEMs, Tier-I suppliers, government bodies, and toolmakers, should collectively and cohesively work towards realising an increased share of manufacturing GVA to the economy.

Let me highlight the three aspects that are critical for the growth of our industry:

- What we, toolmakers, can do?
- How our customers or OEMs can support us?
- How policymakers can help us?

What we, toolmakers, can do?

Speaking about toolmakers, I must say that there are tremendous opportunities before us. Of course, the COVID-19 situation poses a challenge, but the future looks promising. The increased focus of the policymakers on the promotion of localised manufacturing through programmes, such as 'Make in India' and 'Atmanirbhar Bharat', will go a long way in achieving the dream of making India a world-class manufacturing destination. At the same time, we must keep an eye on the key areas of improvement.

The current scenario demands a change in how we do business—be it production, sales, marketing, or sourcing. We have to take new routes and adapt to the new normal of the business, including adopting digital technologies, diversifying to other sectors (tooling demand split by end usage indicates >60% is automotive focussed) and carving out new business models, among others.

This pandemic has taught us many things. Going digital is no more an option but a compulsion. For a long time, industry 4.0 and smart manufacturing have been widely talked about; now, it's time to make it a reality. We must adopt futuristic technologies to be able to compete globally. For example, apart from catching up with increased penetration of 5-axis CNC with higher RPM's, Indian tool rooms need to invest in high-speed hybrid cutting tools, laser texturing machines, and upgrade tool designing software.

Skill development is another area of concern. Indian toolmakers/ manufacturing MSMEs must nurture the culture of learning and development in the system. Individuals across domains and hierarchy should be encouraged to learn new digital skills, such as die simulation and virtual tool try-out. Establishing India as a global manufacturing hub is not possible without skilled workforce. I would like to request the tooling fraternity to work together on this. We can join hands and invest in talent development. It will pay in the long run. Also, I would request our industry veterans to share the knowledge they have accumulated over the years with the next generation.

How our customers or OEMs can support us?

As per the tooling report prepared by TAGMA, in association with Nomura Research Institute, roughly 70% of the Indian tooling demand is being met domestically, and the rest from imports. To reduce imports, tool rooms in India are persistent in supporting our customers' endeavours, but we also need to be trusted with similar vigour. As the tooling industry is trying to address some pertinent challenges, we seek OEMs' and Tier 1s' support and handholding to overcome hurdles and meet the requisite quality and cost expectations. We take pride in the fact that we can provide better after-sales-support in a cost-effective manner. Undeniably, the need of the hour is to work more collaboratively and understand each other's expectations.

Since 95% of the toolmakers fall under the MSME sector, I would request our OEMs and other customers to revisit the payment modalities and make it more tool room friendly. Being a capital-intensive sector, the working capital requirement is high for ordering raw material and other standard bought-out parts. With the present tiered payment structure, the proportion of the last instalment tied with tool shipment is sizeable (~40%) and takes approximately six to nine months to realise. This hugely impacts our working capital requirements and leads to delays in paying upfront for raw materials and standard bought-out parts. With limited cash reserves, MSME tool rooms find it challenging to stay afloat in the present scenario. Hence, additional consideration in restructuring payment modalities would be beneficial for tool rooms.

In the past few years, automotive companies have committed to enhancing tooling and component localisation in India. We expect further impetus to this considering the supply chain disruptions caused by the pandemic.

Some of the foreign OEMs, including Japanese and German companies, have already increased the share of localised sourcing of tools. At the same time, we are optimistic and hopeful that the other OEMs would expedite their localisation process and buy more indigenous hardware to strengthen India's tooling industry.

With tool rooms' continuous endeavours to upgrade capacity and capabilities, we have witnessed a positive change in the OEMs' perception of the Indian tool rooms. They are willing to trust the Indian tool rooms and localise to achieve cost benefits. I expect more collaborative work in the future.

Now, the third critical aspect of our business.

How policymakers can help us?

The tooling industry in India is at a crossroads. The manufacturing sector in India is poised to grow significantly in the near future, and the demand for tools will increase in order to support the higher volumes of production. However, whether this demand would be met by domestic toolmakers or imports is dependent on several overarching factors, many of which are external in nature (policy-related) and beyond the control of toolmakers.

As per our research findings, more than 80% of tool rooms have invested in upgrading their manufacturing set-up in the last three years, and more than 50% have invested in skill development of the workforce. This conveys the commitment of tool rooms in doing their bit. However, policy support is needed on various fronts to ensure cost competitiveness in the face of stiff competition from imported moulds and dies. Inverted duty structure and duty-free imports make it difficult for domestic toolmakers to compete on an even footing. For instance, according to primary estimates and the Indian Trade Portal, the import duty on standalone items such as tool steel, mould bases, and hot-runner systems, is higher than the duty on import of finished moulds. Also, preferential trade agreements allow the import of duty-free moulds from some countries, which impacts the business dynamics for domestic tool rooms in India.

Tool rooms in India are also faced with higher financing costs compared to their global counterparts. For instance, the availability of lower interest rates than prime lending rates for tool rooms in Taiwan and China supports the ability to invest in equipment and software for precision tool making. While Indian banks, faced with certain regulatory restrictions on unsecured loans, lead to high collateral guarantee requirements, which MSME tool rooms find challenging to meet. The outcome of such challenges results in slowing tool room investment initiatives in tooling infrastructure and design software. Access to cheaper loans will help the industry take up more significant projects and improve their execution time.

Lack of access to a large pool of skilled labour or an established outsourcing ecosystem that can support tool rooms in manufacturing in a more time-efficient manner are some of the major hurdles to growth and need to be tackled to ensure Indian players get a fair chance to compete at par with global tool rooms.

Other hurdles

Apart from the above-mentioned challenges, there are other major hurdles that need immediate attention. They are:

As stated earlier, it is very challenging and risky for MSMEs to acquire land at a high-interest rate and start a new facility. Many a times, toolmakers do not expand because they don't want to take a huge loan. Government intervention in this matter would be highly appreciated. Some kinds of reform in this, along with dedicated SEZ for the tooling industry, would definitely be encouraging.

- **High duty on some vital equipment, such as CNC 5-axis machine:** While 5-axis machines are fundamental requirements of the tooling business, they are not available in India. Reduction of duties on the above-mentioned item would help us compete better with other countries in bringing down cost and lead time for tooling orders.

Better prospects

Campaigns such as 'Make in India' and 'Atmanirbhar Bharat' are very encouraging. Yet, there needs to be some specific policy reforms aimed at the tools, dies, and moulds sector to help Indian toolmakers and other manufacturing MSMEs. The policy intervention and support directed at tooling industry, in direct proportion, would boost employment opportunities for people and enhance India's manufacturing gross value add.

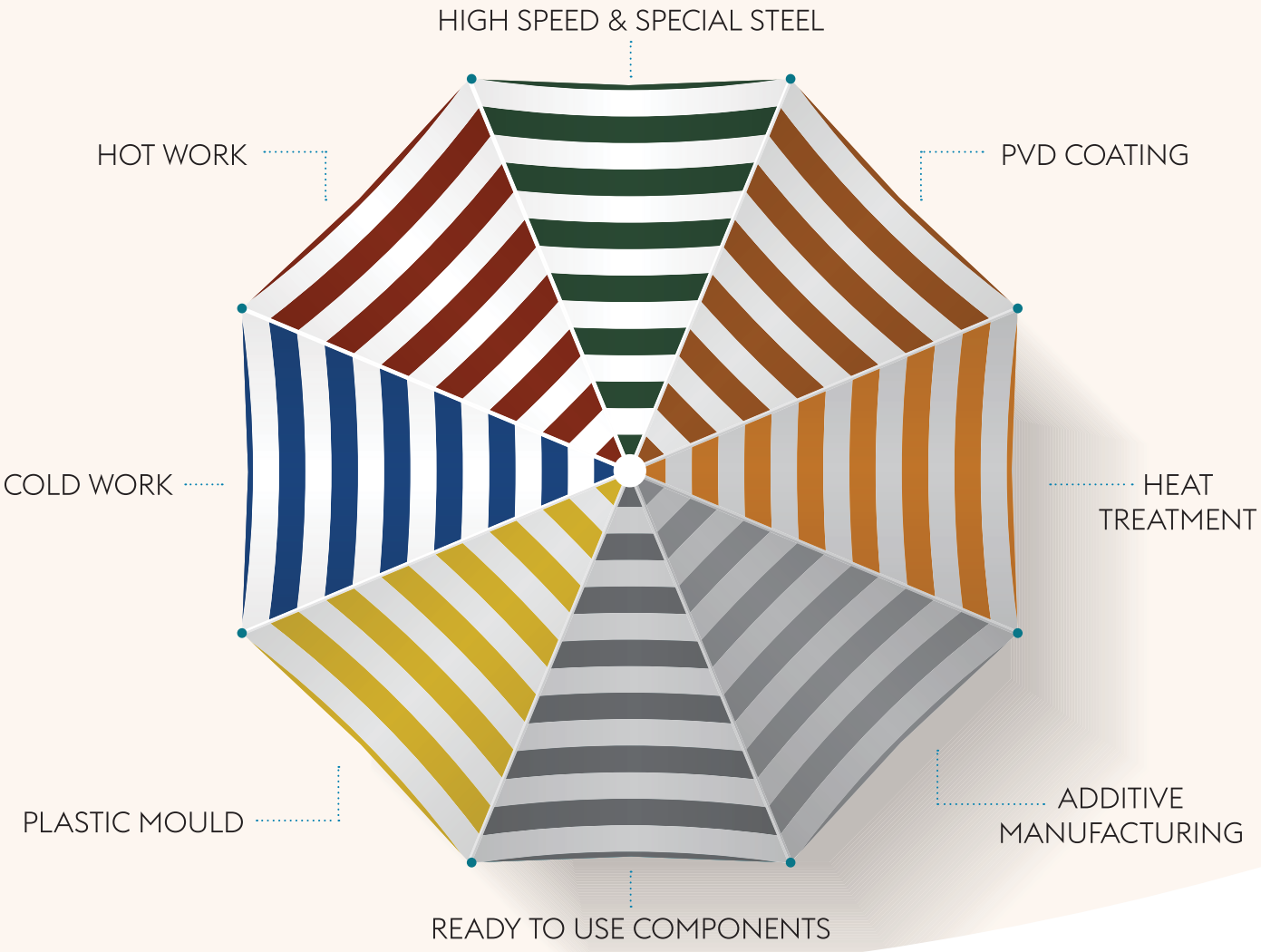
The world of manufacturing has come to the conclusion that they cannot put all their eggs in one basket. China has been the biggest supplier of goods, raw materials, parts, and other components to almost all industries. Now, companies are looking to add suppliers from other countries as well. After speaking with many OEMs and toolmakers, I understand that the Indian manufacturing industry's sentiments are highly optimistic. Manufacturers are bullish about the time to come. The general perception is that once things return to normal, there will be huge demand, and India will emerge as one of the potential alternatives to China, among other emerging countries.

The world is looking at India as not just a significant consumer hub, but also as a cost-economic global export hub by utilising India as a manufacturing base. With proper support from the government and OEMs, I am confident that we can emerge as a powerful tooling destination that not only fulfils domestic demand, but also plays a prominent role in the international market.

D. K. Sharma
President,
TAGMA India

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

Ready To Use Components
- High Performance Core Pins and Sub-inserts

Our Services (Process)

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

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

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

Metallurgical Laboratory
- Highly Experienced Team
- Tool Design Support
- Tool Failure Analysis

* Fulfilled by our world leading brands BÖHLER and UDDEHOLM

Visit our website

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

voestalpine
ONE STEP AHEAD.

EDITORIAL

Projected to grow

'Tooling industry is like the heart of the manufacturing sector'

You will read this quote a few times in this edition of TAGMA Times. Yes, we cannot keep calm, this is what Mr. Nitin Gadkari, Minister for Road Transport & Highways and the Minister of Micro, Small and Medium Enterprises (MSME) in the Government of India said during the inauguration of the first-ever virtual International Tooling Summit.

It was extremely encouraging to learn that the Government of India feels the economic importance of the tooling industry and looking forward to working with private organisations to uplift the condition of the Indian toolmakers. In his speech, the Honourable Minister also invited tooling companies to partner with the government and utilise the Government infrastructure for maximum benefit.

During the event, Mr. Gadkari also released the 'Indian Tooling Report', jointly prepared by Nomura Research Institute and Consulting Solutions India Pvt. Ltd and TAGMA India.

The report highlights the market size of the Indian tooling industry, market trends, end-user expectations, comparison with global counterparts, and the challenges faced by the Indian tool rooms and prospects. According to the report, "The market size of tool room industry in India is estimated to be ~INR 18,000 Cr with ~70% of demand being met domestically and ~30% from imports."

This further highlights the need for technology up-gradation, capacity improvement, skill development, and government interventions to reduce imports.

Reach out to TAGMA India to grab a copy of the report. The recently released tooling report will help you chart out your future strategies.

Also, turn to page 14 to get a sneak peek of the virtual International Summit 2020.

Nishant Kashyap
Editor
nishant@antechmedia.in

SSPL
MULTIPLE SPECIAL STEEL PVT LTD.

Authorized
Official Dealer
for India
www.msspl.co

GROUP
LUCCHINI RS

INNOVATING FOR INNOVATORS

MOULD & TOOL STEELS

FORGING & CASTING DIVISION

LOOK BEYOND

TAGMA DIEMOULD INDIA-2021

DIE & MOULD INDIA 2021
Visit us at Booth C-03 - Hall No.1

www.LucchiniRS.com

Virtual International Tooling Summit:

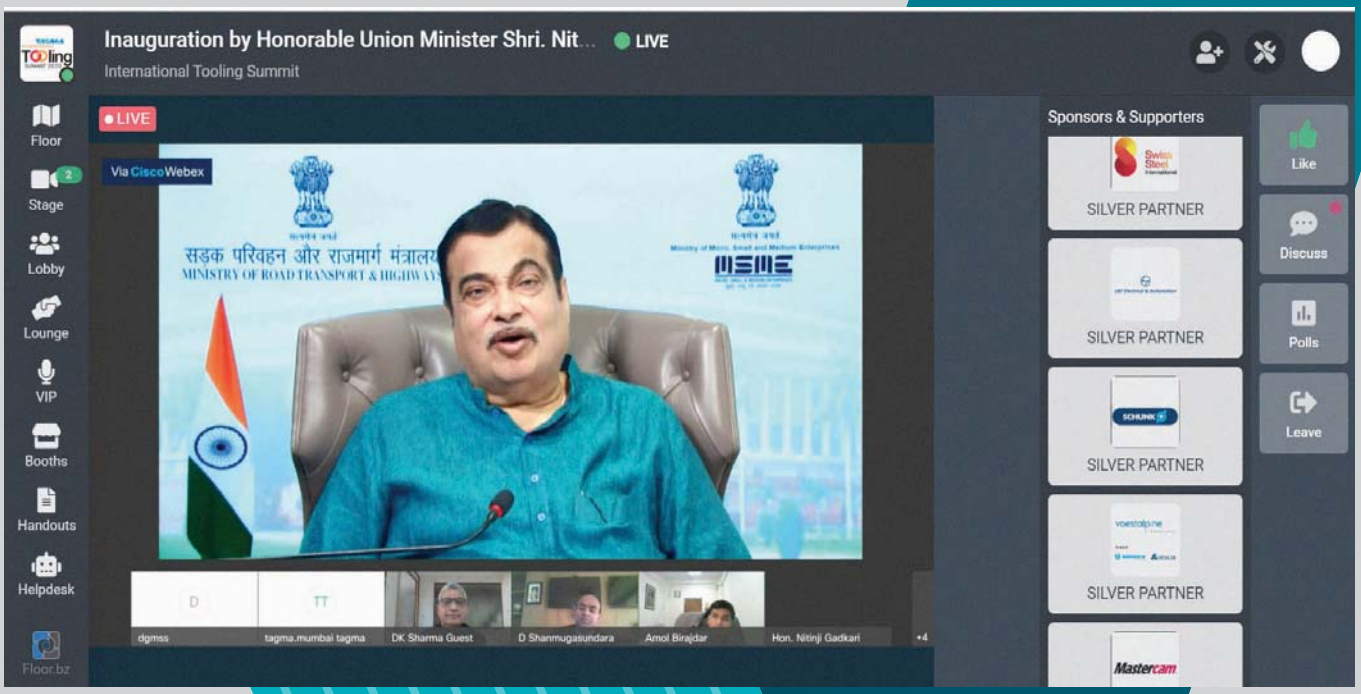
Opportunities galore for toolmakers

At a time when the pandemic has thrown the global economy out of gear, toolmakers in India have been struggling to stay afloat. On November 27 and 28, 2020, TAGMA organised the first-ever Virtual International Tooling Summit to help toolmakers find their way through these challenging times. Honourable Union Minister Shri. Nitin Gadkari; Mr MSR Prasad, Distinguished Scientist & Director General - Missiles and Strategic Systems (MSS), DRDO; and several other prominent personalities of the tooling world graced the two-day event. They offered insights about the tooling industry, which were very well received by the 500+ professionals, who marked their presence virtually. This event turned out to be an eye-opener that guided toolmakers to find opportunity in adversity.

Event Report: ITS 2020

"Tooling industry is like the heart of the manufacturing industry. It has immense economic importance. We cannot dream of having a strong manufacturing industry without a robust tooling industry," said Honourable Union Minister Shri. Nitin Gadkari at the inauguration speech of the first-ever Virtual International Tooling Summit. The fifth edition of the International Tooling Summit (ITS) and first-ever Virtual International Tooling Summit-cum-virtual expo was held on November 27 and 28, 2020. The ITS, which is India's largest die and mould gathering, is organised every year by the Tool and Gauge Manufacturers Association (TAGMA).

The theme for this edition of the virtual ITS was 'Tooling Self Reliance in India and New Frontiers of Growth'. The two-day event saw around 15 leaders sharing their insights about the industry through two panel discussions and seven technical sessions.



DK Sharma

Day 1

The event began with a welcome note by Mr. D. K. Sharma, President, TAGMA India. Addressing more than 1,200+ professionals from across the globe, who participated virtually, Mr. Sharma said, "The current pandemic has taught us a lot. For instance, adopting digital is no longer an option, but more of a compulsion. The first-ever virtual ITS is the result of such learnings."

Mr. Sharma also elaborated on the slew of government initiatives that could help the manufacturing sector. "Over the past few months, the government announced various production-linked incentives for different manufacturing sectors, which is a welcome move. However, to fully realise the potential of the Indian manufacturing sector, localisation of the tooling ecosystem would be pivotal. To put things in perspective, all the major manufacturing hubs across the globe boast of an equally strong tooling industry, with India being a notable exception. The whole ecosystem of the industry, including OEMs, tier-I suppliers, government bodies, and toolmakers, should collectively and cohesively work towards realising an increased share of manufacturing GVA to the economy," he explained.

Major highlights of the Union Minister's speech

- To make 'Atmanirbhar Bharat' a grand success, we will need lots of innovation, research, and commitment.
- The Government of India is committed to increasing the share of the manufacturing industry in India's GDP. For that to happen, we need strong tooling support.
- Indian toolmakers should invest in R&D to develop cost-effective, quality tools and aim for the exports' market.
- India is going to witness a sharp rise in demand from industries such as automotive, agriculture equipment, defence and aerospace, among others. Indian toolmakers need to gear up to meet these demands.
- There is a need to work in a collaborative manner. From the government's perspective, we are committed to make the necessary policy reforms in the coming days to help Indian toolmakers.

THE NEW SMARTFILL 4019/4519 NOZZLE SERIES

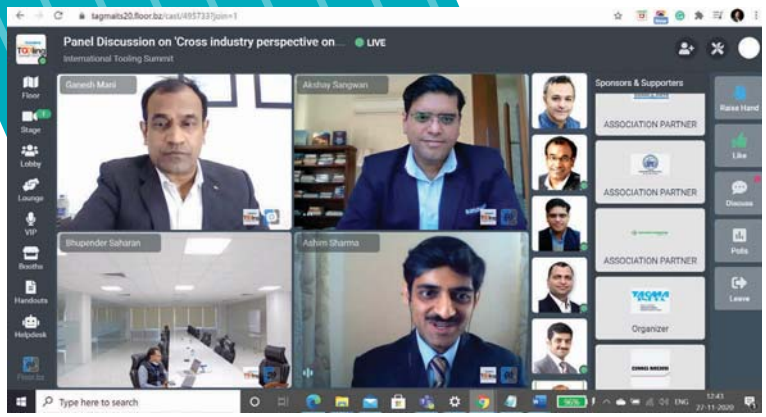
- Even useable for **low shot weights** from 0.5 g – 20 g
- In the tried and trusted slide seal and shot designs, the **universal gate types** are available as open gates and as valve gates
- Reliable processing of **technically demanding thermoplastics** possible

PSG

meusburger
SETTING STANDARDS

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

Event Report: ITS 2020



Panel discussion on 'Cross-industry perspective on the role of tooling in localisation and expectations from toolmakers

In his speech, Mr. Sharma also highlighted the challenges that Indian toolmakers face and spoke about their expectations from the government and OEMs. The welcome speech was followed by the launch of the 'Tooling Report' by the Honourable Union Minister. The 'Tooling Report' was prepared by TAGMA in association with Nomura Research Institute India Pvt. Ltd. It provides comprehensive details about the Indian tooling industry.

In his inaugural speech, Shri Nitin Gadkari said, "The die and mould industry is the backbone of the manufacturing industry. The Government of India understands its economic importance in the country and is committed to increasing the share of the manufacturing industry in the country's GDP. For this, we will need strong tooling support. I would like to assure toolmakers of huge business opportunities in the coming days. However, you must focus on innovation and new product development. Indian toolmakers should aim to play a big role in the global tooling industry. From the Government's side, I assure you that we will work closely and formulate some policy reforms that are more industry-friendly."

The event's Guest of Honour, Mr MSR Prasad, mainly discussed the current activities and plans of the defence ministry. He also spoke about the huge opportunities available for toolmakers in the defence sector.

Panel discussion

The insightful views were followed by the ¬first panel discussion on 'Cross industry perspective on the role of tooling in localisation and expectations from toolmakers'. The panel discussion was moderated by Mr. Ashim Sharma, Partner & Group Head, Business Performance Improvement Consulting (Automotive, Engineering & Logistics), Nomura Research Institute India Pvt. Ltd. The panelists were Mr. Ganesh Mani, Director – Production, Hyundai Motor India Ltd; Mr. Akshay Sangwan, Director – Development & Commercial, Sonalika Group, and Mr. Bhupender Saharan, CEO, VVDN Technologies.

The discussion revolved around the expectations from the OEMs from tooling suppliers. While the panelists highlighted the huge opportunities available in their respective industries, they also stressed upon the need for Indian toolmakers to work on enhancing their efficiency and capacity.

Technical sessions

A technical session on 'Advanced coating solution

www.diemouldindia.org

BE A PART OF TOOLING EXTRAVAGANZA!

12th Die & Mould India International Exhibition

TAGMA DIEMOULD INDIA - 2021

28th April to 1st May 2021

Bombay Exhibition Centre, Goregaon (E), Mumbai, India

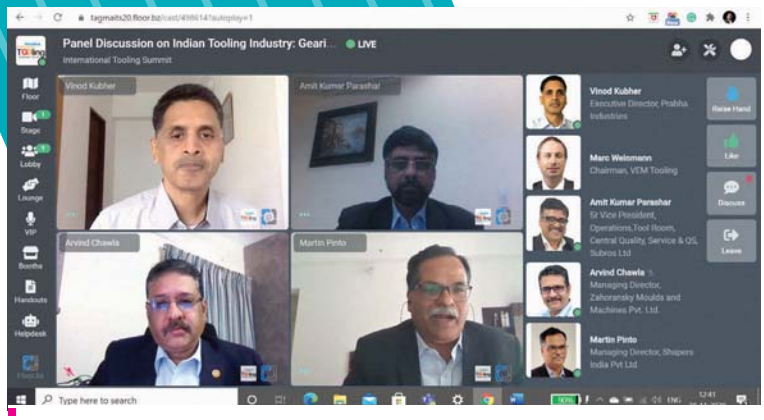
Unlock your Potential, Attain Newer Heights, Expand Globally!

EXHIBIT CATEGORY

ORGANISED BY:

TAGMA INDIA | TOOL AND GAUGE MANUFACTURERS ASSOCIATION - INDIA

A-33, Nand Jyot Industrial Estate, Safed Pool, Andheri - Kurla Road, Mumbai - 72
Tel.: +91 22 28526876, 28508976, 28503273, +91-9653427396
E-mail : tagma.mumbai@tagmaindia.org, tagma.diemould@tagmaindia.org



Panel Discussion on 'Indian Tooling Industry: Gearing up for Better Tomorrow

for forming tools' by Mr. Pravin Shirse, Country President India, Oerlikon Balzer, was received well. After the highly engaging session on coating solutions, Mr. Alexander Baesgen, Head of Tooling Technology, Oskar Frech GmbH & Co. KG, delivered a technical session on 'OEEmax | Process Excellence made by Tooling Technology'.

The third technical session of the day was initiated by Mr. Muthusezhiyan N, Principal Counsellor, CII Green Co., on 'Enhance competitiveness of MSMEs through adoption of green practices'. In his session, Mr. Muthusezhiyan spoke about the importance of green practices in manufacturing and their benefits.

The last session for the day was on 'Hand holding support by the government for MSMEs through The National Small Industries Corporation (NSIC)'. It was held by Mr. P. Ravi Kumar, Chief General Manager, NSIC.

The concurrent virtual expo was also organised along with the summit with 18 partners who showcased their latest technologies to the virtual visitors from around the world. Companies that were participated were DMG MORI, Makino, AMS, COSMOS, MAZAK, Mitsubishi EDM, Goel Steel, Hitachi Metals, Hurco, Schneider (L&T), Multiple Special Steels, PCK Buderus, Phillips, Schunk, Swiss Steel, Voestalpine, Mastercam, Millutensil, among others.

Day 2

The second day of the virtual event started with the opening remark by Mr. D Shanmugasundaram, Vice President, TAGMA India. In his speech. Mr. Shanmugasundaram thanked Honourable Chief Guest Shri Nitin Gadkari for his reassuring note. "It was very encouraging to learn that the Government of India believes in the big economic importance of the tooling industry and the role it is going to play in the success of 'Atmanirbhat Bharat'. The industry needs a collaborative approach to make India a strong tooling hub," he said. In his speech, he also thanked Mr MSR Prasad for charting out opportunities for toolmakers in the defence sector.

Technical sessions

The first session of the day was on 'Target Costing in Die Design' by Mr. A. N. Raman, a financial consultant. The session was well received by toolmakers, who have always found this subject very challenging to deal with.

This was followed by a session on the famous Japanese technique of Monozukuri by Dr. Ranganathan. Monozukuri means 'production' or 'making of things' in Japanese and is the Japanese term for 'manufacturing'. The broader meaning encompasses a synthesis of technological prowess, know-how and spirit of Japan's manufacturing practices.

The third and last technical session was delivered by Mr. V. Chandramouli from SIDBI. He highlighted the various schemes of SIDBI and explained how Indian toolmakers can avail of these.

Wrapping it up

The last session was a power-packed panel discussion on 'Indian Tooling Industry: gearing up for Better Tomorrow'.

The panelists were Mr. Vinod Kubher, Executive Director, Prabha Industries; Amit Kumar Parashar, Sr Vice President, Operations,Tool Room, Central Quality, Service & QS, Subros Ltd; Arvind Chawla, Managing Director, Zahoransky; Martin Pinto, Executive Director, Shapers India Pvt. Ltd. and was moderated by Marc Weinmann, Chairman, VEM Tooling. The panel unanimously agreed that indeed there are many challenges such as payment terms of OEMs, need for policy reform, availability of raw materials, and land & finance availability. The Indian tooling industry needs to find ways to deal with them.

Tools For Every Application
In Die & Mold Machining & Aerospace

Performance
Productivity
Perfection
TRUST DIJET

Visit Us at:

TAGMA DIEMOULD INDIA-2021

- ❑ Manufacturing without compromise
- ❑ Working with the world
- ❑ Evolving with technology
- ❑ Sharpening our edge

Bombay Exhibition Centre, Mumbai
Hall No. 1
Stall No. G08

YOUR SEARCH FOR WORLD CLASS TOOLS ENDS HERE !!!

DIJET
www.dijet.co.jp

For Further Information Contact:
DIJET INDUSTRIAL CO. LTD.
322, Arcadia, Hiranandani Estate, Patlipada, G.B. Road, Thane (W) 400 607
Tel: 91-22- 4012 1231 / Telefax: 91-22-4100 5361
E-mail: india_office@dijet.co.jp
Website: www.dijet.co.jp

Head Office: Dijet Industrial Co., Ltd.
2-1-18, Kamihigashi, Hirano-ku, Osaka 547 002, Japan
Tel. No. +81 (06) 6794 6437, & 6794 0167,
Fax No. +81 (06) 6793 3930

'Digital infrastructure far more critical than physical; going digital is the way forward'

MR. Amitabh Kant, CEO, NITI Aayog, recently said that India is uniquely positioned in the global landscape and has the potential to become the leading force in the new world order. "India can create up to $1 trillion of the economic value by digital economy by 2025 with half of the opportunities originating in new digital ecosystems that can spring up in diverse sectors of the economy," he added.

Addressing the virtual session on 'Collaboration between Industry and Science' during the 'Global R&D Summit 2020', organised jointly by the Department of Science and Technology, GoI and FICCI, Mr. Kant said, "India could potentially see a five-fold increase in economic value from digital transformation by 2025. This will represent an attractive opportunity for global and local businesses, start-ups, and innovators to invest in emerging technologies, like AI, Blockchain or drones, in ways that are customised to Indian needs."

Mr. Kant further said that the government is focusing on high-quality public and private R&D and digital is the future both in the private and public sector. "If you want the economy to progress, manufacturing to take a jump forward, and to improve social sectors, like health, education, and nutrition, going digital is the way forward. Digital infrastructure is far more critical and important than physical infrastructure," he emphasised.

Digital drive

Mr. Sanjay Nayak, CEO & MD, Tejas Networks, said that the real vision of Atmanirbhar Bharat is to make and design solutions not just for India, but for the entire world.

Dr. Shekhar C. Mande, Secretary, DSIR and DG, CSIR, said that we must make sure that different industries adopt digital technology so that we rapidly move forward.

Mr. Dilip Chenoy, Secretary General, FICCI, said that learnings from the pandemic to convert the crisis into an opportunity will make us leaders in the digital space and in the collaborative space going forward.

Mr. Kant also said that the rapid adoption of frontier technologies, such as AI, Blockchain, and IoT and the advent of COVID-19, has placed the entire digital infrastructure under immense pressure. "With the government progressively working towards goals such as Smart Cities and Smart Health, it is crucial for the nation to augment its digital infrastructure to effectively utilise the frontier technologies in economic development. With surging online activities and a gigantic amount of data being generated, data centres could be of high importance for the world," he added.

Mr. Kant added that the pandemic has not only shuffled the global order, but has also provided an impetus to the ever-expanding digital infrastructure. Across the globe, countries have leveraged their digital infrastructure to proactively respond to the ongoing pandemic. "Going forward, the resilience of a nation's digital infrastructure could be pivotal in addressing adversities such as COVID-19," he noted.

Mr. Kant stated that the need of the hour is to promote and create a framework for the development of a robust digital infrastructure, which could facilitate the adoption of emerging technologies, like 5G, IoT, AI, ML, drones, robotics, etc. These technologies can be used in sectors, like defence, health, agriculture, cybersecurity and smart cities and automation, with special emphasis on solving real-life problems, he added.

He stated that there is an immediate need to develop a local supply chain network that has been recognised and efforts in this direction through the PLI scheme would adequately support indigenous electronic manufacturing. "The Atmanirbhar Bharat policy could give the much-needed fillip to the country's disruptive business operations by promoting indigenous manufacturing, encouraging substitution of imports of low technology goods and encouraging local produce at lower prices. The industry should develop short-term strategies and calibrated decision making in order to address disruptions caused due to the pandemic," Mr. Kant added.

KALYANI

World Class Precision Standard & Custom made Mould Bases and Inter- changeable Components for Plastic and Die Casting Moulds

KALYANI Standard or Custom Made Mould Bases are Manufactured with The Highest Precision of Accuracy, exactly to the cuctomer's requirements with perfect interchangeability at any time.

Widest range from: 160x 160x 1500x 4000 or Mould Bases as per cuctomer's design & specifications.

KALYANI MOULD BASE PVT. LTD.
Raju Industrial Est, Perkpade Street,
Near Dahisar Check Post, P.O. Mira,
Mumbai - 401 104 (India)
Phone : 2896 6637, 2828 5290, 2897 4586
Fax : 0091-22-2828 4592
E-mail : info@kalyanimouldbase.com
Website : www.kalyanimouldbase.com

'Time to take bold actions and push the growth agenda vigorously'

FICCI President Dr. Sangita Reddy recently said that India's strategy of dealing with the COVID-19 crisis has paid off and the country's economy is set to bounce back and emerge stronger.

"The speed, virality and impact of the COVID contagion is unprecedented. There was no standard playbook for pandemic management. The dilemma for governments across the world was creating a balance between protecting lives and livelihoods. India took the path of a strict lockdown to ramp up health infrastructure and focused on human lives. This strategy has paid off. Science evolved to give better cures, medical infrastructure was created, supplies like PPEs ramped up, and our death rate has been contained," Dr Reddy said.

"The number of new reported cases has fallen below 50,000. This indicates that the rate of spread of infection is being contained. Our recovery rate and case fatality ratio are much better compared to similar ratios for many other countries. Our health data points to a healthier destiny. Yet, we must continue to educate on prevention and stay vigilant while gearing up for the vaccine," she added.

"It's clearly time for bold actions on the livelihood front. The recent monetary policy assures that the government and the regulator will do everything it takes to keep the economy afloat. Let us start pushing our growth agenda vigorously," said Dr Reddy.

"As we can see, the initial green shoots of recovery have begun. The PMI for Manufacturing and Services has recovered to 56.8 and 49.8, respectively, in September 2020. There has been a pick-up in e-way bill volumes, improvement in revenue earning freight traffic of major commodities, positive growth in exports and, most significantly, an increase in the September GST collections to almost pre-COVID-19 level. These incremental trends are heartening and need to be sustained. Further initiatives like the consumption vouchers (which was another one of FICCI's recommendations) must continue to remain focused on demand generation," noted Dr. Reddy.

"India's inherent economic strengths and resilience remain intact. Given the progressive policies introduced by the government, major infrastructure development plans in place, large consumer market, all point towards the significant headroom for growth. Also, significant are the vibrancy of our entrepreneurs, who are always able to spot an opportunity and move proactively, the capabilities and diligence of our working class, the commitment of our farmers and energy of our youthful population that seeks a better future. India is capable of bouncing back and emerging stronger from this crisis," Dr Reddy added.

SUBHEAD: Facts that augur well for our long-term potential

- First is strength of our agriculture sector, which has performed well even in this difficult period. India can emerge as the food bowl for the world. By multiplying the farmer producer organisations and giving them adequate support, we can achieve good results, both for farmers and consumers. Our target of doubling the farmers' income has got a boost from the recent marketing reform undertaken, as nearly 33% of the increase in income is attainable through better price realisation and efficient post-harvest management. This, along with the agri-export target of US$ 60 billion by 2022, bodes well for the farm sector.

- Second is advanced manufacturing in areas of pharmaceuticals, electronics, defence, aviation, robotics etc. where the skills of our trained workforce can be made future ready. And dedicated clusters/ zones that are self-contained, will complete the ecosystem for production. The manufacturing sector has the potential to reach US$ 1 trillion by 2025.

- Third is the versatile services sector that has innovated and learnt to work from home through the COVID-19 period. Our IT sector, through their global delivery centres, ensured that even during the pandemic, businesses in India and in other parts of the world could continue their operations. Given the growth trajectory, the Indian IT sector could touch US$ 350 billion by 2025 and BPM is expected to account for US$ 50-55 billion of the total revenue.

- Fourth is infrastructure sector. Today, some of the largest projects globally in the infrastructure area are being conceived and implemented in India. The new National Infrastructure Pipeline, which entails an investment of over US $ 1 trillion between now and 2025, presents an ambitious plan and with a good mix of public and private funding. This project will boost more than 200 sectors connected to infrastructure.

- Fifth is our MSME sector and start-ups that are spawning innovation and is another growth flywheel in the Indian growth engine.

- Sixth is the pervasive, multi-sectoral digital push. COVID-19 has provided a ballast to digitalisation across areas. As we aim for a US$ 5 trillion economy, digital is poised to contribute US$ 1 trillion of this. The government has already

Mastercam® 2021

AVAILABLE NOW.

SCAN QR CODE TO KNOW MORE

Mastercam India
303 - Tower 1 | World Trade Centre, Kharadi, Pune - 411014
+91 7378 55 2000 | marketing@mastercamapac.com

laid the foundation for unlocking value in AI, ML, IoT and allied technologies.

- Seventh is the work being done to promote the 27 identified champion sectors. Our government, along with the industry, is ideating and examining every detail of the ecosystem for these sectors. Major changes have already been put into motion and will show results in the near to medium term. The government is also moving fast on developing the industrial corridors. New and innovative policy frameworks are being put in place to boost the industrial economy. Production-linked incentive scheme is one such framework. Additionally, some state governments have announced special incentive and subsidy plans to attract investments. This 360-degree approach will prove to be an effective catalyst for our manufacturing sector, and we expect a major boost in exports.

- Eighth is reforms being undertaken to bring down the cost of doing business. Be it the through changes in the Electricity Act or codification of the labour laws or digitisation of processes for interface with the government or judicial reforms, each of these reforms has the potential to step up growth and help the Indian industry become competitive. We expect the government to push through with such changes at a quick pace.

- Ninth is the size of our domestic market and propulsion; this can provide to many sectors. India's retail market is estimated to reach US$ 1.1-1.3 trillion by 2025, from $ 0.7 trillion in 2019, growing at a CAGR of 9-11%. India will be amongst the largest consumer bases in the world and hence, will always be a market that nobody can afford to ignore.

- Tenth, our healthcare, education sectors are growing rapidly and can be a good source of growth going ahead. While the Indian healthcare sector is expected to reach US$ 372 billion by 2022, the higher education sector is expected to grow to US$ 35 billion by 2025. A multi-pronged approach of ramping up domestic capability, and creating global footprints in these areas would be a transformational strategy for the social sector.

The FICCI President said that through our endeavours, we can win the war against the COVID-19 pandemic and emerge stronger. "The numbers are beginning to show the early results of a careful orchestration that is happening. Let us positively channelise our collective energies and talents. About 1.4 billion people from all walks of life, race and religion are bound together as a nation, which is poised to have a positive future. No one should doubt that. The next decade will be India's decade and together we must architect this powerful destiny," said Dr Reddy.

FICCI statement on Q2 GDP numbers

COMMENTING on the second quarter GDP numbers [Q2 FY21] released recently, Dr. Sangita Reddy, President, FICCI said, "The GDP figure showing a decline of 7.5% in the second quarter has come in as a pleasant surprise. This is much better than what was anticipated by most analysts and clearly reflects that the Indian economy is on a sharp recovery mode. The positive, albeit marginal, growth noted in the manufacturing sector in the second quarter is truly encouraging. Many of the high-frequency indicators were showing swift correction moving into the green zone and we have also seen an improvement in the incoming corporate results for the second quarter. All these trends are quite reassuring and speak of the resilience of the Indian industry and economy."

"The policy guidance provided by the government, so far, has been encouraging and we hope to see continued momentum on that front. We are at a critical point on the growth trajectory and it is important that all levers are used to sustain this improvement," added Dr Reddy.

"Going ahead, the government should keep a close watch on the demand side. While the festive season will continue till December and the earlier demand-oriented measures announced by the government will take effect, we feel it will be important to lend further support to consumption activity. The government can look at extending the consumption voucher idea to all rather than just government employees. The multiplier effect of consumption vouchers is more than two and it is an effective way to boost retail demand in the short term. Also, exchange rate can be focused on as a policy tool to boost demand. Additionally, the government must continue to invest heavily in the infrastructure sector, as it can be a real driver for growth and employment," said Dr Reddy.

The latest Atmanirbhar Bharat Package 3.0 will give a further boost to the economy. The PLI scheme for additional ten champion sectors indicates the government's resolve to make India a manufacturing hub and the scheme can be truly transformational, Dr Reddy added.

PPD®

Ejector Pins, Punches & Ancillary Products for Moulds & Dies

We manufacture all our Moulds and Dies ancillary products, based on the international standard systems for the convenience of Moulds and Dies Manufacturers. Also for the easiest interchangeability & to reduce down time of Moulds and Dies.

Precision Punches & Dies

5-B, Raju Industrial Estate, Penkarpada Street,
Near Dahisar Check Post, P.O. Mira, Mumbai - 401 104 (India)
Phones : 2897 4586, 6521 5274, 6521 5275
Fax : 0091-22-2848 2115
E-mail : ejectorpin@vsnl.net, ppd.punches@gmail.com
Website : www.ppdejectorpin.com

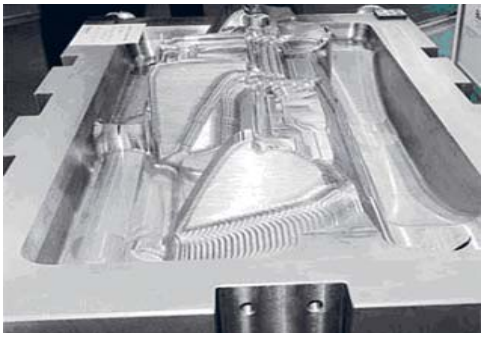
PCK-Buderus | Special Steels Your Reliable

The Partner for Plastics Industry

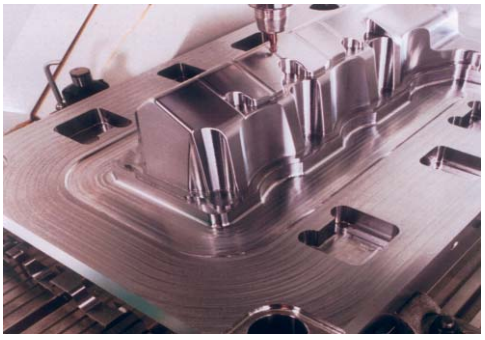
- Comprehensive Stock Holding of Plastic Mold Steels
- Service centers at Chennai, Pune and Ludhiana
- Express delivery in cut to lengths for blocks and rounds
- Contour Sawn Blocks for Cores and Cavities
- Machining Facility to handle piece weights upto 60 tons
- Delivery of 3D pre-machined Mold halves 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

HIPERDIE®

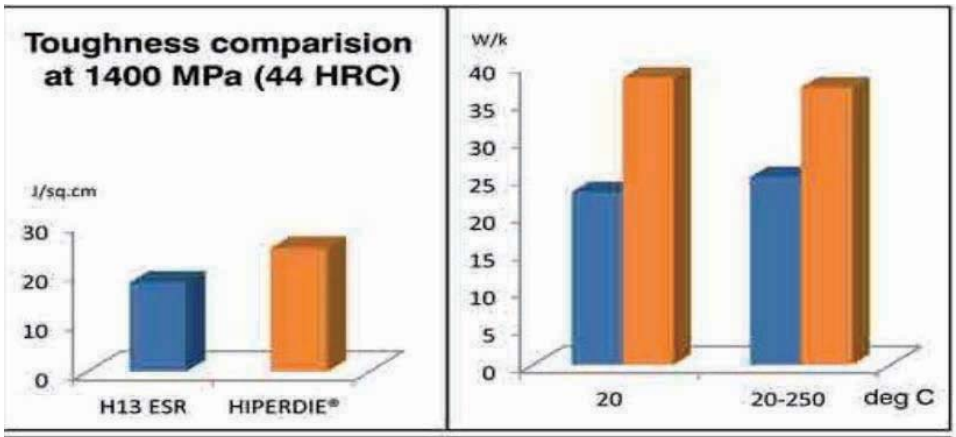
Pre-hardened Hot working Steel for Abrasive plastics

Advantages for Plastic Processors:

- Higher thermal conductivity than H11/H13 types whereby Injection cycle times can be reduced
- Higher toughness than H11/H13 type
- Longer Mold life

Advantages for Mold makers:

- Pre-tempered to 42+/- 2HRc
- Excellent machinability
- Thru-hardenability
- Shorter mold making time
- Good Polishability
- No Risks of heat-treatment
- No dimensional limitations
- Nitriding/ PVD treatment possible



Toughness comparison H13 and HIPERDIE® at 1400 Mpa.

Comparison of Thermal Conductivity of H13 and HIPERDIE® shows more than 50% increase in Thermal Conductivity.

HIPERDIE®is stocked extensively at Chennai and Pune.

Materials can also be delivered in pre-machined condition with low tolerances.

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

Chennai Stock Holding Center
Machining Division
No. 1/512, Ponni Amman Koil Street,
Gandhi Nagar,
Vengaivasal, Chennai - 600 073.
Tel : + 91 44 2278 1107
Fax : + 91 44 2278 1869
Email : info@pck-buderus.com

Pune Stock Holding Center
Machining Division
Gat no 191-192-193,
Alandi-markal Road,Vadu Khurd,
Tal-Haveli, Pune - 412216.
Tel : + 91 20 6678 3000
Fax : + 91 20 6678 3001
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

www.pck-buderus.com

Indian Railways working to achieve objective of Atmanirbhar Bharat in a big way: Railway Board chairman

THE Indian Railways is working towards achieving the objective of Atmanirbhar Bharat in a big way and is developing the requisite infrastructure in an integrated manner, said Mr. Vinod Kumar Yadav, Railway Board Chairman and CEO, during an ASSOCHAM webinar held recently.

"Over a long period of time, due to various reasons, Indian Railways could not develop the infrastructure that it should have, which has created a serious problem," said Mr. Yadav while addressing an ASSOCHAM webinar on 'Indian Railways' Vision for Atmanirbhar Bharat'.

The Railway Board chairman informed that the final draft of the National Rail Plan 2030 is ready and is likely to be released in December. "Vision 2024 is part of the National Rail Plan 2030. It will take care of the infrastructure that needs to be developed by 2030 to tackle the traffic requirements of 2050. It contains all the projects included in the Vision 2024 document."

He stated that the difference between Indian Railways and the railways in other parts of the world is that they have designed their networks in such a manner that as soon as the traffic density reaches 90 per cent they are able to provide another track, i.e. third line, fourth line etc., and they plan in such a way that the traffic density never goes past 100.

"We carry 130-140 MT. This has created further problem, as we do not find sufficient time to maintain the asset, resulting in problems related to safety and other issues," said Mr Yadav, adding, "For the last two to three years, we have been working on it in an integrated manner."

In the passenger segment, he said that the Mumbai-Ahmedabad bullet train project, which is being implemented with the help of the Japanese government, was delayed owing to land acquisition. In Gujarat, 90 per cent land has already been acquired and the remaining 10 per cent will also be available by December-end.

He explained that the INR 32,000 crore tender for the 325-km high-speed rail network has been awarded by the Indian Railways. "After a very detailed discussion with the Japanese government, we have made 72 per cent of the entire contract value open to Indian contractors, which includes all the civil engineering work like bridges, and under-sea tunnel related contracts, whereas contracts for Japanese contractors are only limited to signal and telecom, initial rolling stock and electrical works," he said.

Mr. Yadav added, "The Indian Railways is going to achieve this objective of Atmanirbhar Bharat in a big way. The most important thing is that the Railway is developing infrastructure in an integrated manner in such a way that we will be able to take care of traffic requirements till 2050."

He noted that the Indian Railways has done a lot of work towards ensuring the safety, including modernisation of signalling system, and mechanised maintenance of assets in the last two to three years. "During the pandemic period, we took advantage of the adverse situation and converted it into an opportunity, as we carried out 200 very important safety works, including maintenance of tracks, which were pending for five to six years," he said.

Mr. Yadav also said that there has been a paradigm shift in the last three to four months in the way in which business development activities and marketing initiatives have been undertaken. "Our portal for business development is under development. By mid-December, we are going to provide online facilities like tariff calculation, tracking consignment and others."

He also said that the Indian Railways is doing a lot of tunnelling work. There are three projects going on—Jammu-Uddhampur, where work on the last stretch is on; the Chardham connectivity in Uttarakhand, and one project in the northeastern states.

Mr. Vineet Agarwal, Senior Vice-President, ASSOCHAM stressed upon the need to look for ways to make the Indian Railways part of the global supply chains.

Mr. Vivek Lohia, Chairman, ASSOCHAM National Council on Railways, said, "While Indian Railways has the fifth largest rail network in the world, there still remains a vast scope for growth."

Lauding the government's efforts, Mr. Deepak Sood, Secretary General, ASSOCHAM, said that Indian Railways' ongoing projects will help in infrastructure development, push economic growth and generate lots of jobs.

'Indian tool rooms should start looking beyond the automotive sector'

"Sectors like packaging, medical appliances, defence, aerospace, railways, mobile manufacturing and the electronics industry, offer high potential, which is yet to be tapped. It is high time the tooling industry enhances its capacity to meet the growing demand from these sectors," says Amit Kumar Parashar, Sr Vice President - Operations (Tool Room, Central Quality, Service & QS) Subros Ltd.

Q Please give us an overview of the challenges currently faced by toolmakers during the COVID-19 pandemic, and their significance in hampering growth and business prospects.

The COVID-19 pandemic has hit the world like a tsunami at a time when it was totally unaware and unprepared. It has jeopardised global growth, including that of developed economies such as the US, the UK, Germany, and India as well. As a result of the lockdown in varying degrees, the entire world has enforced a travel ban and made social distancing a norm. This has brought the wheels of the global economy to a grinding halt. Saving lives has now become paramount, while saving the economy has become a secondary consideration.

Owing to the pandemic, globally, the GDP projected a minimum 1% dip and there has been a decrease in domestic demands in all segments. As a result, industries are doing everything they can to conserve and protect their liquidity and cash. Project and product launches have been postponed; the ones still in the discussion phase have been put on hold.

These changes have put the tooling industry under stress, as their annual plans, expansion plans and investment plans have also come to a standstill. The supply chain has also been impacted, as the tooling industry was relying on China to supply std parts, and raw materials, when this pandemic began. Finances, too, were affected as the payment cycle was disrupted, which, in turn, impacted the future purchase of std items and raw materials. Besides this, the scarcity of manpower began to affect production in tool rooms.

However, I feel that these exigencies brought in a silver lining. The tooling industry began to think of strategies to implement in order to bring the situation under control. Additionally, the government's initiatives such as 'Atmanirbhar Bharat' and commitment to help the manufacturing industry will help put the tooling industry back on track. It's all up to us now. I'm sure that if we are able to deliver, the future will belong to the tooling industry.

Q How will campaigns like 'Atmanirbhar Bharat' and Production-Linked Incentive (PLI) Scheme in the electronics sector help domestic toolmakers in the long run?

I think both these campaigns will definitely be beneficial in the long run. The 4-6% incentive provided in the PLI Scheme for the electronics sector will encourage companies to start manufacturing locally and expand their capacities. I'm optimistic that in the coming days, more and more global companies will set up their manufacturing base in India. Localisation of the tooling industry will be the first step to realise the cost benefits. The opportunities are immense.

Major sectors such as automotive, consumer electronics, aerospace, railways, infrastructure development, and mass engineering projects will propel the Indian die and mould industry to substantially grow in years to come. According to a report, the Indian tooling industry is currently valued at INR 18,000 crore and is projected to reach INR 26,000

crore by 2025. I think that the government's initiatives, risk mitigation measures, and focus on localising manufacturing will help the industry prosper.

The other factors set to make a positive impact are initiatives such as dedicated SEZs for aerospace manufacturing, ease-of-doing business policy reforms, encouraging greater FDIs, overall infrastructure development, promoting and forming dedicated engineering clusters, skill development initiatives that will ensure availability of trained manpower to do the specific jobs, etc. These efforts would enormously provide a greater thrust to this industry, making it one of the key growth contributors to the manufacturing industry GDP in India.

Q As per estimates, ~70% of Indian tooling demand is being met domestically and ~30% via imports. What can Indian toolmakers do to reduce imports?

Domestic tool rooms are unable to fully meet the tooling demand of the Indian industry. As a result, tools are being imported. If we look at the tooling being imported, they broadly fall into two categories. The first category is critical tooling, which require adherence to stringent quality requirements. For example, like body side panels, fenders, LED lights, back lights. It also includes tooling which requires high dimensional accuracy. For example, aluminium forming and stamping dies for automotive application or electronics. The second category include parts, which require special texturing and smooth finish. Only a small percentage of these belong to the non-critical segment. The reasons why it is preferred to outsource these jobs is because outsourcing them will ensure that they fall within the budget and are available within the set timeline.

No doubt Indian tool rooms have developed the capability to cater to all such tooling needs. However, owing to inadequate infrastructure and capacity, they are unable to deliver within the set timeframe, making overseas tool rooms a preferred choice. Hence, there is a need for tool rooms to be equipped with high-speed machines, die spotting and quality Inspection infrastructure, like CMM, contour checker. They need to invest in CAE tools for designing and must strengthen their project management through tool room specific software readily available for planning and scheduling in order to reduce imports.

Q The industry faces many challenges pertaining to the availability of adequate finance, availability of skilled manpower, lack of industry-friendly policies and export incentives. Have the government and associations undertaken any initiatives to help the industry?

Yes, definitely! The government is undertaking initiatives through platforms such as NSIC, which offers MSMEs a single window to register, obtain easy financing, assistance to procure raw materials and a B2B portal. Such platforms help small and medium tool rooms not only get a foothold in the industry but also access to technical support. Besides this, initiatives such as 'Atmanirbhar Bharat' and 'Make in India' are helping our manufacturing industry become self-reliant and increase its contribution towards the country's GDP.

Tooling is a capital-intensive industry. In its endeavour to provide the right growth stimulus to the industry, particularly with the objective of helping SMEs, the Government of India has now set up tool rooms at Aurangabad, Ahmedabad, Bhubaneshwar, Guwahati, Hyderabad, Indore, Jamshedpur, Kolkata, Jalandhar and Ludhiana. These tool rooms are equipped with the best technology and are aware of the latest advancements in the field. They periodically add new technology like CAD/CAM, CNC machining for tooling, vacuum heat treatment, rapid prototyping, etc. These tool rooms also run training programmes for skill upgradation, which staff working in tool rooms and various MSMEs can participate in.

Q The automotive industry is going through an uncertain time. What other emerging sectors can toolmakers explore apart from automotive?

Indian tool rooms should start looking beyond the automotive sector. Sectors like packaging, medical appliances, defence, aerospace, railways, mobile manufacturing and the electronics industry, offer high potential, which is yet to be tapped. It is high time the tooling industry enhances its capacity to meet the growing demand from these sectors.

Q Industry 4.0 and hybrid manufacturing have been around for a long time now. Do you think companies will opt for automation post COVID-19?

The design and manufacturing of dies and moulds represent a significant link in the entire production chain because nearly all mass produced discrete parts are formed using production processes that employ dies and moulds. Thus, the quality, cost and lead times of dies and moulds affect the economics of producing a very large number of components, subassemblies and assemblies, especially in the automotive industry. Therefore, die and mould makers are forced to develop and implement the latest technology in part and process design, including process modelling, rapid prototyping, rapid tooling, optimised tool path generation for high-speed cutting and hard machining, machinery and cutting tools, surface coating and repair as well as in EDM and ECM.

But whether it is in bulk or hybrid manufacturing, tool rooms will opt for automation if there is a business proposition at a lower cost. Also, it needs to be seen as to how the government will support Indian tool rooms in adopting these latest technologies.

Q What short and long-term opportunities do you see amid this COVID-19 crisis and growing geopolitical situation?

The global die and mould market is anticipated to rise at a considerable rate during the forecast period, between 2020 and 2026. In 2020, the market was growing at a steady rate and with the rising adoption of strategies by key players, the market is expected to rise over the projected horizon. The die and mould market is expected to grow at the highest CAGR during the forecast period, 2020-2026.

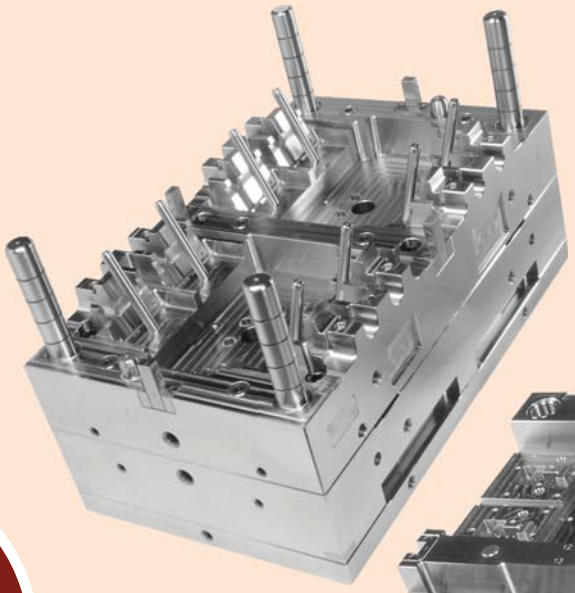
On a short-term basis, as the tool supply from Asian countries have been delayed or restricted, the industry is looking to make up for the loss through order realisation domestically. The opportunity exists where the gaps can be filled by the Indian tooling industry, which should be ready to take up the challenge and deliver. For the long term, the promising factor is the 'Atmanirbhar Bharat' campaign, where localisation of tooling will offer a major thrust to the automotive and non-automotive sectors.

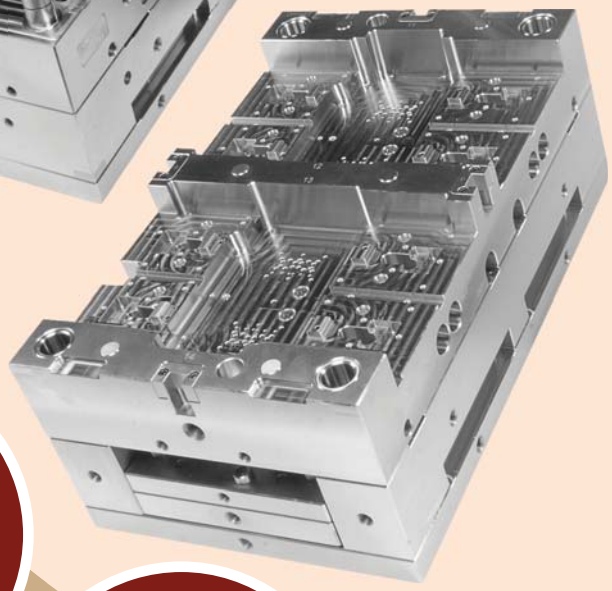
Given that the origin of the crisis was from China, global supply chains are severely disrupted. From a global perspective, China cannot remain a trusted partner anymore. This creates huge opportunities for India on a long-term basis. Major manufacturing nations in the world have given signs that they wish to diversify the sourcing for global value chains. There will be tough competition to attract investors to India, but this will give a golden opportunity to our tooling industry to get a foothold in the global value chains.

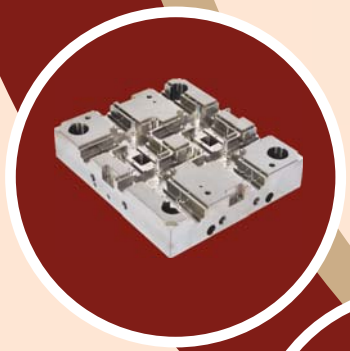
WORLD CLASS PRECISION MOULD BASES

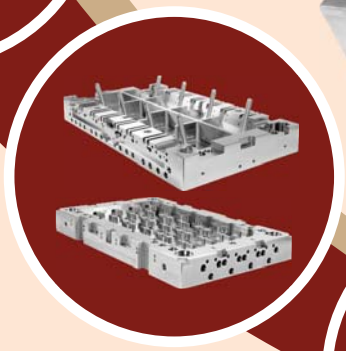
INTEGRITY IMPROVEMENT SERVICE
1994 25 2019
YEARS
TEAM WORK

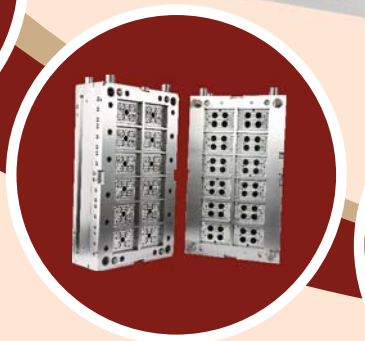
Are you looking for
Precision engineering...
Machining competency...
Timely delivery..

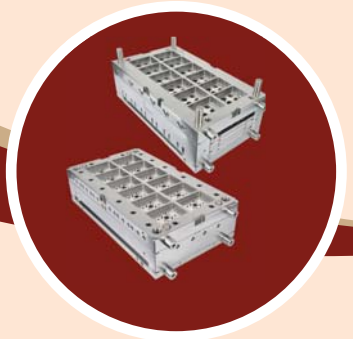












PMT™

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

'I think that there are some good opportunities for toolmakers'

"Medical equipment, aerospace, defence, railways, real estate (changing need for interiors) and packaging industry can create additional business opportunities for toolmakers. However, to promote such business, we need to create a strong platform where toolmakers can get to understand the needs of these segments and prepare accordingly," says Martin Pinto, Executive Director, Shapers India.

Q Please give us an overview of the challenges currently faced by toolmakers during the COVID-19 pandemic, and their significance in hampering growth and business prospects.

Indeed it has been a very challenging period for the industry, especially tooling, which is consider people's business. In tool rooms, people always work in teams. And so, it's difficult to manage toolmaking with social distancing and without regular follow-up meetings. At Shapers, the situation was challenging too. But we managed it well, as we received good support from our team. The first priority was given to our staff's health, the next priority was managing the business and dealing with our customers' urgencies.

Also, due to COVID-19, business targets were disrupted. The repercussions will be felt in the 2020-21 financial year. Toolmakers, who invested recently, will face a greater impact. It's going to take some time for them to recover their initial investment.

Q Will campaigns such as 'Atmanirbhar Bharat' and Production-Linked Incentive (PLI) Scheme in the electronics sector help domestic toolmakers in the long run?

Well, there are changes for sure. The government seems to be serious about doing something to help the manufacturing industry. They are putting in efforts to understand the toolmaking business. With increasing demands in India, toolmaking can contribute significantly to our country's GDP growth and create many job opportunities for both mid-scale and small-scale industries.

I feel that there's a need to focus more on understanding the toolmakers' problems and constraints. Having said that, increasing localisation from many OEMs to meet 'Atmanirbhar Bharat' will create many opportunities for domestic toolmakers in the long run.

Q As per the tooling report prepared by TAGMA in association with NRI, the market size of the tool room industry in India is estimated to be ~INR 18,000 crore with ~70% of demand being met domestically and ~30% through imports. What can Indian toolmakers do to reduce imports?

I think that there are some good opportunities for toolmakers to enter areas where we can create options for imports. At least 30% (around INR 6,000 crore) of tooling business will have its own challenges owing to complexity of tooling, local infrastructure, poor supplier base and high demand for shorter lead time. There's a need to work on investments, developing supplier base, and skill building, among other fronts. This is similar to what is already happening in China and Korea. There's a need to make strong efforts to develop the existing tool rooms and also build new ones where it will be possible to deliver quality moulds in shorter lead time.

To meet these demands, there's a need to strengthen our capability and capacity. We also need to invest in technology and the latest equipment to improve our efficiency, which is quite poor at this stage, to shorten the expected mould lead time. Toolmakers also need to upgrade their knowledge to develop complex and large tooling in India. Currently, a major part of large tools is imported from China and Korea.

Q The industry is currently facing many challenges regarding availability of adequate finance, availability of skilled manpower, lack of industry-friendly policies and export incentives. Have the government and associations taken up any initiatives to help the industry?

As I mentioned earlier, the government is making some good efforts to strengthen our industry. In fact, we can see some positive actions with respect to 'Make in India'. The government policy for localisation is also pushing OEMs in India to promote local manufacturing, thereby trying to reduce imports of finished moulds, and promoting exports from India. Skill development programmes are being undertaken at various levels. One major decision to bring more industries under the MSME umbrella has proved to be a game-changer, as the move is likely to benefit most tool rooms in India. At the same time, we also expect more support by increasing the import tax on finished moulds, and simplifying the process to import steel and mould elements so that tool rooms can get raw materials faster.

When talking about associations, I think TAGMA is already working positively under the leadership of Mr. D. K. Sharma and it can specifically play a big role in taking steps with government bodies to improve the situation for the toolmaking industry.

Q Most major global auto manufacturing countries have a strong domestic tooling industry. India is an exception, as a significant part of the tooling demand is still met via imports. What are the reasons for the same? How can we overcome this situation?

Compared to China and Korea, our tooling industry has many limitations due to lack of adequate industrial support. We also depend on imports for mould elements. So, we need to build a strong supporting industry to avoid heavy investments and to reduce lead time. We also have limitations in processing post-moulding requirements (like special laser cutting/ complex assemblies, special graining, etc.), which we need to develop in India.

Toolmakers need to purchase many mould elements from Europe, Japan and China by paying in advance. This makes it difficult for many toolmakers against long receivables from customers. Besides, the tooling payment terms are not attractive to increase business. There's a need to improve these payment terms, as huge investments will otherwise be required to develop those tools.

Q The automotive industry is going through an uncertain time. In the light of this, what other emerging sectors could toolmakers explore apart from automotive?

I think medical equipment, aerospace, defence, railways, real estate (changing need for interiors) and packaging industry can create additional business opportunities for toolmakers. However, to promote such business, we need to create a strong platform where toolmakers can get to understand the needs of these segments and prepare accordingly.

Q Industry 4.0 and hybrid manufacturing have been around for a long time now. Do you think companies will opt for automation post COVID-19?

Yes, automation post COVID-19 will be a major focus considering our experience with the lockdown. We need to prepare ourselves for any possible pandemic or crisis in future. This will also ensure safety of people as it will reduce physical contact and create a safer working environment. As said by many experts, the toolmaking business will go through big changes in the next few years.

Q What short and long-term opportunities do you see amid the COVID-19 crisis and growing geopolitical situation?

In the short term, we can see some opportunities due to the disturbed supply chain. Now, toolmakers can support each other to come out of this crisis and strengthen our current supply chain. There is also an opportunity to develop mould elements and mould base parts to avoid imports.

In the long term, we should strongly work on, automation, adopting the latest technology in our industry and increasing localisation to maintain enough control to support the growing demands due to the potential geopolitical situation. We can also observe the changing market demands and expect more demands for exports to Europe, US and other countries.

Digitalisation of production systems:

Getting smart while keeping out of harm's way?

When embarking on their digitalisation / IIoT course, machine and plant manufacturers are often unsure of how to approach things, which steps come first, which can wait and which may be entirely superfluous. This article sums up the current experiences of mechanical engineering customers of the HARTING Technology Group and shows how this important but also tremendously multifaceted topic can be mastered.

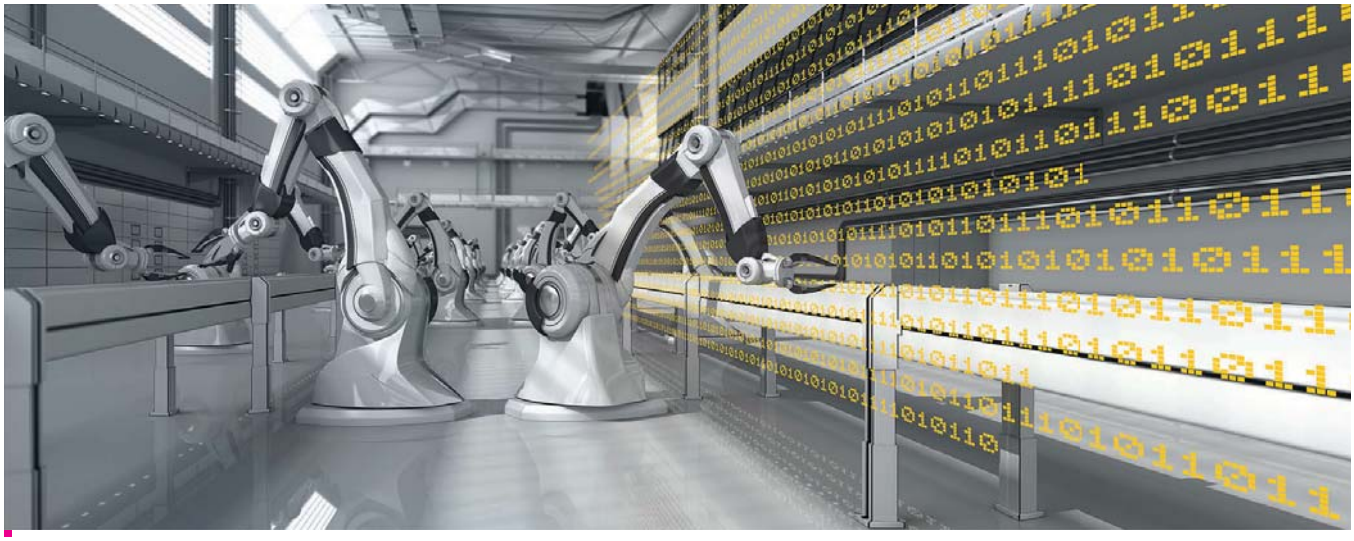


Figure 1: Digitalisation of production systems

The topics of digitalisation / IIoT of production systems are omnipresent in the general reporting media, as well as featuring heavily in the specialist media. More and more new keywords are emerging in the process. Companies such as Amazon, Uber & Co. are often cited as examples, demonstrating to the whole world how digitalisation strategies can be used to achieve economic success through the consistent digitalisation of online trade and logistics (Amazon) or through the digitally mediated use of existing resources (Uber). Consequently, OEMs of capital goods are also asking themselves: Can we achieve similarly rapid success with digitalisation, and if so, how?

First of all, the topics of digitalisation / IIoT *(Industrial Internet of Things)* for production systems need to be further narrowed down. We will consider possible digitalisation steps along the typical machine lifecycle or more precisely: only those measures that relate to products, services or other performances that can be offered to an end user. We will not consider entirely new technologies and business models which are technically conceivable, but currently have no legal framework (such as "Machine-to-Machine Order & Payment", for example).

One fundamental aspect should be mentioned in advance. Some experts question whether

digitalisation and IIoT technologies in mechanical and plant engineering have any potential at all to bring about fundamental or even disruptive changes in existing business models. As the author, business angel and former CTO of IBM, Dr. Gunter Dueck, comments in this context: "When the Deluge comes, build ships, not dikes... Are we building ships to set sail to the digital future continent? That would mean that we are looking for digital innovations that would shape our new age." The study "Digitalisation in Mechanical Engineering" by the Hans Böckler Foundation in 2018 sizes things up in more concrete terms and quotes an expert from a German company: "We will definitely remain mechanical engineers and not become a software house. But we need software and networking to sell our machines better and make sure that they remain attractive. Based on digitalisation, we want to help customers to solve their problems better. Above all, we want to leverage the digital potentials to ensure that no one comes between us and our customers. This is a forward strategy, coupled with a hedging strategy, so that no disruptor - Amazon, Google, Microsoft or similar players - ends up alienating us from our customers." In the final instance, competitive pressure leaves OEMs for capital goods no other option: they must face up to the emerging digitalisation!

So, it is not a question of whether, but how. The current state of digitalisation and the necessary priorities in mechanical and plant engineering, however, are assessed quite differently by the parties involved. The IMPULS Foundation of the VDMA, for example, summarised the state of affairs in the foreword to a 2016 study as follows: "Industry 4.0 has arrived in German mechanical and plant engineering. Companies are taking a leading role, especially as providers of digitally networked technologies and services ... For customers around the world, additional added value is being created."

Gunther Kegel, Chairman of the Board of Pepperl+Fuchs and current ZVEI President commented as follows in an interview in June 2018: "However, I do think that ... our pace moving forward is rather slow. The possibilities are so diverse that we have to choose very consciously for which of the many promises resources are used, degrees of freedom are allowed and perhaps something new will be established. It has to be weighed up what has to be implemented and what not yet, because it still seems too far away." The statements show how differently the situation in mechanical engineering is assessed by the actors themselves. At the end of 2019, Commerzbank AG attempted

"When the Deluge comes, build ships, not dikes... Are we building ships to set sail to the digital future continent? That would mean that we are looking for digital innovations that would shape our new age."

Dr. Gunter Dueck,
Author, business angel and former CTO of IBM

a quantitative assessment of digitalisation in the German mechanical engineering industry: "A decisive development towards the digital company is the integration of platform solutions, both at the process and service levels as well as at the sales level. In the meantime, three out of four companies in the sector state that such IIoT platforms are important for them, and almost 30 percent are already using corresponding solutions." This means that more than half of the German machine and plant manufacturers had not yet taken any action on the topic of digitalisation / IIoT. The situation is similar in other countries with a comparable mechanical engineering industry.

But what success patterns can be observed among mechanical engineering customers of the HARTING Technology Group and what concrete steps can be recommended?

As an OEM for production systems, it is important to identify the most important players in the field of digitalisation / IIoT in the industry - and consider their role, capabilities and interests:

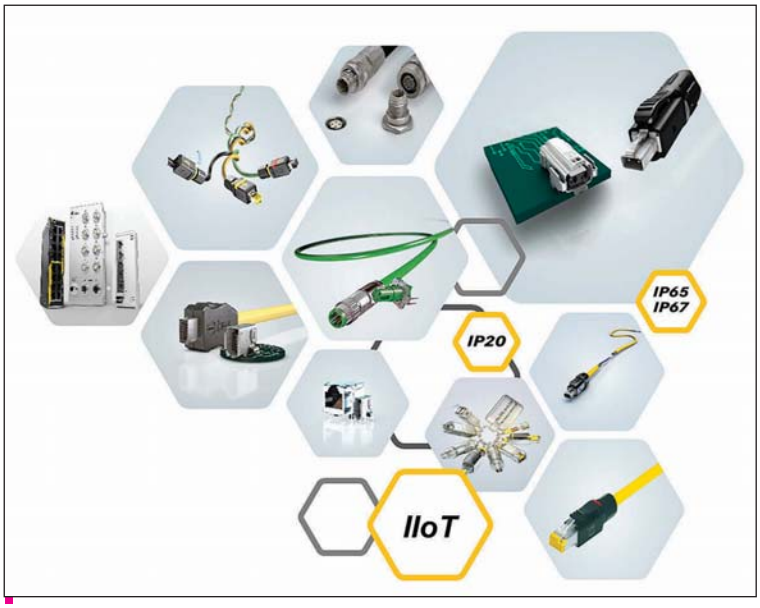


Figure 2: Modularity and scalability as exemplified by HARTING Ethernet interfaces.

Figure 3: HARTING T1 Ethernet connector for SPE technology in Ethernet interfaces

- **OEMs -** providers of individual machine modules or complex machines / systems - have the know-how to offer machine users the key functions as the most important differentiating feature in an economically successful manner, and to expand these functions to include digital IIoT components and services;
- **Suppliers of automation components -** suppliers of PLC, CNC, industrial PC, HMI, drive systems, measurement technology, sensors, etc., - have been mainly producing digital controller-based systems; these use digital signals and information for the direct control of machines and processes and can also easily aggregate these further;
- **Software providers for production control at the factory/enterprise level -** providers of ERP, MES and similar management software systems - command an extremely high level of expertise in the control of business processes and handling of large data volumes; however, they rarely have direct access to machine- and process-related data;
- **Platform providers for new business models -** still poorly represented in the capital goods sector - are well-known names in the B2C sector, e.g. Amazon & Co. But there is also activity in B2B, as the growing demand for subscription models ("Pay per Use", "Pay per Month", "Pay per Unit", etc.) is raising hopes among these providers of being able to establish themselves in the market with benefit and service-oriented models;
- **Associations and co-operations for digitalisation and IIoT -** strategic alliances between mechanical engineering and software companies – are frequently pursuing the goal of creating an open, manufacturer-neutral IIoT environment and corresponding standards based on leading software and communication technologies (e.g. Open Industry 4.0 Alliance: Endress + Hauser, KUKA, MULTIVAC, Pepperl + Fuchs, SAP, SVA, Voith, et al.; Open Manufacturing Platform: BMW and Microsoft, umati: machine tools, etc.).
- **Users/operators of machines and plants -** on the one hand, hold the greatest expert knowledge in the everyday use of machines and plants and the associated technologies; they also know the most about the problems in the background; on the other hand, they are also the strongest "beneficiaries" of ongoing technical development, including digitalisation in all its facets.

Moreover, digitalisation in the field of capital goods cannot be viewed as an isolated trend, but must be embedded in key current trends. The most important ones are:

- "Industry 4.0 / industrial production of individual products" - End users expect an increasingly high variability of manufacturing systems: it must be possible to manufacture the widest possible range of products in small to medium quantities harnessing the same system;
- Production plants must be scalable and offer options for cost-effective subsequent expansion of existing systems in terms of capacity and output;
- Declining OEM margins on new installations combined with high end user expectations for maintenance and service make the expansion of LCC-based business models (LCC = Life Cycle Costs with new business concepts (including maintenance, service, retrofit services, e.g. "Predictive Maintenance") more and more economical for OEMs as well, and therefore more meaningful;
- Users' expectations of the interoperability of machine modules and sub-systems are constantly on the rise; machines and machine modules from different suppliers should be as easy as possible to combine in a single production line. This results in greater comparability and tougher competition for OEMs.

All these requirements can only be reconciled very efficiently in machine and plant construction, both in technical and economical terms, if production systems are consistently modularised, scalable in various stages of expansion and, in the final instance, also networkable. **Only with modular networked machines will one be economically successful in the long term** - more details are described in the

Get a wide range of AUTODESK products only at BLUE BELL ENGINEERING!

BLUE BELL engineering
Design easy

LIMITED TIME OFFER

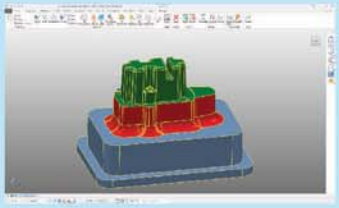
SPECIAL DISCOUNT FOR TAGMA MEMBERS

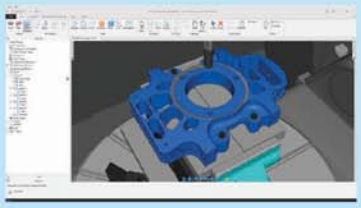
AUTODESK.

AUTODESK offers cutting edge technology for all your manufacturing needs!


Fusion 360


Powermill


Powershape


Featurecam

AUTODESK® FUSION 360™

- Easy to use Integrated CAD-CAM software.
- Advance CAM features
- Anytime, anywhere access

AUTODESK® POWERMILL®

- Expert CAM solution for milling complex parts, molds and tooling.
- Unparalleled precision and control
- Integrated simulation and verification

AUTODESK® POWERSHAPE®

- Expert in surface and solid model
- Core and cavity separation
- Automatic electrode modelling
- Reverse engineering

AUTODESK® FEATURECAM®

- Comprehensive feature based Cam solution
- Automated CAM programming
- Standardise best practices

www.bluebellengineering.com

+91 9845620921
+91 9448610292

BLUE BELL ENGINEERING SOLUTIONS PVT LTD
#408, 7th Main, Jayanagar 2nd Block, Bangalore- 560011
anil@bluebellengineering.com

HARTING article on modularisation "How granular can production technology be?" . So it is precisely the modularity and the possibilities of scalability and expandability of existing systems - a "state of the art" of "hardware" in modern mechanical engineering - which from today's point of view is the **key to the success of digitalisation (IIoT)!**

This is also illustrated by two examples from "related" areas:

- **The modularisation of** today's industrial PLC, CNC and HMI systems is proverbial. The respective hardware and the development environment involved here is designed for each concrete application according to the principle of "only as much as necessary"; but if necessary, these can also be designed for subsequent upgrades, which applies in particular to the data interfaces; in this case, subsequent expansion, the "growth" of control software in delivered systems is in principle no problem - and only limited by the know-how of the given OEM supplier;
- **The scalability of** high-performance drive systems consisting of a servo-inverter and a servo-motor is nowadays very often not realised by the manufacturer via the hardware, but only through the software (similar to the "chip tuning" of combustion engines). Consequently, the hardware is identical for simple and "high-end" products, and only the software determines the functionality and performance of a concrete system at the customer's site.

Since the economic success of digitalisation in the mechanical engineering industry can vary greatly from segment to segment, and depends among other things on company focus and business models, we will not make any recommendations here.

How can digitalisation be shaped and designed successfully for an OEM?

Evaluating the experience of HARTING customers in different sub-segments of the mechanical engineering industry and in different countries, three aspects must first be considered:

1. The functions and existing software elements of the **basic, initial system** must be **prioritised:**
   - Key functions that reflect the core competence of the OEM;
   - Basic functions that apply across the entire system, but do not impact on the core know-how;
   - Add-on or auxiliary functions that are secondary for the OEM and the end user, and are usually purchased as sub-systems;

2. In the next step, collect the **expert knowledge of the end users (customers) and own experts** relevant to possible **digitalisation projects** and give preference to high-priority functions and software elements. Possibly compare with the know-how of competitors and develop a **list of requirements**. This list must be modular throughout and as specific as possible in terms of prioritised functions and software elements;

3. Now, it is necessary to assess the **feasibility of digitalisation** for individual functional modules; in this step it is advisable to involve all in-house OEM experts along the performance and service provision chain - development & design, project planning & sales, production & assembly, documentation, service & after-sales services. Moreover, assessments can be obtained from external specialists and any specifications or standards that have already been drawn up can serve as a template (e.g.

Figures 4 and 5: HARTING PushPull RJ45 and M12 X-coded - typical high-performance data interface in mechanical and plant engineering.

TAGMA INDIA

THIS IMAGE VISUAL REPRESENTATION

COST

MEMBER - ₹4000/-

NON MEMBER - ₹5000/-

INDIAN TOOL ROOM INDUSTRY ANALYSIS

TAGMA AND NOMURA RESEARCH INSTITUTE CONSULTING & SOLUTIONS CONDUCTED A MARKET STUDY ON INDIAN TOOL ROOM INDUSTRY COVERING ALL USER SEGMENTS AND UNDERSTAND CURRENT MARKET AND ITS EVOLUTION OVER THE NEXT 5 YEARS

CONTENT:

- Global Tooling Industry Snapshot
- Indian Tool Room Survey Approach and Methodology
- Survey Results Major Highlights
  - Total Tooling Demand in India and Share of Different Sources
  - Demand and Supply Split by Tool Type and End Users
  - Sectoral Insights
- Tooling Market Trends Demand Side
- Tooling Market Trends Supply Side
- End User Expectations and Comparison with Global Counterparts
- Major Challenges facing Indian Tool Rooms
- Case Studies of Asian Tooling Hubs
  - Korean Tooling Industry
  - Chinese Tooling Industry
  - Taiwanese Tooling Industry
- Government Initiatives for Tooling Industry
- Future Expectations on Tooling Demand
- Key Imperatives for Ecosystem Stakeholders

TAGMA INDIA | TOOL AND GAUGE MANUFACTURERS ASSOCIATION - INDIA

A-33, Nand Jyot Industrial Estate, Safed Pool,
Andheri - Kurla Road, Mumbai - 400 072
Mobile: +91-96534 27396 / +91-97694 07809
Email: tagma.mumbai@tagmaindia.org

Buderus 2738 ISO-BM

For high quality Moulds where there is no compromise on quality

Buderus 2738 ISO-BM is stocked extensively at:

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

Chennai Stock Holding Center
Machining Division
No. 1/512, Ponni Amman Koil Street,
Gandhi Nagar,
Vengaivasal, Chennai - 600 073.
Tel : + 91 44 2278 1107
Fax : + 91 44 2278 1869
Email : info@pck-buderus.com

Pune Stock Holding Center
Machining Division
Gat no 191-192-193,
Alandi-markal Road,Vadu Khurd,
Tal-Haveli, Pune - 412216.
Tel : + 91 20 6678 3000
Fax : + 91 20 6678 3001
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

www.pck-buderus.com

PCK-Buderus | Special Steels

Buderus 2738 ISO-BM

PREMIUM QUALITY PRE-HARDENED MOULD STEEL

Front Grille Mold For Heavy Truck

Corporate Office :
PCK HOUSE
New No. 84, Old No.13,
South West Boag Road,
Chennai - 600 017
Tel : + 91 44 2434 6503, 2434 1904
Fax : + 91 44 2434 118
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 Office,
Stock Holding Center
C-I, Industrial Area C,
Jaspal Main Road, Kanganwal,
Ludhiana - 141 120. Punjab.
Tel : + 91 161 6532016, 6532017
Fax : + 91 161 2510072
Email : ludwh@pck-buderus.com

www.pck-buderus.com

PCK-Buderus | Your reliable Partner in India for Buderus | Edelstahl

by umati). Remember the sentence: *"We will definitely remain mechanical engineers and will not become a software house".*

The **biggest challenges for OEMs** in these steps are:

- The contradiction between the diverse individual requirements of the customers on the machines and the economic necessity to keep the number of modules / processes required for this (especially for key functions) small. OEMs are already solving this problem today by consistently "breaking down" their systems into logical units and pursuing modularisation - in order to act economically when digitalising here, the following should be considered.
  - As much existing technological and machine-related data as possible should be used and aggregated at the "lowest" modular level for future digitalisation projects, i.e. utilising existing sources, data and machine and process models that are already in place. Particular attention should be paid to the previously unused or little used "intelligence" of the automation components, such as drives, sensors for machine or process states, etc.
  - At all higher levels (edge and above) the most open, future-oriented standards possible for physical interfaces should be relied on, as well as the latest software and communication protocols.

- Too broadly designed and not very concretely elaborated targets in combination with unduly high expectations regarding the economic effects of digitalisation will result in frustration. On the one hand, relevant projects are often overloaded with expectations on the part of the OEM management, while on the other hand, they are also insufficiently equipped with resources. For the development, implementation and ongoing support of digitalisation projects, it is therefore advisable not to want to achieve everything right away. Rather, the following should be considered:

  - Sub-projects should be defined in terms of modules and focus on high-priority key functions;
  - The design of the interfaces on the physical level as well as on the data level should always correspond to the latest state of the art and be open for subsequent software updates and extensions (especially for end users);
  - The participants should be divided into interdisciplinary project groups, so that on the one hand, a constant dynamic exchange of information can take place, while on the other hand, access to the management level of the OEM is possible at any time at short notice for the purpose of correcting objectives and targets;

Figure 6: Han-Modular®: established hybrid power and data interface for sophisticated and demanding industrial applications.

Consequently, the overriding rule is as follows: If the modularity of digitalisation projects (the "software") follows the modularity of machines and systems (the "hardware") and features the latest physical and data interfaces, as an OEM, you will then be providing an economically and technically optimal system for the current customer requirements.

Such systems are also best equipped to cope with the constantly growing and partly still unknown future requirements!

Interfaces play an important role in modular networked production systems: they are the "lifelines, nerve pathways and synapses" and create the necessary infrastructure for the module and machine transitions, the edge area, the factory and other superordinate levels. The HARTING Technology Group provides solutions for all interfaces that are essential in modern and future control, drive, HMI and communication technology for production systems, in order to implement and advance digitalisation in this area without functional restrictions.

Courtesy: HARTING Technology Group

DMU 75 monoBLOCK with PH 150

TOP-EQUIPMENT FOR THE BEST-PRICE

PH 150 PALLET HANDLING

up to ten pallets in 150 kg
transfer weight (250 kg optional)

CELOS

speedMASTER

36-month warranty on spindle
unlimited spindle hours
(20.000 min^{-1}, 130 Nm, 35 kW)

Exclusive Technology cycle

MPC 2.0 – MACHINE PROTECTION CONTROL

Vibration monitoring and machine protection in standard

Find out more about
DMU 75 monoBLOCK
with PH 150

monoblock.dmgmori.com

DMG MORI

Target costing in die design

Before launching a new product, companies usually take into consideration the product's price, the costs involved and the margins they plan to achieve. Target costing helps a company plan for all of this in advance. CMA A.N. Raman explains how target costing, as a cost management tool, can be a panacea for the tooling industry.

The industry continues to reel from the adversities of low profitability and the compulsion to meet with high quality standards demanded by end customers in the value chain. Sandwiched between the twin pincers of cost and quality pressures, the tooling industry can resort to target costing as a strategic breakthrough.

Target costing can be described as a strategic profit and cost management process. The principles, which drive the target cost management process, are:

- Price-led costing
- Focus on customer
- Focus on design of products and processes
- Involvement of cross-functional teams
- Reduction of cost over the product's lifecycle
- Involvement of the entire value chain.

Definition and voice of the customer link

Robert Kaplan describes target costing as a tool used during the planning cycle. It drives the process of choosing product and process designs. This will result in a product that can be produced at a cost, which will allow an acceptable level of profit, given the product's estimated market price, selling volume and target functionality.

Target costing is also described as the process by which the customer's voice is carried from the designers' table right up to the components' supplier. The Japanese industry has used the process extensively to be competitive in the marketplace; the automobile industry is reported to be the origin.

The following table shows how the perspectives of a car change through the eyes of the customer right till it reaches the component maker:

Perspectives table			
Customer view	**Designer view**	**Manufacturing view**	**Supplier view**
Performance	Engine Cooling System	Radiator / fan / motor / assembly	Valves Pistons
Safety	Brakes	Wheel rim / tire / brake subassembly	Crankshaft
Styling	Sound system	CD player/ wiring harness/ speaker subassembly	CD player Amplifiers Speakers

The process

Target costing starts with an understanding of the market. The target costs for a new product are derived from the price the customers are willing to pay for the product. Accountants work with the sales and marketing teams to understand the parameters of the market and make a judgement about the price the market will bear.

The company will have established a policy of how much gross profit they wish to make on a product. By subtracting the target profit from the sales price, the allowable cost can be calculated. The allowable cost is the target cost to be achieved.

Based on the current design at the early stages of design of a new product, the estimated current cost can be calculated. The difference between the

current cost and the estimated cost is the cost gap. At the design stage itself, the accountants and the engineers work on reducing this cost gap.

Action generally emanates as, in all situations, the allowable cost is lower than the estimated current cost. The accountants establish the target costs for the product or for the major subassemblies of the product. The target costs must be within the reach of the team, but must also be aggressive goals. For example, there will be a target cost for an automobile made up of the targets for the body, transmission, the motor, and other major subassemblies. Later in the design process, the targets costs will be applied to a lower level and include components and smaller assemblies.

Target costing cycle

Sales Price minus Target Profit = Allowable Cost

Allowable Cost is the maximum production cost to achieve the target profits.

Estimated Cost is the cost associated with the current design of the product

Estimated Cost

Value engineering and target costing

The process of value engineering and target costing are like inseparable twins. Value engineering is a set of formal techniques used to bring the design into line with target costs. It is a planned and orderly approach to the assessment of product costs throughout the design process.

The processes and procedures of value engineering vary considerably from one organisation to another, according to the products being designed and the needs of the market. But the essential elements are that the design engineers, production engineers, field engineers, service engineers, purchase staff, and suppliers/vendors work together in a team to eliminate cost from the design of the product or segments of the product.

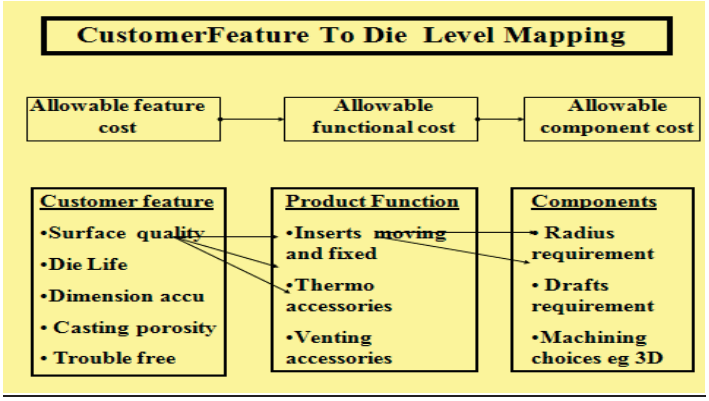
Value engineering methods will be used to bring the cost of the major subassemblies into line with the target cost before the detailed design is started. As the design progresses and the individual component parts and their production processes are designed, value engineering is used to optimise the costs of each lower level part and sub assembly.

Allowed Cost —VE— Target Cost —VE— Estimated cost —VE— Target cost

It is very important here not to forget that value engineering has to be guided by target costing, which, in turn, should follow a good understanding of the customer value. If not done this way, the value engineering will fall into a conventional trap of being an isolated process.

Target costing in die design

The following table imitates the perspective table shown earlier in a typical die used for aluminium die casting.



The table shows a correlation table between a probable customer value proposition of and an aluminium component maker on the die he wants from the die maker. In this table, you can see the probable value on the columns and the components of a fixed and moving part of a typical aluminium die. It is sort of a conjoint analysis and only a sincere cooperative effort from the die designer and the die manufacturer can make this table effective.

This table has to be juxtaposed against the allowable price by the OEM who has to purchase the

CORRELATION MATRIX BETWEEN CUSTOMER VALUE AND THE COMPONENTS OF DIE

		DIE CUSTOMER VALUE PROPOSITION								
		V1	V2	V3	V4	V5	V6	V7	V8	V9
		Die Life	Casting Dimensions quality	Casting Surface quality	Maintenance Free Running	Ease of Maintenance	Guarantee Against failure			
FIXED PART OF DIE SYSTEM	Base									
	Fixed Side Die Housing									
	Metal Pouring Channel									
	?									
MOVING PART OF THE DIES	Hydraulic Cylinder									
	Ejector Pins									
	Moving part dies housing									
	Base Plate for holding									
	?									
	?									
	?									

component. In view of this multiple touch points, a target-costing mechanism can work effectively only when all the players in a value chain come together with trust and mutual cooperation.

Operating procedure

Once we establish a target price, we need to reduce the desired margin to arrive at the overall target cost. This overall target is then allocated feature-wise, as mentioned in the columns based on the customer value proposition. This is where value chain cooperation becomes critical.

The target cost of each feature is then distributed to the aggregate based on the quantified value of relationship between the feature and the components. For example, if the die life gets an allocated cost, say RsX lakhs, it is then allocated to the components based on the role the components play in giving that feature. This is where conjoint analysis becomes important.

In this way, each component will get an allocation of the value-based cost coming from the customer value and then connected through the matrix of correlation. Effectively, this will translate the aggregate feature-wise cost into material-wise allowable cost without compromising on the total.

The allowable customer cost would have now been translated material wise and the challenge of value engineering now begins. For example, one may seek to design the best possible draft or radius in a die to fetch the surface finish of a component, if a customer does not see that much value, then the designer will not have a luxurious choice, but be guided by the values to engineer the cost.

This is how, in short, target costing will work and needs a sharp innovative mind to achieve the desired value without getting trapped in legacy thinking.

About Author

CMA A.N. Raman, is specialised in subjects such as New trends in cost management, Introduction of management accounting systems, Activity Based Costing and Target Costing frameworks, Strategic Cost Analysis, Balanced Scorecard Practices, Environment related and product life cycle costing and Sustainability Costing and Integrated Reporting.

FIBRO
INDIA

FIBRO Cam Units

Designed to Deliver Excellence

Standard Cam Slide Units

Used for conventional press tools offering

- Working angle upto 70°
- Working force upto 2000 kN and
- Working surface width upto 1050 mm

Mechanical Punching Unit

Specially developed for progressive press tools

- Designed and tested for cutting forces upto 400 kN
- Optional punch retraction either with compression spring or Gas Spring
- Offers very tight positional tolerances during press stroke

Roller Slide Units

New innovation to overcome working angle constraints,

- Offers -20° to +50° working angle
- Available for working forces upto 160 kN

Available for working forces upto150 kN

Flex Cam Systems

Offers major benefits such as :

- Flexibility : Any direction, any angle and free driver position
- Quality : Optimized alignment, variable force, no guide wear and no rework
- Safety : Build-in overload safety tool protection, no breakage safe oil pressure

Read More at www.fibro.com

FIBRO INDIA PRECISION PRODUCTS PVT LTD

Plot No: A- 55, Phase II, Chakan M.I.D.C,
Pune - 410 501, Maharashtra,INDIA

☎ +91 2135 – 670 900 ✉ info@fibro-india.com

Patron Members of TAGMA

NO	Existing Patron Members	CITY
1	BHARAT TECHNOPLAST PVT LTD	Mumbai
2	BRAKES INDIA PRIVATE LIMITED	Chennai
3	CRAFTSMAN AUTOMATION PVT LTD	Coimbatore
4	DEVU TOOLS PVT LTD	Mumbai
5	ELECTRONICA HITECH MACHINE TOOLS PVT. LTD.	Pune
6	GODREJ & BOYCE MFG CO LTD - Tooling Division	Mumbai
7	JAIN IRRIGATION SYSTEMS LTD	Jalgaon
8	KINETIC TECHNOLOGIES (a divn. of Jayahind Sciaky Ltd)	Pune
9	LMT INDIA PVT LTD	Pune
10	LUCAS TVS LTD	Chennai
11	MAHINDRA UGINE STEEL CO LTD	Raigad
12	MANGAL INDUSTRIES LTD.	Chittor
13	MISUMI INDIA PVT LTD	Gurgaon
14	MULTIPLE SPECIAL STEEL PVT LTD	Bengaluru
15	MUTUAL ENGINEERING PRIVATE LIMITED	Thane
16	NTTF	Bengaluru
17	SANDVIK COROMANT INDIA at SANDVIK ASIA PVT LTD	Pune
18	SCHUNK INTEC INDIA PRIVATE LIMITED	Bengaluru
19	SECO TOOLS INDIA (P) LTD.	Pune
20	SRIDEVI TOOL ENGINEERS PVT LTD	Thane
21	SUNDARAM CLAYTON LTD.	Chennai

ADVERTISERS INDEX

AMPCO METAL

Our state of the art facility in Pune, Chakan MIDC, India

Beryllium Copper Alloys

AMPCOLOY® 83
2% Beryllium
Hardness: 360 HB (40HRC)
I.A.C.S: 20%

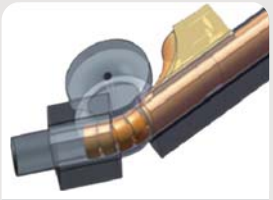
AMPCOLOY® 88/95
0.5% Beryllium
Hardness: 240 HB (22HRC)
I.A.C.S: 69%

Beryllium Free Copper Alloys

AMPCOLOY® 940
Without Beryllium - For food & medicinal applications
Hardness: 210 HB (20HRC) I.A.C.S: 48%

AMPCOLOY® 944
Without Beryllium - For food & medicinal applications
Hardness: 294 HB (30HRC) I.A.C.S: 30%

Applications



Tube Bending
AMPCO® 18/21/22/M4

Tube Forming
AMPCO® 18/21/22/25

Deep Drawing
AMPCO® 21/22/25/26

Aerospace & Offshore
AMPCO® 45/M4
AMSA4640/4881

Steel Mill &
General Engineering
AMPCO® 18/21/M4

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

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

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

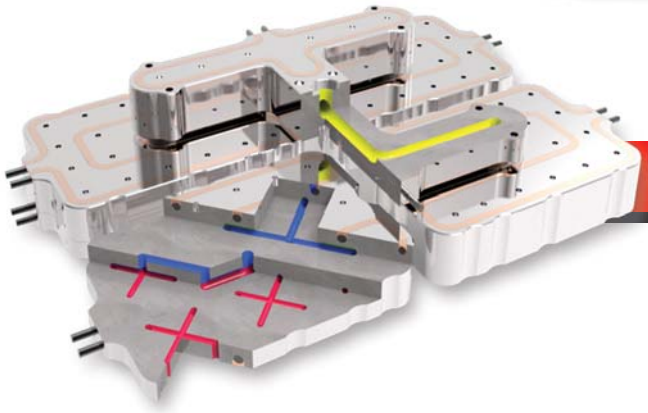
AMPCO METAL EXCELLENCE IN ENGINEERED ALLOYS

EXTRAORDINARY EFFORTS. EXTRAORDINARY RESULTS.

HOT SOLUTION

YUDO

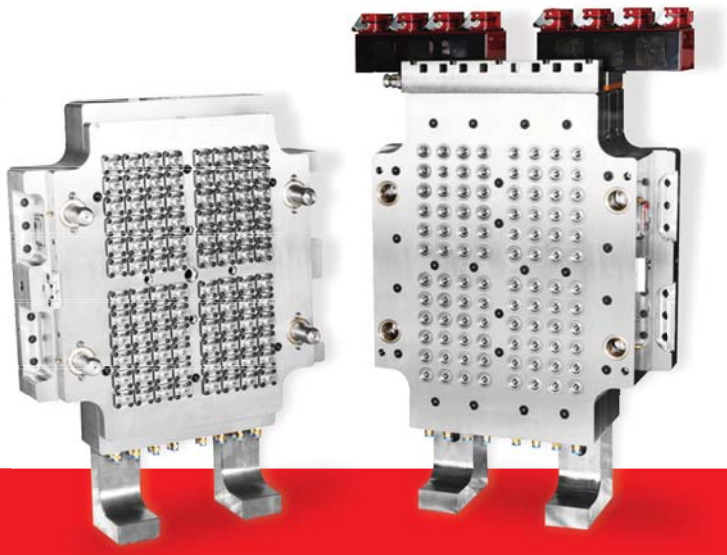
HOT RUNNER SYSTEM



ISO edgeless manifold for packaging

Advantages:

- Best weight variation in Industry - Below 3.5%
- Fastest color change
- Eliminate dead spots inside the flow channel
- Reduce pressure drop
- Prevent burning issue in case of delicate resin



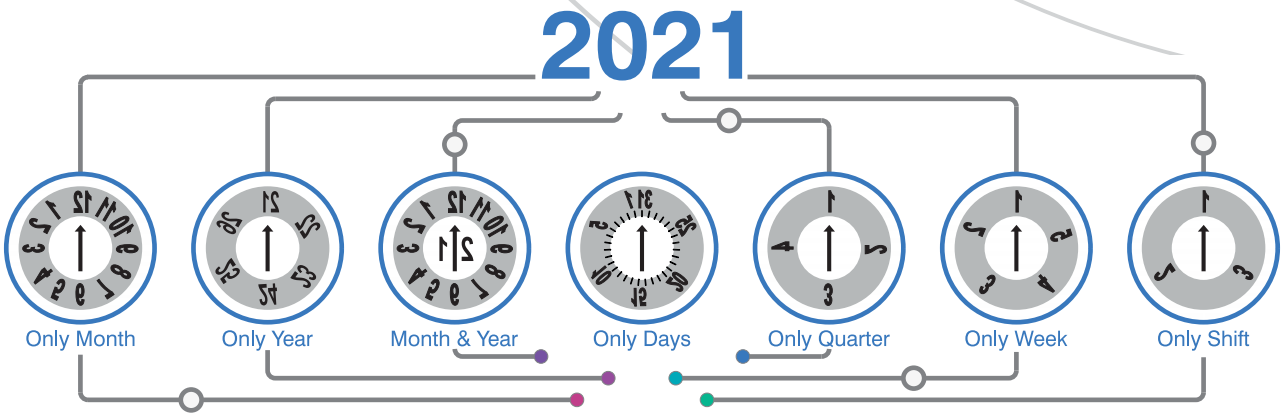
YUDO HOT RUNNER INDIA PVT. LTD.

A/113 & 114, Evershine Industrial Estate, Waliv Road, Chinchpada Junction, Vasai (E), Thane-401208, INDIA.
Tel.: +91-250-3200922, 2451156/56 | Fax: +91-250-2451158 | Email: sales@yudo.co.in | www.yudo.com

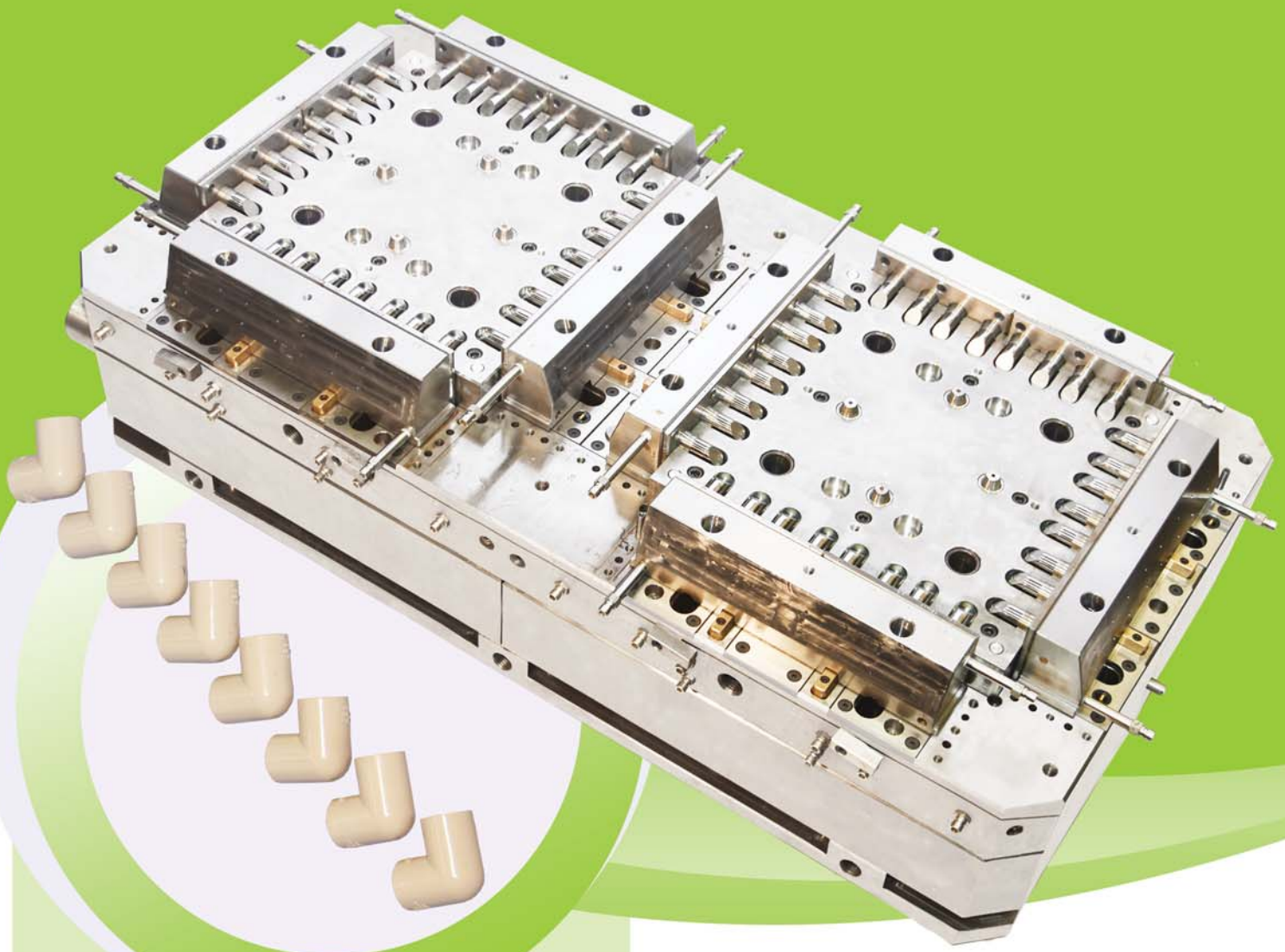
DATE INDICATORS
FOR YEAR 2021

VIJAYDEEP®
Standard Solutions

vividhart; +91-9820036041



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



Estd.1993

DEVU TOOLS PVT. LTD.

AN ISO 9001 : 2015 COMPANY

MOULD MAKERS

MANUFACTURER & EXPORTER

DEVU TOOLS PVT. LTD.

Office : A/44, 2nd Floor Nandjyot Indl. Estate, Kurla - Andheri Road, Safed Pool, Sakinaka, Mumbai - 400072, India

Unit : Plot Survey No. 57/7, Atgaon Indl Estate, Mumbai Nasik Highway, Post Pundhe, Atgaon, Taluka Shahapur, Dist Thane-421601, Maharashtra, India

Phone : +91-22-6128 2626 (100 Lines)
2851 2635 / 6691 4412

Fax : +91-22-2851 8690 / 2859 0285

Mobile : +91-9820030764

Email : marketing@devutools.com, sheregar@devutools.com

Web : www.devutools.com

Excellence In
High Precision Mould

India's One of the Largest Mould Maker

Mould making is an art, over the years we have mastered the 'Art'.

At Devu tools we begin with a complete understanding of your needs, problems and production requirements. An in-depth analysis from our experienced engineers, resulting in solution to meet your molding needs. With World-class facility, high-end technologies, and skilled manpower, we are well positioned to serve the growing demand for the complex mould requirements. We believe in changing with time and well equipped to face the changing market dynamics.