



THE ECONOMIC TIMES



**BEST  
METAL  
CUTTING  
BRANDS**

2020

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**BEST  
METAL  
FORMING  
BRANDS**

2020



## From the Editor's Desk



The year 2020-2021 has been about coming together, being resourceful, innovating for the good of mankind, and in some cases, about survival. With the pandemic calling on each and everyone of us to reach down to find our most hidden reserves of strength and courage, calling the year merely 'challenging' would be an understatement. Despite these factors, or to say more correctly- in spite of it all, some companies and brands not only managed to remain leaders in their fields but scaled up the ladder of excellence. The Economic Times Best Brands is a series that celebrates brand excellence at this superlative level, and the ET Best Brands in Metal Cutting and Metal Forming for 2020 were definitely more special – as they came with the sweet taste of victory over the most challenging of times.

Branding is a marketing tool related to perception. It helps companies to align what their audience perceives with what the companies want their audience to believe in. After all, a brand is not just the product or the service or the solution that a company offers; it is a perception of what the company stands for in its entirety. In this intensely competitive business environment, a brand also reflects a company's quest for excellence in the context of quality, innovation and service. And when you associate the term 'Best' with any brand then it is meant to stand out in the crowd consistently.

When people ask me the definition of 'Best Brands', my answer is simple: 'Best Brands are companies that are more than just good suppliers; they are great partners'. Through this coffee table book, The Economic Times honours and celebrates the great partners in the metal cutting and metal forming industries by recognising them as 'The Economic Times Best Brands'. They are the Best Brands because they have gained their customers' confidence and have maintained their leadership positions even in challenging times.

Kruti Bharadva



# About ‘The Economic Times Best Brands in Metal Cutting & Metal Forming’ Initiative

The metal cutting and metal forming industries play a crucial role in the growth and development of the Indian manufacturing Sector. From machine tools to cutting tools, from laser machines to presses, from metrology solutions to lubricants, from rotary tables to auxiliary equipment and everything in between, the metal cutting and metal forming industries form a very complex and comprehensive segment.

Together, these industries play an important role in the production of a diverse and huge range of products across different discrete manufacturing sectors. In the recent years, the Indian metal cutting and metal forming industries have substantially raised their standards and continue to do so while partnering with their customer segments.

The evolution of metal cutting and metal forming sectors in terms of quality, technology, innovation and service is quite heartening and therefore it is necessary to take note of this pursuit of excellence. The rise of the Indian metal cutting and metal forming industries also reflects the rise of some major brands – both home-grown and foreign-origin. Through sheer focus on customer delight, these brands have reached to the top of their games. While the Indian manufacturing industry today has a variety of options when it comes to choosing its metal cutting and metal forming partners, it is important to identify, recognise and honour the best amongst these. Therefore, in the best interest of the Indian manufacturing industry, The Economic Times brings to you the Best Brands in the Indian Metal Cutting Industry and Metal Forming through this coffee table book.

This coffee table book highlights the key players from the Indian metal cutting and metal forming industries by analyzing their performance based on their offerings, market presence and brand recall. Leading companies were shortlisted and made to go through an analysis of the overall performance of the company based on publicly available data before they finally made it to the list. The objective of this initiative is to serve the best interests of the Indian manufacturing industry by highlighting the Best Brands in metal cutting and metal forming!





## About ET Edge

ET Edge strives to build global business intelligence through summits, conferences, communities, exhibitions in overarching lectures and presentations, hands-on workshops, panels, roundtables, case studies, buyer seller meets and networking platforms. These forums ensure senior decision makers are equipped with information and networks to respond to challenges they face not just in India but also globally.

ET Edge was launched in 2013, making its foray through domestic conferences. It has now steadily moved into new formats not just covering knowledge sharing platforms such as conferences but also includes exhibitions, community building and much more.

While ET Edge is well established in the domestic market with expertise in sectors panning Infrastructure, Education, Technology, Retail, BFSI and Telecom amongst other sectors, it is also expanding geographies by building initiatives in South East Asia and is covering new segments including the government segment as well as the B2C segment.

ET Edge conferences are primarily B2B platforms which bring together industry heads, vertical experts, academicians, government, visionaries and thought leaders for insightful conversations that aid in drawing the blueprint for policy changes and giving directions to these critical sectors. Delegates at the conference are key management personnel and decision makers who further enrich the gatherings with their crucial insights and vast experience.

ET Edge builds engagement for its conferences through validated content through third party market research agencies and interactive formats. It deploys cutting edge formats such as fishbowl sessions, speed networking and other diverse formats such as key notes, one to one discussions, workshops, panel discussions, roundtables, case studies and awards.



# Knowledge Partner

**Breakthrough Management Group International (BMGI)**, a global consulting firm, partners organizations transform their business performance with a strong focus on *delivering results*. BMGI enables businesses to solve strategic, organizational and process problems. BMGI has partnered with organizations in various stages of their business life cycles and has delivered cumulative benefits to its clients worth several billion dollars with an engagement ROI of 5:1 to 20:1.

In India, BMGI is located in Mumbai. BMGI’s clients include leading **Fortune 1000 Global companies** and other Indian companies from diverse industries such as **financial services, IT/ITES, airlines, chemicals, FMCG, discrete manufacturing, telecommunications, petrochemical, textiles, healthcare & energy**.

BMGI is recognized as a **thought leader** in the space of Innovation and operational excellence. BMGI has also gained worldwide attention through its **international bestselling books** such as ‘**The Innovators Toolkit**’, ‘**Insourcing Innovation**’, ‘**Design for Lean Six Sigma**’, “The Complete Idiot’s Guide to Lean Six Sigma” and many more.

Learn more at: [www.bmgindia.com](http://www.bmgindia.com)



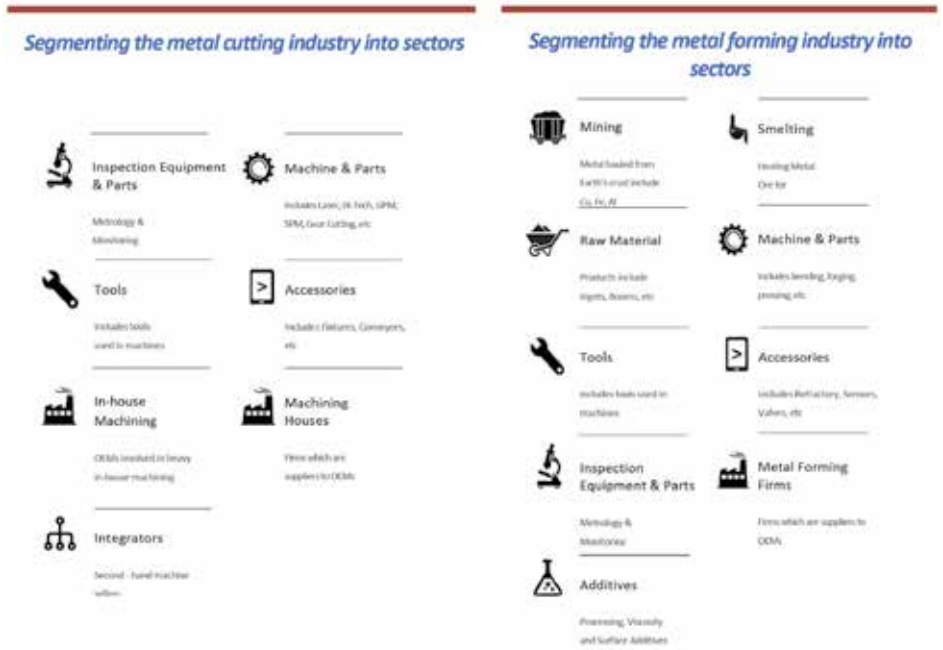
# Research Methodology

BMGI, as a Knowledge partner for The ET Best Brands in Metal Cutting & Metal Forming 2019, conducted detailed research to identify a list of the best and emerging best brands in India in the metal forming and metal cutting for the 2019 edition.

The process included analyzing and reviewing companies which support the eco-system of Metal Forming and Metal Cutting from initial stages of Mining to manufactured parts, besides including the firms which enabled metal cutting and metal forming, such as machine and machine part manufacturers, tools, inspection equipment, accessories, etc.

BMGI conducted a detailed secondary research to identify a reasonable and vast list of established and emerging brands which are recognized in the country and where applicable have a global outreach. The data was collected from various databases including industry associations, published lists and participant lists of various major Indian and global events. A list of 360 Metal cutting and 488 metal forming companies was created.

The list was then subjected to further detailed assessment across various dimensions such as technology, product range, geographical presence in India and exports, manufacturing capabilities and clientele.



Core Dimensions applied to 360 companies spanning across 7 sectors to identify the best



With the screening, a final short list of companies was prepared to arrive at the names mentioned in this Coffee Table Book as the best recognizable brands for this edition.



FEATURED BRANDS
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Ace Designers Ltd
Acemicromatic Manufacturing Intelligence Technologies (Amit)
Ace Manufacturing Systems Ltd. (Amsl)
Micromatic Grinding Technologies Private Ltd.
Bharat Fritz Werner
Ceratizit India Pvt Ltd
Chiron Group Se
Cosmos Impex (I) Pvt. Ltd.
Exxonmobil Lubricants Pvt. Ltd.
Forbes & Company Limited (Totem)
Igus (India) Private Limited
Jyoti Cnc Automation Ltd.
Kennametal
Lakshmi Machine Works Limited
LVD Strippit India Pvt Ltd
MMC Hardmetal India Pvt. Ltd.
MotulTech
Murata Machinery, Ltd.
Pro-Arc Welding & Cutting Systems Pvt. Ltd.
Rajamane Industries Pvt Ltd
S&T Machinery Pvt Ltd
SLTL Group (Sahajanand Laser Technology Limited)
Sphoorti Machine Tools Pvt Ltd
Trishul Machine Tools Pvt. Ltd
Trucut Precision Tools Pvt Ltd
Tyrolit India Superabrasive Tools Pvt. Ltd.
Widia
Widma

*\*Company names arranged in alphabetical order*



## ACEMICROMATIC GROUP

**A**ceMicromatic Group (AMG) is a global machine tools conglomerate and also the largest machine tools group based out of India. Comprising of more than 10 machine tools and allied solutions companies, the Group has been the market leader for the machine tools industry in the Indian subcontinent for over 40 years. With a fast-growing presence across North & South America, Europe, the Middle East, Australia, and Asia, the Group endeavours to be “All You Need In Machining” to its customers.

Offering affordable pricing, a competitive range of machines with a variety of application, best-in-class service and an installed base of more than 60,000 machines across the world, AceMicromatic is one of the largest and most comprehensive machine tools groups.

Here is a glimpse into the successful journey and capabilities of the Group’s core companies, Ace Designers in Turning, Ace Manufacturing Systems (AMS) in Milling, Micromatic Grinding Technologies (MGT) in Grinding and AceMicromatic Manufacturing Intelligence Technologies (AmiT) in IoT productivity solutions:

**55+**  
**SERVICE CENTERS**  
**(PAN-INDIA)**

**200+**  
**PRODUCTS**

**40+**  
**YEARS OF EXCELLENCE**

**60000+**  
**INSTALLATIONS**

**15000+**  
**CUSTOMERS**

**9**  
**TECH CENTRES**



We will continue to build on the trust reposed on us by our customers and work towards offering cost effective, yet state of the art solutions of appropriate technologies with the focus on enhancing the productivity.

**TP Sridhar**

Chief Executive Officer  
Ace Designers Limited



# EXCELLENCE IN TURNING

Ace Designers has been striving for excellence despite disruption to bring out an array of power packed comprehensive turning centres. Here are some of their latest products-

1. HPT 180 HS – High Precision Turning Centre featuring a Synthetic Granite Bed & Hydrostatic Guides.
2. WLX 24 2T & WLH 22 – Vertical & Horizontal turning centre to meet the demands of Alloy Wheel Turning.
3. CSL 2T – Heavy duty Twin Turret lathe for Crankshaft tuning.
4. SHA 20 Magna – A Sliding Head Automat featuring up to 7-Axes.
5. 2TSL 12100 M – A Twin Turret Shaft Lathe featuring a Servo Steady and Tailstock.
6. LS 06/08 LM – Highly productive chucks with Gang Tooling.
7. Simultaneous Column Pipe Threading on Twin LTP 2 LM machines.
8. VDT 30 – A Vertical Turning Centre for Parallel turning of Brake Discs.
9. LT 2 LM MSY – A Turnmill centre featuring a Sub-Spindle & Y-axis.
10. VTL 50 M – Heavy Duty Large Size Vertical Turnmill Centre with an ATC.

**A**ce Designers, started in 1979, is the undisputed leader in the CNC turning machines market for over three decades in India.

In addition to producing a comprehensive range of CNC lathes, they have also built capabilities in the field of application engineering and tooling solutions. They also offer turnkey solutions, tooled-up options, innovative work holding, Cp/Cpk evaluation, IoT.

After initially developing product designs for various machine tools including special purpose machines, in 1982, Ace stepped into the world of manufacturing with a range of special-purpose import substitution machines for the I. C. engine valve Industry. Since then, Ace has rapidly grown to become India's largest manufacturer of CNC turning centres and has remained the undisputed leader for nearly two decades. With a strategic focus on the manufacturing of CNC turning centres, Ace has developed a wide range of indigenous cost-effective products to meet the changing needs of its customers. Ace has ensured product excellence through quality driven manufacturing processes supported by meticulously planned world-class infrastructure.

Having played a vital role in the Indian industrial renaissance, Ace machines have established their footprint in the global arena too. They have found acceptance in Europe, the USA, South America, UK, Middle East, China, South East Asia, Japan, and Australia. Over the years, Ace co-founded several companies and collaborated with a few others to form the Ace Micromatic Group, India's largest machine tool manufacturing conglomerate. It is well known that one of the main factors contributing to high-quality products is high-quality inputs. To ensure on-time delivery and to maintain the quality of its machines, the company has built expertise in the design and production of its critical subsystems. Over the years, Ace has established state of the art manufacturing and assembly facilities spanning an area of more than 81000+ sq m spread across three plants in Bangalore, India.

Ace Designers can be credited to manufacturing India's largest selling turning centres-The the innovative Jobber series. This series, launched in 1998, was a huge hit leading Ace Designers to continuously upgrade the series over time to suit the changing customer needs with the Jobber elite series and now the power-packed Jobber Evo series.

Having recently completed 40 years of successful operations in the year 2019, Ace Designers aims to dominate the CNC turning market and direct its focus entirely towards turning solutions.

**Highlights**

- 42,000+ machine installations worldwide
- State of the art foundry with a capacity of 1000 tonnes per month.
- State of the art Innovation center housing R&D, Design and IT
- High-quality plant & machinery for in-house manufacturing of key components
- Assembly of machines on conveyor lines for volume production
- Current plant capacity of 5000 machines annually.
- Winner of multiple awards including national awards and more recently the Platinum Level Recognition CII-EXIM Bank Award for Business Excellence –2019





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**AceMicromatic®**  
Group

MACHINING CENTRES

**AMS®**  
In Pursuit of Excellence

[www.acemicromatic.net/ams/](http://www.acemicromatic.net/ams/)



“Our vision is to be a global leader in the engineering and technology domain, by making our machines smarter, reliable and competitive. Our focus in the coming years is to offer end-to-end solutions, from fixture to automation to IoT solutions, that enable customers to enhance their productivity and elevate the quality of their output. Our stronger presence is in Automotive sector. Strategically we formed a Center of Excellence (CoE) to develop new products and features to further strengthen our presences in others sectors like Die & Mould, Electronics , Railways , Aerospace & Defense.”

**L S Umesh**  
Director & CEO  
Ace Manufacturing Systems Ltd

# A MACHINING POWERHOUSE

## DTC-400 XL (High Speed Drill Tap Machining Center)

The Drill Tap Machining Center DTC-400 XL is designed specifically for high speed drill tap applications along with full milling capabilities.

The DTC-400 XL is compact and powerful. With a rigid structure and high speeds one can achieve high accuracy and productivity. The machine is widely used for machining Automobile Components.

The machine is equipped with roller type LM guideways for delivering better rigidity and superior performance.

DTC 400XL can be offered with a linear pallet changer or rotary pallet changer and coolant through spindle (CTS) which further helps in maximizing productivity.

### Specifications:

- High Speed Drill Tap Machining Center
- Highly Rigid Structure
- Table Size: 750 x 400 mm
- Spindle Taper: BT-30/BBT-30 with 16/24 Tools Faster ATC
- Higher Spindle Speed: upto 24000 rpm
- Higher Rapid Traverse: 60/60/48 m/min
- Lower Chip to chip Time: 1.5 sec

**A**ce Manufacturing Systems (AMS) started in 1994, the largest manufacturers of Machining Centers in India, offers one of the widest ranges (over 100 variants) of machining centers, both vertical and horizontal and covers the entire gamut of milling applications. AMS also offers turnkey options, automation and tooling up solutions.

Since its inception, AMS is catering to customers ranging from large corporations to small industries, with over 15,000 machines installed in customer places across India and the world.

AMS, today, caters to over 4,500 customers across different locations in India and the world. Apart from major industrial hubs in India, AMS exports its machining centers to USA, China, Mexico, South Korea, and Russia among others. Automotive is the strongest industry segment for AMS. In recent years, AMS has seen demand from segments such as die & mould, general engineering, medical equipment, electronic components, aerospace and defense and automotive as well. Being an ISO 9001:2015 company, AMS has reposed great importance in its quality, which is driven by manufacturing processes and performance-oriented management practices.



AMS takes pride in the fact that its products are indigenously designed and built by their in-house engineers and employees. AMS is also proud to have completed 27 years of successful operations and has set targets to further enhance the quality of products and services, reduce delivery period, and offer its customers innovative solutions in machining. In 2020, AMS is charting out ways to boost their machine performance, induce thorough research and development, and comply with innovative Industry 4.0 concepts into their product range.

## Infrastructure / Plant Capacity

The newly built multi-storeyed assembly facility, inaugurated in 2018, is one of its kinds in the country today. It can build over 2,000 machines per year. And along with other facilities, they can build over 3,200 machines every year.

The facilities have a rainwater harvesting tank that can collect up to 1.8 million litres of water. The solar panels installed on the ceiling of the existing factory building has a capacity of 500 kWh, which meets about 60 to 70 percent of the company's existing demand for power.

## Product Offerings

- Over 70 machine variants - DTC, VMC, HMC, Twin Spindle VMC, Double column machines and 5 Axes machines.
- Over 3,000 tooling-up solutions provided to customers in India and worldwide.
- High-speed Drill tap machines with a chip-to-chip time of 1.5 sec are few critical performing parameters with pricing that gives a tough competition to global products with similar specs.
- Twin spindle VMC has doubled the production capacity of its customers.





**BEST  
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2020**

**AceMicromatic®**  
Group

SMART MANUFACTURING SOLUTIONS



[www.acemicromatic.net/amit/](http://www.acemicromatic.net/amit/)



“Most of our customers have been with us for years and appreciate the effort we put into making them comfortable with IIoT solutions. We understand that adopting new technology is not easy so at AmiT, we go the extra mile to train and handhold our customers so that with our solutions they can reap the benefits of their investments.”

**Madhusudhan Kestur**

Director, AceMicromatic Manufacturing Intelligence technologies Pvt. Ltd. (AmiT)



# A LEADER IN INDUSTRY 4.0

MachineConnect™ Pro OEE is a flagship product from AceMicromatic Manufacturing Intelligence Technologies Pvt. Ltd. (AmiT), India's leading industry 4.0 solutions provider. MachineConnect™ Pro OEE provides real-time insights to manufacturing like cycle start, cycle stop, part count, load/unload times, down times with reasons, Machine Utilization, Performance, Quality, OEE etc. Additionally, it allows for comparison and program transfer from PC to CNC machine.

## Benefits

- Provides real-time information which can be used to identify and execute productivity improvement initiatives leading to increased productivity/OEE
- Replaces errors and biases related to manual data collection
- Helps users in providing accurate production information to end customers thereby leading to increased customer satisfaction
- Program transfer eliminates errors of wrong program being transferred to CNC machines
- Shop floor production data can be accessed online or through mobile platforms

**A**ceMicromatic Manufacturing Intelligence Technologies Pvt. Ltd. (AmiT) is India's leader, and first mover, in the space of Industry 4.0 and Smart Manufacturing software. Founded by domain experts, and leaders with global operating experience, it brings the best-of-breed technical, product and solution expertise to its customers. With its solutions deployed across a wide variety of 15,000+ machines, assembly lines, and other production assets, AmiT is helping drive significant manufacturing productivity and profits. Its platform has also been installed to process industries, such as FMCG and textiles. Its solutions have been deployed in select countries such as China, Italy, Thailand, Russia, Germany, and others.

AmiT solutions have been architected to acquire real-time data from a wide variety of production assets, such as Conventional, PLC, CNC machines, assembly stations, robots, metrology, and other production assets. Production and process parameters, real-time metrology, benchmarks, operational and financial data combine in a deep learning analytics engine to provide real-time outputs that drive Strategic, Tactical and Operational initiatives. The footprint of AmiT's platform and solution set covers Traceability,

Production Analytics, Visual Factory, Energy Vectoring, Online SPC and feedback, Digital Factory, Assembly and Conveyor monitoring, Machine Diagnostics and Prediction. Its platform provides integration hooks to corporate systems (such as ERP, PLM, CRM) for implementing enterprise workflows, and poka-yokes.

Integration with 3rd party snap-ins and escalation systems provide alerting to enable JIT, MES workflows. With its extensive service footprint that covers 42 cities across India and select countries,

AmiT has the reach to serve the needs of customers, from technical to last-mile services such as customization, training, analytics support, and embedded onsite services.





# PIONEERS IN CNC GRINDING

## CNC CENTERLESS GRINDERS

These machines are suitable for higher productivity and accuracy. The process is ideal for large batch production. The machine is configured for both through-feed & In-feed grinding. Various types of automation can be integrated with the machine for parts such as Engine Valve, U-J Cross, Piston Pin, Shocker Tube, Hydraulic Valve Spool etc.

### Features

- The ribbed structure of bed ensures better static, dynamic rigidity & vibration damping.
- Rigid out board support bearing for regulating wheel spindle.
- Heavy duty, pre-loaded high precision roller guide ways for In-feed movement
- Grinding Wheel & Regulating Wheel spindles are provided with Antifriction bearing and has undergone FEA analysis for maximum load in dynamic condition.
- Two axes CNC Grinding wheel dresser for any profile.

### Automation

- Auto loading/unloading equipment for in-feed grinding (Optional)
  - Engine valve Automation
  - Gantry type loading/unloading system
- Auto loading/unloading equipment for Thru feed grinding (Optional)
  - Vibratory bowl feeder for small work pieces
  - Roller/Belt conveyor for round tubes and bar

**E**stablished in 1973, Micromatic Grinding Technologies Ltd (MGT) is India's largest CNC grinder manufacturer. With a capacity of four plants, three in Ghaziabad, near New Delhi and then one is Dabaspur in Bengaluru covering about a total of 25,000 sq mt of working area.

Their first model, Universal Cylindrical Grinder GCU-100 won the Best Design & Best Product Awards at IMTEX 1979 Exhibition. Numerous awards have followed since then. Over the years, MGT has strived to have a complete product line-up in OD, ID, Universal & Centerless Grinding machines thus offering its customers total integrated solutions. This has resulted in MGT achieving the No. 1 position as the manufacturer of Grinding machines with nearly 50 percent market share in India since 2010.

High-speed grinding solutions are also offered through technical association with Toyoda (JTEKT) Japan for Cam Lobe Grinding & other products since 2006. Toyoda Micromatic Machinery India Pvt. Ltd.-TMI is the marketing joint venture, also started with JTEKT in 2008. As part of customized grinding solutions for many industries including high precision diesel fuel injection parts, automotive engine valves, etc., system integrated capabilities to con-



ceive, design & develop, manufacture, commission & service and automation, is the strength of Team MGT. The company has an in-house R&D centre recognized by the Ministry of Science & Technology, Govt. of India since 1982.

Additionally, MGT has worked with prestigious educational institutes Like IIT Madras to create the Next Generation Precision Grinder, an indigenously manufactured high precision sub-micron precision level accuracy machine, which is a huge milestone not only for MGT, but a proud moment for Indian manufacturing.

Over 500 strong dedicated workforce, some of whom have been trained at their associates in Switzerland and Japan in recognition of MGT's ability to nurture & sustain relationships globally.

A 60-member mechanical and electrical design team uses the latest 3D modelling software and design analytical tools to develop faster and more reliable new products & solutions.

A network of more than 60 offices and over 700 trained service engineers across India, China & Germany provide prompt service and backup support through the sole marketing arm, Micromatic Machine Tools Pvt. Ltd.- MMT, the joint marketing arm of the Ace Micromatic Group.

In its pursuit of becoming a key player in the global market, MGT, together with its international partners has been successfully exporting to countries like Germany, France, Italy, Switzerland,



"As pioneers in the CNC Grinding machine industry, we prioritize serving the customers with the right solutions. We also strive to bring new levels of innovation in grinding with constant research and development, to make India AtmaNirbhar for the critical component needs of OEM manufacturers in diverse industries & for Exports. After being the Brand of choice in India for over a decade now, Micromatic Grinding is aiming now to become a Global Brand".

**N. K. Dhand**

Managing Director

Micromatic Grinding Technologies Pvt. Ltd.

Turkey, Mexico, USA, and S.E ASIA. ISO 9001:2015 Quality Management System is followed for the "Design, Development, Manufacturing & Servicing of Conventional & CNC Grinding Machines", certified by TUV NORD since 1995.

## Product range:

MGT manufactures a wide range of External, Internal, Universal and Special Purpose Cylindrical Grinders in CNC, PLC and Hydraulic versions. Backed with four plants across India, MGT produces CNC Centreless, Internal & Crankshaft Journal Grinders in addition to the expanded range of new machines.

Production CNC Centerless Grinders, Internal Grinders & Crankshaft Journal Grinders have also been added to expand the range of new machines being offered from the 4th plant at Bangalore started in 2008. Since 2005, MGT has emerged as the market leader with nearly 50% market share in India.

## Our CNC Centreless Grinders

Machine Model	UNIT	CLG 5020	CLG 6015	CLG 6020	CLG 6025
<b>Description</b>					
Component Size Min-Max (mm)	mm	2 ~ 60	2 ~ 60	3 ~120	3 ~120
Grinding Wheel Dia x Width x Bore	mm	510 X 200 X 254	610 X 150 X 304.8	610 X 200 X 304.8	610 X 250 X 304.8
Max. Wheel Surface Speed	m/s	45	45	45	45
Grinding Wheel Power (Optional)	KW	11(15)	11(15)	22 (30)	22 (30)
		15 Kw need to be selected for rough grinding and higher stock removal		30 kw need to be selected for rough grinding higher stock removal	
Regulating Wheel Dia x Width x Bore	mm	305 X 200X 127	305 X 200 X 127	350 X 200X 152	350 X 250 X 152.4
Regulating Wheel Motor Power	KW / RPM	1.5 / 1500	1.5 / 1500	2.2 / 1500	2.2 / 1500
Infeed Slide Servo motor (Optional)	Nm	12	12	18 (22)	18(22)



CUTTING-EDGE TECHNOLOGIES &amp; NEXT-GEN SOLUTIONS



# ENABLING PROGRESS SINCE 1961

## State-of-the-art Five axes Technologies:

BFW latest product range includes state-of-the-art five axes multi process technologies for Atmanirbhar Bharat. Developed for Import substitution for high value segments of Aerospace, Defense and Energy.



## DR KALAM CENTRE FOR INNOVATION

### Technologies for Tomorrow:

**iCTech:** BFW developed a composite technology in machine tools manufacturing with the use of polymers and minerals. This technology serves the purpose of stable dynamic structures and also enhances the other important aspects i.e life of machine

**iRTC:** Another technology trend from BFW R&D is a real time thermal error compensation for improved precision in the machine tools. This technology is a game changer in high precision needs of dies and mould industry.

## About BFW:

Bharat Fritz Werner Ltd. (BFW) is India's leading solution provider of machine tools. Manufacturer of horizontal machining centers, vertical machining centers, horizontal turning centers, vertical turning centers, multi-process technologies, five axes simultaneous machines, special machines & customized solutions.

BFW, a flagship company of the Kothari Group, was established in the year 1961 in collaboration with Fritz Werner Werkzeugmaschinen GmbH Germany.

With 45000+ installations across 15 countries through channel partners, wide sales & service network is available at 48 locations in India including 5 tech centers.

With an excellent design engineering capability & two state-of-the-art manufacturing plants BFW provides solutions to meet the performance, productivity and reliability expectations of diverse industries i.e. Aerospace, Automotive, Defence, Die Mould, Forging, Valves, Railways etc.

## Innovation:

To ensure customer progress at every step, BFW has been continuously investing in R&D and has launched Dr Kalam Center for Innovation in 2016 to create applied R&D for the next-gen manufacturing technologies. BFW has been recognized as one of the "Top 25 Most Innovative Companies in India" by CII Industrial Innovation Awards. BFW has been recognized by EEPC as 'Star Performer for Exports' for four years 2014 to 2019

BFW

www.bfwindia.com



## Customer focus:

To create solutions to address manufacturing challenges of customers, over the years along with its customers BFW has co-created several innovative solutions as import substitutes. Prestigious projects in the recent past include;

- Next-gen HMC platform ORIONs exported for global market.
- Fully automation line for drive train components
- Complete automation cell with gauging for differential case to automotive global supplier
- Automated cell for front axle beam machining with integrated robotic deburring
- Production lines for cylinder block, head etc supplied to reputed automotive manufacturers in India

## Subsidiaries:

To enable smart manufacturing solutions in the field of Process Engineering, Physical Automaton, Virtual Automation & Additive Manufacturing BFW launched m2nxt solutions a wholly owned subsidiary of BFW.

In year 2020, BFW launched BAMPL (BFW Advanced Manufacturing Pvt Ltd) a wholly owned subsidiary of BFW for addressing solutions for complex parts manufacturing for Aerospace, Defense, Electronics and Medical segments.

**45,000 + INSTALLATIONS**  
**400+ PRODUCT VARIANTS**  
**48+ BRANCHES WORLD WIDE**  
**60+ YEARS OF EXCELLENCE**



"Our focus is to building import-substitution products alongside next-generation products" Our purpose is to Enable progress of our customers, employees, supply chain partners, stake holders and Society through Innovation, Digitization, Next-gen technology with simplified process & global quality standards by creating a vibrant environment for our teams to excel. Mr. Ravi Raghavan is the Managing Director of Bharat Fritz Werner (BFW). He has 30 years of Operational and Strategic experience in Engineering and Manufacturing. Prior to BFW, he served in management positions at Kelvinator, Crompton Greaves, GEC Alstom and Tecumseh. He is currently serving as the Vice President of IMTMA & past Chairman of CII Karnataka Region.

**Ravi Raghavan**  
 MD, Bharat Fritz Werner

## Next-gen HMCs with Global benchmarking:

To meet the demand for 'world-class' HMCs for the Indian and global market, BFW has developed the ORION series of Next-gen HMCs. The ORION HMCs are gaining on-market acceptance with each passing day, by its engineering strength & performance currently ORION as a global brand making its footprint in India as well outside India.





## CUTTING TOOLS



www.ceratzit.com



## TOOLING THE FUTURE

## THE REVOLUTION IN TURNING

With High Dynamic Turning, or HDT for short, CERATIZIT has turned conventional turning methods completely upside down. This new turning technology, combined with CERATIZIT's dynamic FreeTurn tools, makes it possible to carry out all traditional turning operations such as roughing, finishing, contour turning, face turning and longitudinal turning with just one tool. Dynamic tools offer much greater flexibility on the machine and will in many cases replace the static tools with a fixed approach angle. With the milling spindle, a 360° rotational clearance angle can be used to adjust the tool in any position relative to a workpiece. Even undercuts or contours could be created, for which additional tools would be required today. HDT is therefore a completely uncompromising method of turning.



**C**ERATIZIT – with passion and a pioneering spirit for hard materials

For over 95 years, CERATIZIT has been a pioneer in developing exceptional hard material solutions for machining and wear protection. The private company, with registered offices in Mamer, Luxembourg, develops and produces highly specialised cutting tools, indexable inserts, rods made from hard materials and wear parts. The CERATIZIT Group is the global market leader in various application segments and successfully develops new carbide, cermet and ceramic grades, such as for wood and stone working.

With more than 8,000 employees at more than 30 production facilities and a sales network with over 50 branches, CERATIZIT is a global player in the carbide industry. The company's international network includes subsidiary Stadler Metalle and joint venture CB-CERATIZIT.

CERATIZIT-India is having 3 major state of the art manufacturing facilities based at Bengaluru & Kolkata along with 4 sales office and service centres as well as sales network spreading across major

industrial areas in India to serve tooling needs of general and segment customers.

The technology leader is continually investing in research and development and holds more than 1,000 patents. Innovative hard material solutions from CERATIZIT are used in various sectors, including mechanical engineering and toolmaking, in the automotive and aerospace industries and in the oil, gas and medical industries.

CERATIZIT is a pioneer in developing innovative new tooling solutions and has kept the trend high in line with its corporate value for last many years.

To mention few of such initiatives in tooling are:

- 1) Industry 4.0 ToolScope: -Unique software tooling solutions tackling various shop floor issues.
- 2) HDT: - High Dynamic Tuning, also known as Free Turn, is a total new definition of turning process
- 3) HFC- TUR: - Innovative productive solution in turbine blade machining area
- 4) 3D printed HPC: 3D printed HPC PCD milling cutter has definite advantage of a greater number of cutting edges with HPC optimised cutting edge geometry ensuring significant increase in tool productivity.
- 5) Reamer System: -Adjustable Monomax, Cutting Ring system, Remax-TS etc. are unique system of tooling in various reaming application
- 6) Adapter system DAH, ABS etc: -These high-tech tool adapter systems has provided unique tooling solution in various critical machining areas



2020 was a tough year for the whole industry. We are all the more excited that the market is now picking up again and promises a successful 2021. Internationalisation continues to be very important for the CERATIZIT Group and we are working hard to further strengthen our market position and our image as a premium brand. In this way, we want to return to the growth path of recent years and gain further market shares in India.

India has always been a land of opportunities and this year we would like to promote Vocal for Local through various of our associates. The topics of innovation, technical know-how and, last but not least, first-class service is of particular importance. They allow us to continue to offer our customers first-class solutions that provide them with real added value.

**Anil Kumar**

Managing Director CERATIZIT India Pvt. Ltd.

Overall, partners and customers of the group benefit from a highly attractive and integrated service promise which includes one of the largest product ranges in the market, an enormously efficient sales force, leading expertise in future technologies from digitization to nanotechnology and deep industry expertise based on many years of experience all under one roof.



## MACHINING CENTRES

CHIRON Group

chiron STAMA CMS FACTORY5

www.chiron-group.com



Chiron Group has always focused on its core competence of providing its customers high precision, high productive flexible machining centres and will focus also in the future to introduce innovative products and processes, services that will benefit its customers. Chiron India successfully completes its 10 years of existence in India and we are strongly committed to provide our best services and support to our customers here and bring in more value addition to their benefit.

**Rajesh T. Ghashi**

Managing Director  
Chiron India Machine Tools  
Private Limited

# CHIRON GROUP SE — PERFORMANCE MEETS PRECISION!

- CHIRON DZ 22 W five axis: The machining centre boasts precise, dynamic machining, high technical availability and is particularly impressive in the complete machining of large steel and aluminium components.
- CHIRON DZ 25 P: The Machining centre with spindle distance of 800 mm is designed for machining complex, large-volume for the automotive and aerospace industries.
- STAMA MT 733: Machining centres for 6-side milling and turning in one set-up.
- Micro5: A compact 5 axis machining centre for the high-speed cutting of micro-technical components
- AM Cube: First 3D printer of the CHIRON Group for manufacturing larger, more complex components. It is suitable for coating and repairing components, as well as printing near net shape parts.

The CHIRON Group, headquartered in Tuttlingen, Germany, is a global company specializing in CNC vertical milling and mill-turn machining centers, as well as turnkey manufacturing solutions. The Group has a global presence, with production and development sites, sales and service subsidiaries, and sales agencies worldwide. With a workforce of 2100 employees, it generated €443 million in revenue in 2019. Around two thirds of machines and solutions that are sold are exported. Key customer sectors are the automotive, mechanical engineering, medicine and precision engineering, aerospace industries and tool production.

The CHIRON Group is proprietor of the brands CHIRON, STAMA and FACTORY5, associated with new machines, as well as the retrofit brand CMS. The key feature of all the brands is precise, productive and flexible machining. CHIRON has a reputation for optimum dynamics. STAMA focuses on stability and heavy machining. FACTORY5 machining centers are ideally suited for high-speed machining of micro-technical components. CMS provides completely overhauled machines from the Group, including related services. With products and solutions for additive manufacturing, the CHIRON Group supplements its core competencies.





## MACHINING CENTRES

**YOU JI COSMOS**  
Sincerity Responsibility Innovation



## YOUR PARTNER IN PROGRESS

THE YCL SERIES –  
NOW MADE IN INDIA

In a journey to bring the highest quality machines to the Indian machine tool industry, Cosmos has joined hands with our long time partner YOU JI Machines Tools, Taiwan. The new Joint Venture company, You Ji Cosmos Machines Tools LLP, will aim to serve the growing demand for high quality vertical lathes in the country.

With almost 42 year of experience, You Ji has obtained customers support in design and quality of machine. There are many machines to meet customer's different needs. Table diameter from 200 – 8000 mm. You Ji is the first machine manufacturer to have passed CE & EMC and to have begun sales in the European market and is the biggest vertical lathe and floor borer manufacturer in Taiwan. The cooperation between You Ji and other advanced machine manufacturers helps to upgrade the quality of You Ji and provide customers the best and fastest service in the business.

**E**stablished in the year 1987 COSMOS was started as a small outfit selling high performance cutting tool solutions. Encouraged by the support and feedback of our customers, we expanded our sales portfolio to include CNC Machine Tools.

Over the years, COSMOS has ventured into the field of manufacturing with the state-of-the-art manufacturing facility to manufacture machine tool accessories, precision components & CNC Machine tools for local market, with time it started exporting technologies to various countries in Europe, Americas & South East Asia, and has become a leading ISO 9001-2015 Certified Manufacturing Solution Provided in the field of Engineering Contract Manufacturing of Precision Machined Components & Assemblies.

In last 34 years, we have represented the top machine tool manufactures from Taiwan and Japan. This association has helped team COSMOS to bring more productive and reliable technology to our customers, who have been greatly benefited. With the patronage of our customers and formidable support from our principals COSMOS has grown over the years and now provides advanced technological solutions to various industries like Automobile, Die &


[www.cosmos.in](http://www.cosmos.in)


Mould, Power, Steel, Material handling, Infrastructure, Electronics & Medical.

To pave the way for even greater development with stronger base, we made substantial investments setting up three manufacturing units over the last 20 years. A precision component manufacturing company followed by a joint venture for manufacturing of machine tool accessories and finally a machine tool manufacturing company producing state-of-the-art Machine Tools.

As a group, COSMOS is committed to achieve excellence in the field of machine tools by providing solutions to surpass customer expectations.

## COSMOS Technology Park

COSMOS has recently started its Phase-I construction of its state-of-the-art technology park at Ranu village, in Vadodara district of Gujarat.

The entire project, which is targeted to be completed in three phases, is expected by the company to be operationalized by 2022. Although the company will hire a large number of Engineers & Technicians for its tech-park, it would hire professionals in phased manner. The technology park will have the various plants producing key components to manufacture CNC Machine Tools. In this, COSMOS have already tied up for the technology alliance with some of the top machine tool industry leaders in the world.

With this ambitious venture, COSMOS hopes to play a key role in the growth of Indian industry in the fields of the Automobile, Infrastructure, Power & Steel, Electronics, Aerospace & Medical Implants.

COSMOS is investing close to Rs. 100 crore to set up this technology park, which covers 15 acres of land area. In addition, the com-



2020 has been a very successful year for the company; we are very excited about what 2021 has in store for us. This will be a year of growth and new opportunities for everyone at COSMOS. One of our major achievements in the past year has been our ability to settle in the pandemic environment that struck the entire world, stabilize and strengthen our existing client relationships, define and institutionalize operational processes and start conversations with new prospective clients. Our reputation is our most treasured asset and the foundation on which we have built our company. Everyone at COSMOS knows that the only way to protect and improve our reputation is to exceed the client's expectations, meet our commitments, innovate in our business and deliver progressive excellence as our mantra says "Your Partner in Progress"

Also, our Technology Park will enable COSMOS to have all manufacturing process under one roof for best control of systems, quality & delivery as per our customer needs

**Mr. Nagesh Velaga**

Director, Cosmos Group

pany is dedicated towards their efforts for social and environmental issues to enrich the quality life of the community they serve. Therefore, the tech-park will take a lead in green initiatives and so will be surrounded by greenery all over the campus. They also have plans to create a rainforest facility. COSMOS tech-park is aimed at improving the synergy among its various divisions and bring the majority of its operations to a single campus



## LUBRICATION

Mobil™

www.mobil.in/business



“With a long legacy of over 120 years in India, today Mobil is a byword for industrial lubrication solution. We have deep knowledge of our customers and their needs – we work directly with more than 6,000 Original Equipment Manufacturers (OEMs) to understand new industry trends, technologies and their impact on equipment design. Mobil products are designed to meet the requirements for accuracy, equipment protection and reduce downtime. Along with a range of cutting edge products, Mobil also provides a host of services to help save time and money, while boosting equipment reliability and productivity. Mobil understands the requirements of the Indian market - in its endeavour to help India realise its self reliance mission in manufacturing, the company works alongside industrial workers to provide insights and give a competitive edge.”

**Rupinder Paintal**

Director - Market Development,  
ExxonMobil Lubricants Pvt Ltd

## LEADER IN CUTTING OIL SOLUTIONS

ExxonMobil is a pioneer in lubrication technology helping the Indian manufacturing companies to increase their productivity and profitability goals. Today, extensive use of technology and modern machinery form the base for the cutting industry. However, optimization of productivity and reduction of downtime are major concerns for the sector. Mobil™ provides a range of cutting edge products that keep the machines running better and longer. Our product range Mobil Vactra™ Oil Numbered Series is designed to meet the requirements for accuracy, aqueous coolant separability, and equipment protection of precision machine tools. The Mobilcut™ Series is the trademark for ExxonMobil's line of high performance water miscible metal removal fluids. The products under this series provide dependable performance in a wide array of metal removal processes.



ExxonMobil is a pioneer in industrial lubrication solution. Mobil's high-performance solutions for machine tool slideways enhance efficiency on the shop floor, boost productivity and profits. Be it the simple production of nuts and bolts or a complex metalworking process, friction and heat are synonymous with the operations of any shop floor. While the heavy-duty processes require machines to be both precise and efficient in their working, lubricants play a vital role in cutting the friction and boosting the machine's performance. With companies looking for ways to reduce costs and increase profitability, many players in the metalworking industry are focused on reducing wastage and downtime by switching to lubricants with longer shelf life and higher efficiency. Choosing the right lubricant ensures that the machine tools run smoothly with minimum friction, delivering maximum output. Loss of frictional control can cause inaccuracies, which in a metal removal process, ultimately results in loss of machine tool productivity. Mobil™ offers lubrication solutions that cut friction and protect the machine to enhance efficiency and improve productivity.

**Versatile new-age lubricants**

Modern machine tools and slideway designs demand more of the

applied lubricants. Increasing speeds and loads as well as greater expectations for machine accuracy require highly sophisticated slideway lubricants. In addition, there are an increasing number of friction material pairings, like metal-on-plastic, that have different lubrication needs. The modern slideway lubricants meet these challenges with a carefully balanced combination of base oils and additives to achieve low static friction for easy start-up, continuous transition from rest to movement and smooth movement even under heavy loads.

It is critical to choose the right slideway lubricant for machine tools that will help to improve the productivity of the equipment, protect the parts as well as prevent friction stick-slip. There are several recognized friction tests to demonstrate frictional properties of slideway lubricants such as Cincinnati Lamb Friction Test, SKC Tribometer and Darmstadt Rig Test, which enable evaluation of static and dynamic friction characteristics of a lubricant and the effect of various slideway materials.

**The Mobil advantage**

Mobil™ lubricants are developed by working closely with leading equipment builders. Mobil engineers gain deep insights into equipment trends and lubrication requirements to guide lubricant researchers and formulators in designing highly effective lubricants. These lubricants are specially formulated to protect the equipment, ensure problem-free operation in extreme temperatures and tough conditions to provide longer lubrication intervals. Available in a range of viscosity grades to offer customers the right choice for their applications, Mobil™ lubricants help cut friction, enhance performance, reduce waste and improve productivity.

ExxonMobil is a pioneer in lubrication technology helping the Indian manufacturing companies to increase their productivity and profitability goals. Today, extensive use of technology and modern machinery form the base for the cutting industry. However, optimization of productivity and reduction of downtime are major concerns for the sector. Mobil provides a range of cutting edge products that keep the machine running better and longer. Our product range Mobil Vactra™ Oil Numbered Series is designed to meet the requirements for accuracy, aqueous coolant separability, and equipment protection of precision machine tools. The Mobilcut™ Series is the trademark for ExxonMobil's line of high performance water miscible metal removal fluids. The products under this series provide dependable performance in a wide array of metal removal processes.



## CUTTING TOOLS



www.totem-forbes.com



Our vision for the company is "To be a market leader by empowering customers with innovative solutions in precision cutting tools and industrial automation through world-class practices." and we are continuously moving forward in that direction. We have a comprehensive and complete portfolio of round tools enabling us to act as a one-stop solution to serve our customer. We always provide our customers an experience of product offering, services and technology which has helped us to increase market penetration in domestic as well as international markets. Customised solution is the driving factor, which helps us succeed over our competition.

**Ravi Prem**

Chief Operating Officer  
Forbes & Company Limited,  
Engineering Division

## COMPLETE TOOLING SOLUTION

**PRODUCT RANGE AND STRENGTH**

Totem's latest introduction of long oil hole series for crank-shaft oil hole drilling placed against best brands internationally with very big success & customer voice in value for money & reliability. Totem's introduction of difficult to machine material tapping application is first by any Indian company.



**F**orbes & Company Limited engineering division is manufacturer of high precision cutting tools under the brand Totem and manufacturer of laser marking, traceability and industrial automation solutions for automotive & non automotive sector.

Totem is leading manufacturer in round cutting tools in high speed steel & carbide. The product range of Totem includes threading taps, drilling & milling tools, carbide burrs & high speed steel drills for automotive, die and mould, aerospace & medical application specific solutions.

Totem has two ISO 9001-2005 certified state of art manufacturing facilities in Mumbai & Aurangabad supported by design & application centre. All products are produced confirming to different international standards example DIN, JIS, ANSI and ISO. Complete manufacturing & customer service are based on ERP system with complete batch/product traceability. All tools are produced from world's best steel / carbide producers to ensure customer expectation of performance are exceeded.

We have 50 years long relationship with our existing channel part-

ners all over India supported through 10 regional offices with sales & application engineers. International coverage is supported by 50 plus distributors over 28 countries.

Our Product range includes High Speed Steel Taps, High Performance Taps, NIB Taps, Solid Carbide End Mills & Drills, Carbide



Reamers, High Speed Steel Drills, Tungsten Carbide Rotary Burrs, High Speed Steel Drills, Annular Cutters, TCT Annular Cutters, Centre Drills and Dies & Die Nuts. Totem offers product portfolio for Automotive, Defence & Aerospace application. We are the only Indian manufacturer to have exhaustive range of products in HSS Taps, Solid Carbide End Mills & Drills and special tools for special application. We are working with international customer for compressive product solutions in round tooling.



## AUXILIARY EQUIPMENT



www.igus.in



■ igus GmbH Headquarter: Cologne, Germany



■ igus India Headquarter: Bangalore

# “TECH UP... COST DOWN... IT IS OUR JOB !”

**T**hrough technological progress over the years machines are growing ever faster and motion has become even more precise. Gunter Blasé a German engineer had a vision for solving, challenges with high performance polymers. His promise, “show me your problem part & I will find you the right solution” has been the motto of igus ever since. igus had humble beginning in a modest double garage in Cologne, Germany in 1964.

Over 50 years of tribo polymer research in the industry’s largest test lab resulted in highly specialised materials, all based on the same thought - lower cost and longer life time. The philosophy of igus globally still reflects the same problem-solving approach and goes “the cheapest solution that works is the best solution”.

igus India is the wholly owned subsidiary of igus GmbH, operating in the Indian Subcontinent started in the year 1998 with its headquarters in Bangalore. With twenty years of existence in India, igus continues to invest in expansion of both facility and man power.

Today igus® has 143 employees with a goal to add 30% more outside sales engineers every year to be nearer to the customer. igus India with its pan India presence in over 20 locations, offers a wide network of trained sales and service personnel with an aim to serve

our customers wherever they are.

igus has grown as an outstanding brand providing solutions over conventional metallic components with specific advantages like maintenance free, lubrication free, corrosion free, ready to fit, easy installation, lighter weight, resistance to adverse conditions like chemicals, atmospheric conditions and other aggressive environments.

igus offers detailed technical literature and life time calculations based on real tests done in the igus laboratory over the years. On average, igus runs around 10,000 tests apart from customer specific tests in a year. igus continues to grow globally in stature and size as much as in vision and innovative products.

Today, the 4,150 employees distributed between the head office in Germany and 35 subsidiary companies around the world.

Today igus offers components and systems for machines from 16 distinct product categories. Its wide range of products including, e-chain systems®/Cable drag chains, High-flexible chainflex® cables, iglidur® polymer bearings, igubal® spherical bearings, drylin® linear bearings & guide systems among others enable us to serve all industry segments in the country. The core of igus offering remains tested and proven reliability with predictable lifetimes. igus India has undertaken many huge turnkey projects in moving cable management system in industries like machine tools, material handling, power plants, mining, steel, ports, defence, automation etc including prestigious projects of our nation in astrophysics and Chandrayan Moon mission. 280 bulk handling equipment have been installed with igus ready chain systems. Most of these have been retrofit projects resulting in huge productivity and safety improvements. Be it the 20,000 plus cranes running in India with igus energy chains or 6 million parts of our lubrication free dry-tech bearings that have been supplied to the automotive industry every month or the countless innovative solutions that we develop with



We are extremely happy to be acknowledged as the Best Brand for three consecutive years. As in the case of every recognition, this award motivates us to improve further and create higher benchmarks of excellence.

The year gone by was unprecedented. We all suffered losses of various kinds and were expected to be as adaptive and agile as was possible. As is evidently proven time and again, igus Motion Plastics are versatile and has been creating value added solutions across all industry segments, including metal cutting. Further, igus LCA (Low Cost Automation) solutions including gantries, delta robots and robolink help directly to cut lead times and inventory by having quality certified subsystems with all the benefits and USP’s igus Motion Plastics are well known for. We are also happy that our products were extensively used in various medical devices that were helping to fight the pandemic.

In these difficult and uncertain times, we re-iterate our commitment to the Indian Industry in simple words.

**“Tech up... Cost Down... It is our Job !”**

**Deepak Paul**

Managing Director

igus (India) Pvt Ltd.

our customers for machine tool all stands testimony to our commitment and global promise.



With the onset of COVID-19, travelling has become increasingly risky today. In order to stay updated with latest innovations at igus, we have set up a 400 m2 real booth inside our factory called “igus Motion Plastics Show”, where 168+ innovations for the year 2021 will be showcased. Technology up, costs down: we will always give you one of the two. That is our profession and what we have offered you for many years.



If you’re interested in a guided tour of our virtual booth, please scan the QR code for a guided tour to our Virtual Booth.



## MACHINING CENTERS



www.jyoti.co.in



GET SET GROW!

## FOCUS ON INNOVATION

Since inception, Jyoti has consistently adopted innovation as the base element for growth and development. Its products have won many prestigious awards from renowned institutes. VMC 70 Liner was the first Indian machine to introduce and showcasing linear motor technology in CNC machine tools. Jyoti was the first one in India to take up the challenge of making CNC Oval Turning machine. Jyoti enjoys three consecutive wins of Golden Award from Quality Circle Forum of India.

The Company is first in India to build Multitasking Machines (MTX 300). MTX Series finds critical application for single piece components demanding both 5-Axis complex precise milling and precise turn-mill operations on single machine. Tachyon Series is another product for fastest drill-tap requirement. MX Series is another multifunction high flexible machine enabling Milling & Turning operation where roughing to finishing in one setup part clamping is made possible.

Huron primarily caters to aerospace, automotive, die-mould, general engineering segments. It is considered as pioneer for 5 axis machining technology. K3X8Five is most versatile 5-Axis machine with negative angle rotary table built with TRIM technology. KX Series is another demanding machine built with HSM concept. UMill Series machines are 5-Axis machines with portal structure and cradle mounted swivelling rotary tables.

**W**ith the mission of Propelling Technology, Prospering Life, Jyoti CNC Automation Ltd is committed to excel and enhance human life through technology since 1989. Today, it is one of the largest multinationals. It originated at Gujarat's industrial hub Rajkot and yet never restricted to any boundary in expansion. Jyoti acquired a 160 years old French machine tool giant Huron Graffenstaden SAS since 2007. Jyoti-Huron has a wide sales and service network across the globe making them real global player. At present, Jyoti has the widest range of CNC machines which is a perfect blend of simple to most complex machines starting from simple turning CNC machines to most advanced multitasking CNC machines finding applications from automobile to aerospace. Jyoti has a dedicated exclusive R&D center established to design and develop technologically advanced world class machines for the better quality, reliability & productivity. The company is passionate about its business growth and yet is embedded with higher human value taking care of every entity affiliated to it directly or indirectly. Being part of Indian manufacturing fraternity, Jyoti is committed to extend the best of its efforts for the development of the nation economically as well technologically. Jyoti is a market leader by bringing innovation and advancement in Indian machine tool sector. It is known as a path setter by setting-up many technological trends



to embrace excellence cross the field. At present, Jyoti-Huron has 1,11,111+ successful installation globally and is serving the metal cutting fraternity with pride for prestigious clients such as Airbus, Audi, BMW, Boeing, Mercedes-Benz, NASA, Peugeot, Rolls Royce, Siemens, TAI, Volvo Aero and many more.

Jyoti has established manufacturing and machine building facility in five different plants, out of which three plants are located in India and two plants are at France with combined capacity to manufacture 5000 machines annually. The plants are equipped with world class infrastructure like state-of-the-art machine shops with modernised and technologically advanced machineries, environmentally controlled assembly shops, mechanised and non-polluting captive foundry, advanced sheet metal, fully automated paint shop and other allied infrastructure. Manufacturing excellence and backward integration have helped Jyoti grow vertically year by year through strong methodology, management and consistency of processes which provides the environment for achieving perfection through resource developed over a period of just 25 years.

Jyoti has imbibed the objective of designing and manufacturing technology driven and innovative machines with high grade quality. To fulfil the same, Jyoti has developed a well-versed and versatile Leonardo Da' Vinci R&D Center which is India's first dedicated R&D facility for machine tools with a competent team



"The mission statement "Propelling Technology, Prospering Life" is much aligned with thought and adopted in actions. Our purpose leads to the advancement of technology in machine tool arena and thus contributing the comfort and enhancement to the existence of human life. We would like to be considered as the major contributor to the society economically and culturally. Technology is the way through which we would like to reach at our final goal. Nurturing technology is the answer to make our future and living comfort better. We treat campus as Temple of Technology than factory, where one can satisfy their thirst for knowledge."

Parakramsinh G. Jadeja

CMD

Jyoti CNC Automation Ltd.

of 120 design engineers and technocrats. This center is equipped with world class infrastructure and facilitated by resources such as latest software, modern assembly shop, testing & validation stations loaded with equipment from world renowned manufacturers.

Jyoti is also the pioneer to establish the concept of Technology Centers in India. Presently, it has active tech centers at all major manufacturing hub across India. Jyoti is the first among the Indian machine tool manufacturers in adopting SAP R/3 ERP and SAP ECC 6.0. ERP helps Jyoti to accelerate the manufacturing process and at the same time to optimize inventory.

Jyoti has its direct presence for Sales and Service support located at more than 20+ major cities across India. Today Jyoti-Huron finds their presence in every continent. Huron is having two manufacturing plant at Strasbourg with strong sales network and service support all over Europe. Incepted in 1857, Subsidiary Huron Graffenstaden SAS is now a 163 years old french machine tool company. Incepted in 1989, Jyoti CNC has completed 32 years.



## CUTTING TOOLS



www.kennametal.com



Our innovation helps solve our customers' biggest challenges so they can deliver the products and services we rely on every day. This proven productivity is enabled through our advanced material sciences and application knowledge. Companies and customers across aerospace, transportation, general engineering, earthworks and energy, rely on Kennametal for exceptional performance.

Vijaykrishnan Venkatesan

# INNOVATION AND CUSTOMER FOCUS

**Our Mission**

Through the skill and innovation of our people, we deliver industry-leading tools and technologies that solve customer challenges and enable exceptional performance.

**Our Vision**

Transform how everyday life is built. Our customers build things that touch our everyday lives. They make products that enable people to drive, fly, power, and build...and their products are made possible by Kennametal innovation. By continuously transforming ourselves, our products, and our solutions, we are helping our customers to transform everyday life.

**Our Values**

Safety. Respect. Integrity. Accountability. These are the values and guiding principles that we live by every day.

- It's safety first, always and everywhere.
- We exemplify respect for every person – no exceptions.
- We have integrity in all that we say and do.
- We're accountable to each other, our customers, shareholders, environment and community.

**The Early Years**

Innovation, perseverance, and close attention to customer needs have characterized Kennametal since its founding. In 1938, after years of research, metallurgist Philip M. McKenna created a tungsten-titanium carbide alloy for cutting tools that provided a productivity breakthrough in the machining of steel. "Kennametal®" tools cut faster and lasted longer, and thereby facilitated metalworking in products from automobiles to airliners to machinery. With his invention, Philip started the McKenna Metals Company in Latrobe, Pennsylvania. Later renamed Kennametal, the corporation has become a world leader in the metalworking industry and remains headquartered in Latrobe.

**Kennametal Inc. Today**

With over 80 years as an industrial technology leader, Kennametal Inc. delivers productivity to customers through materials science, tooling and wear-resistant solutions. Customers across aerospace, earthworks, energy, general engineering and transportation turn to Kennametal to help them manufacture with precision and efficiency. Every day approximately 9,000 employees are helping customers in more than 60 countries stay competitive.

**Kennametal Brand Metal Cutting Solutions****KCS10B™ - Turning Grade for Superalloy Applications**

Our most advanced turning grade is the new champion for machining Nickel, Cobalt and Iron based superalloys used in aerospace and other high temperature applications. KCS10B, which features a revolutionary coating applied to an ultra-fine grain carbide substrate for superior layer adhesion, delivers up to 50% greater tool life, more predictable processes, and improved productivity when working with difficult to machine superalloys. KCS10B overcomes the most common challenges encountered in turning superalloys—cratering and depth-of-cut notching—two wear modes that often lead to unexpected and even catastrophic tool failure.

**HARVI™ I TE - Four-flute solid carbide end mill**

With a radical new design, the HARVI I TE delivers outstanding performance in a broad range of materials, including steel, stainless steel, high-temperature alloys and cast iron—with tool life to match. Thanks to significantly reduced cutting forces, this game-changing tool can be used on any machining center or mill-turn center in the shop.

The endmill is designed to address four key problems that plague more than 90% of all milling applications: chip evacuation, tool deflection, corner stability, and breakage due to radial cutting forces. The result is a tool that's durable and versatile enough to tackle the lion's share of milling applications.

**HPX - Solid Carbide Drill for Steels**

The HPX drill for high performance, large volume drilling in steels is designed to drill holes quickly and efficiently in any ISO-P steel material, the HPX drill provides up to twice the tool life and three times the productivity compared to competing products.

A small corner chamfer and straight cutting edges reduce chipping and extends tool life. Together with the rounded margin lands running down the length of the flutes, this serves to stabilize the drill while reducing friction. An optimized edge preparation reduces the friction that leads to built-up edge, and highly polished flutes ensure superior chip evacuation.

Special gashing on the HPX drill improves the chip formation and curls a smaller chip. The material specific HPX point geometry creates significantly lower cutting forces, which works great for machines with lower spindle capabilities, unstable cutting conditions, or unstable workpiece clamping.



## MACHINING CENTRES



www.lmwenc.com



## INDIA'S FINEST RANGE OF CNC MACHINES

We have recently introduced a 5 Axis simultaneous machining center named the JU60, this was developed as a precision class machine for the aerospace industry, this machine is designed to have complete thermal stability, and this ensures that the complex profile parts are manufactured to meet high accuracy demands and consistency in the manufacturing of critical parts. The machine is also capable of producing complex Dies which also need very high surface finish. The machine is modular in design and can easily be adapted to configure and meet requirements of different industry segments.

The Machine Tool Division has extended its facilities with a state-of-the-art assembly line to cater to the demands of the ever-growing market for our Fast-Moving Product Range, shortening the order to delivery time.

**L**AKSHMI MACHINE WORKS LIMITED, is India's largest textile machine manufacturer, and one of the finest builders of CNC machines, LMW has a customer base in 63 countries. Apart from Textile machinery LMW ventured into CNC Machines, Foundry and manufacturing components and Sub-assemblies for the Aerospace and Defense sectors. Our customers enjoy products, and services of world-class excellence, backed by the stability of an engineering leader.

**Textile machinery:** LMW offers the entire range of spinning technology to textile players in India and across the globe. LMW is among the major manufacturers in the world to produce the entire range of Textile Spinning Machinery.

**Machine Tools:** LMW Machine Tools has a strong presence in the Indian manufacturing industry which has been driven by high quality products which our esteemed customers see as great value for money.

The company has always invested in the state of art technology and infrastructure to meet the ever changing and advanced require-

ments of the manufacturing industry. The machine tool division takes pride in seeing themselves as an integrated solution provider, offering a wide spectrum of CNC machines, customized solutions, automation and IOT solutions.

**Foundry:** LMW foundry, with Furn No-bake process and green sand SINTO, caters to OEMs in Locomotives, surface Transport, Pump & Valves, Power & Energy, Traction Motors, Marine Applications and Machine Tools. Internationally renowned MNC companies/ Domain experts have chosen LMW as their supply chain partner for critical castings.

The foundry division is also recipient of the prestigious "GreenCo" gold award for meeting stringent environment norms.

**Advanced Technology Centre:** A versatile plant that produces critical components and sub-assemblies for the Aerospace industry focused on Engine, Structural and Sheet Metal parts, add to LMW's formidable manufacturing capabilities of LMW-ATC. They also manufacture composite components, structures and assemblies for Space, Aviation and Strategic applications.

The machine tool division was started in 1988 with a State-of-the-art plant at that time with a complete temperature controlled environment to manufacture critical CNC machine of high accuracy class, ever since there has been constant upgradation of the



To enhance customer satisfaction and to deliver greater value to our customers. This is achieved with high quality products and providing complete innovative and competitive solutions through technological leadership and manufacturing excellence. We are a mission-driven company that aims to set the standards of excellence for each product.

LMW Textile machinery division is already globally renowned and is among the top manufacturing company in the world, the machine tool division is a leader in the Indian market, we do operate in a few countries overseas and plan to expand to more countries in the coming year and in the long run be a major global player in the CNC machine tool segment.

**Indraneel Bhattacharya**

Vice President – Marketing

Lakshmi Machine Works Limited

infrastructure both in plant and machinery and till date remains as a benchmark for companies involved in machine manufacturing.

LMW machines have been synonymous with Quality and this is a deeply embedded DNA of the company and its workforce. The management facilitates interaction with global experts so the teams are focused on critical functions in design, quality and manufacturing process to deliver world class products. The division started manufacturing in 1988 with 3 products and now has over 55 products in its portfolio.



## METAL WORKING



www.lvdgroup.com



## SHEET METAL SOLUTIONS

Apart from the very innovative UltiForm – Bending Solution, LVD launches Taurus FL, a new large-format gantry-style fiber laser cutting machine engineered for extra-large sheet metal cutting capacity. A unique modular design, the machine size begins at a 12-meter bed length and can be expanded in increments of 4 meters to a maximum bed length of 42 meters to suit user needs. Taurus FL delivers the flexibility to process extra-large sheets or multiple sheets, cut a range ensure high machine dynamics of jobs in varying batch sizes, shapes and material types accommodating workpieces up to 3.3 meters wide and up to 30 mm thick.

The year has been marked as Year of innovation with many benchmarking solution been introduced like our next one Strippit PL Punch-Laser combination, a machine that combines the punching and forming advantages of the Strippit PX or V Series punch press with the speed and versatility of fiber laser cutting to complete multiple processes on a single machine, answering the need for flexible manufacturing

LVD was established in 1952 in Gullegem, Belgium. A family-owned company, LVD is managed by the second generation of the three founding families: Lefebvre, Vanneste and Dewulf.

From humble beginnings as a manufacturer of deep drawing presses and press brakes, LVD has grown to become a technology leader and global source of state-of-the-art sheet metalworking solutions. As an independently-owned business, we set our own strategy and direction. Family values remain at our core – drive our corporate culture and provide a foundation for future growth.

LVD designs and manufactures laser, punching, bending, shearing and integrated software solutions for sheet metalworking. Innovation is a core part of our DNA and we constantly challenge convention, striving to provide our customers with the latest innovative machine and software solutions to increase profit and growth. Our extensive R&D efforts are focused on providing solutions to industry-wide problems as well as individual customer applications. Close collaboration with several European universities aids in development and testing of new technology. We also maintain



alliances with leading suppliers, such as Fanuc GE, Voith Group, Bosch Rexroth, THK, Rofin Sinar, IPG, B&R, Lazer Safe, Wilson Tool and others, allowing us to incorporate the finest outside technology into our products. Combined with LVD ingenuity, the end result is a technologically superior product created to meet the specific needs of industry.

LVD equipment is installed in manufacturing facilities across the globe, including some of the industry's best known companies.

Behind every LVD machine is a team of industry experts that are devoted to developing, designing, and creating sheet metalworking solutions. Proven products and leading-edge technologies to fit your application and your budget. From a broad range of lasers to more punching machine offerings than any manufacturer in the industry, world renowned press brakes, and more.

LVD recently introduced Ulti-Form, a new robotic bending system featuring an automated tool changing press brake. Ulti-Form follows the success of LVD's Dyna-Cell robotic bending cell and takes automated bending technology a step further by incorporating an automated tool changing press brake to keep bending productivity at its peak, handling both small batches and long production runs efficiently with minimal changeover time. Ulti-Form delivers high productivity bending with unattended operation.

Ulti-Form is a modern automated bending system. Its efficiently-organized layout has a small footprint of 8 x 10 meters. The system includes three input pallets, a large output zone and drop zone for small parts, an automated pallet dispenser and conveyor system to transfer full pallets out of the system. Designed for flexibility,



LVD has been the global leader for more than five decades and has always created the new overlook to the sheet metal Industries with our innovative high performance and precision equipment's and solution. India has always been the priority market for us. We are focussed primarily on customer satisfaction and taking them to the next platform of growth by partnering them for the world class solution and know how to bring in the strong competitive edge. We help them to compete on Global platform by bringing in the best of product novelties and know how in the products and by the uninterrupted support from our experienced team.

**Niranjan R Manjrekar**  
General Manager – Operations  
LVD Strippit India Pvt Ltd

Ulti-Form can operate automatically or in manual mode. Manual operation can be used for very complex parts and small series; automated production for long series.

Flexible, productive and easy to program and operate, Ulti-Form offers a quick return on investment.





## CUTTING TOOLS



## A VALUE BUILDING ENTERPRISE

ENDMILL FOR MACHINING  
DIFFICULT-TO-CUT-MATERIAL

Vibration control 'Smart Miracle Endmill' is the revolutionary performance for difficult to cut materials such as CoCr & Titanium alloys. It has been treated with a newly developed (Al,Cr)N group coating, which delivers substantially better wear resistance & longer tool life. The surface of the coating has been given smoothening treatment (ZERO-μ Surface) resulting in better machined surfaces, reduced cutting resistance & improved chip discharge. This is the next generation of the coated End-mills that promises longer tool life & amazing accuracy in machined surface, especially while machining difficult-to-cut materials like Titanium alloys, CoCr, Stainless Steel, etc. TORX key machining of Orthopaedic Implants TORX key is one of the most critical areas to be machined in orthopaedic implants as it has small corner radius. Due to long overhang of the End-mills & smaller diameter, it often results in tool breakage & poor surface finish. To overcome this threat, Mitsubishi developed dedicated End-mill series that gives excellent breakage control & higher cutting parameters. This revolutionary innovation in medical machining introduced by Mitsubishi is proving to be a game changer for medical fraternity and patients' rehabilitation process has become far easier & quicker.

**M**MC Hardmetal (India) Pvt. Ltd. (MMCI) carries a glorious pedigree from the world-famous business house, Mitsubishi Materials Corporation (MMC), Japan. MMCI is a fully owned Indian subsidiary of Mitsubishi Materials Corporation, Japan. The company offers wide range of metal working products and services, mainly state-of-the-art cutting tools, end-mills, drills, milling cutters and special tools etc, for various metal working applications in Automotive, Energy, Die & Mould, Oil & Gas, Medical and Aerospace industry. MMCI also offers complete turnkey solutions for establishment of new machine tools, new components and productivity improvement

The company has its headquarters at Bengaluru and regional offices at Pune, Ahmedabad, Gurgaon & Chennai. The company is in operation since 2006 primarily covering Indian market. Prior to launching full-scale India operations, activities for Indian market were handled from Singapore, since 1998. Over the years, it has expanded operations beyond shores to cover overseas markets viz. UAE, Saudi Arabia, Iran, Sri Lanka & Bangladesh.

Being the part of globally acclaimed Mitsubishi business tradition, MMCI is fortunate to inherit excellent quality culture. The company has established very effective and efficient Sales & Marketing network through its regional offices and distributors across the country. MMCI is a team of over 100 talented professionals, with excellent engineer-

[www.mmc-hardmetal.com](http://www.mmc-hardmetal.com)


ing background and experience. This young, energetic and active team is committed to prove its excellence in the competitive environment.

In the last 14 years of successful operations, the Company has accomplished number of milestones and new heights of success. MMCI has also won many awards and accreditations for its passionate and committed efforts to excel in every aspect of business operation.

**Aurangabad Plant**

With a view to integrate with market more effectively and to provide quick services, we have established a manufacturing facility at MIDC, Walunj-Aurangabad with ultra modern facilities in December 2016. The plant is set up to manufacture special and customised tooling to provide real-time solutions to the Indian customers.

**Mitsubishi Materials Technology & Education Center (MTEC), Pune**

This world-class facility was commissioned in March 2020, at Pune. This value building investment has helped us to develop new processes and solutions. It facilitates our customers to achieve the optimum productivity with minimum cost. This new setup is run by a dedicated team of manufacturing experts, tool design engineers, CAM programmers and highly skilled CNC operators. We have also set up the Regrinding Centre at Pune for regrinding of Solid Carbide tools. This will reduce our lead time of solid carbide tools.

**New Products:**

In the recent times, the company has developed exciting new products, like WJX, WWX400, FMAX & VPX Milling Cutters, New range of solid carbide drills for centring, chamfering & counter boring, CVD Diamond Coated Endmills for Graphite machining, GW Series Cutting Off & Grooving System, expanded range of iMX Exchangeable Head Endmill Series.

**Case Study:**

One of the most significant case studies is about development of FMAX cutter. The FMAX cutter is developed to carry out extremely high efficiency machining at 20,000 mm/min table feed or more.

**STRENGTH OF CHARACTER**

For about one and half years, the global community is gripped by the COVID pandemic, that has led to biggest ever market crash and depression across the world. We are still passing through the long tunnel full of darkness and uncertainty. The situation warranted some strategic changes to meet the unprecedented challenges. We had to fast-track certain operations to suit the digital work. Keeping in line with our Corporate philosophy "For People, Society and the Earth", we have remained connected and integrated with all the stake holders and our customers. We have regular dialogue, online meetings with our customers. Our focus is on the following things:

1. Keep constant dialogue with the customers
2. Extend support, technical training and new product training through online interactions, webinars etc.
3. Extend our outreach to customers in the hour of crisis
4. Stay committed to our Corporate philosophy
5. Make sincere and genuine attempt to forge the lasting relations with the customers.

MMCI stands out to be among top four companies in the Indian market offering tooling solutions and engineering services. Our products enjoy great popularity and customer confidence in the Indian subcontinent. We are proud to be associated with leading brands like Suzuki, Toyota, Honda, Nissan, Tata Motors, Mahindra, John Deere, Carraro, Bharat Forge, ASB International, Shivam Autotech, Sundaram Fastners, Autotech and many more

**Prashant Sardeshmukh**

Managing Director



## LUBRICANTS

**MOTUL** TECH

[www.motul.com](http://www.motul.com)


"We work towards the improved efficiency of our customers, by extending the life of the fluid and tooling without compromising effectiveness. We as a professional supplier understand how to assist our customers with this."

**Yatendra Kumar**  
Business Head – MotulTech India



MotulTech has its presence in many countries all over the world through its products and services as well as through production and R&D. In India, MotulTech develops and manufactures specific high-performance product ranges for the industry, in metal working, industrial and specialty lubrication as well as in aluminium die casting.



# AT MOTUL WE DON'T JUST MAKE OIL, WE RE-INVENT IT EVERY DAY

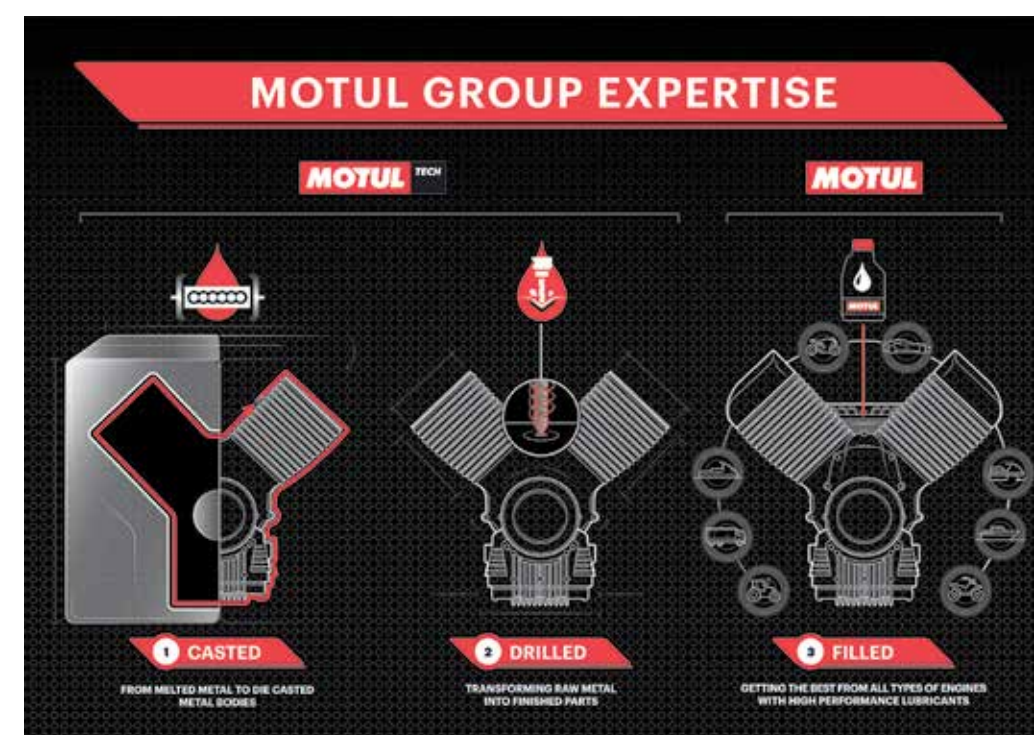
## HIGH QUALITY AND PERFORMANCE PRODUCTS

MotulTech offers very specific product offer in demanding segments such as aluminium die casting and aeronautic machining. With its performance and technology background coming from automotive competition, Motul offers a different approach to the industrial customers, with tailor made solutions. MotulTech will adapt its solutions to its customers' needs where others will ask the customers to adapt to their products!

MotulTech guarantees to its Indian industrial customers high quality and performance products, extensive sales and technical support (including lab services), a performing supply chain, and overall innovative and smart solutions in the industrial lubricants field.

**M**otulTech is the industrial lubricants division of the Motul group, an international French industrial group, specialist for more than 160 years in high performance lubricants. More than a century and half of uninterrupted activity which has allowed the company to constantly modernise itself and climb to the vanguard of technology. This permanent quest and the determination to move forward has led the company to an envied position in its sector. The company enjoys worldwide reputation and is unanimously recognised for the quality of its products, capacity to innovate and for the involvement in the world of competition.

MotulTech develops, manufactures and markets industrial high technology lubricants for the machining and transformation of metals, as well as high performance lubrication of industrial equipment.





## TURNING CENTRES

**muratec**  
MURATA MACHINERY, LTD. JAPAN



# PROVIDING UPSCALE TURNKEY SOLUTIONS



## HIGHLIGHT

**Muratec is the brand name of Murata Machinery, Ltd.**

Muratec's product line-up includes MW Series Twin Spindle Chuckers, MD Series and Single Spindle machines in MS Series, MJ and MT Series Multi-Tasking machines. All machines are supplied with an integral, intelligent 3-axis CNC Gantry Loaders offering versatile automation.

Product Line-up is further enhanced by MW35, MW50 and MW80 machines with Gang tooling type with loading / unloading time of 2.9 seconds.

From small parts to medium sized parts, Muratec has suitable Tailor-Made solutions to offer. Muratec's solutions are not limited to two or three spindles.



**M**urata Machinery, Ltd. (Muratec) was established in the year 1935, and in 1961, they developed R-40 Turret Lathes and expanded into the Machine Tool Industry. Headquartered in Kyoto, Muratec has factories in Inuyama, Kaga, Ryuo, Oita, Gifu, Ise (Japan), and Shanghai (China).

Muratec is the brand name of Murata Machinery, Ltd. Muratec is engaged in the manufacturing of both CNC Turning Machines with complete automation and CNC Sheet Metal Machinery. A World leader in Twin Spindle Chuckers with Gantry Loaders, it started its Machine Tool Division in 1961 to support growing modern machinery trend. Since then, Muratec has constructed systems with integrated machining processes for volume production by combining gantry loaders and a wide variety of peripheral equipment on the basis of high rigidity and high precision machines. Murata Machinery, Ltd. has established a record of achievement and experience around the world, especially in the automotive parts industry, by providing production systems best suited to customer needs.

**ENGINEERING EXCELLENCE**

Manufacturing is the main area of focus for Muratec and it supports

the company's mission of "leading society to a better tomorrow" by providing meaningful products. The company is constantly engaged in the advancement of manufacturing processes.

Muratec's origins are in production of machines and they have been applying cutting-edge technology, while building expertise in actual production site technology. However, Muratec believes the "quality" that satisfies the customer, includes not only hardware performance but also other aspects like price, service and timing. Along with basic production technology, flexible and efficient production lines, line control and management systems, various databases, and other advanced information systems are essential for providing total quality. Muratec also watches developments in state-of-the-art technology and marketing trends so that they can offer customers the best possible advice for their requirements. Muratec strives to achieve full customer satisfaction.

**QUALITY HIGHLIGHTS**

As a supplier of industrial goods, Muratec strives to ensure that the products it develops meets customer requirements, and also satisfy international quality appraisals. Muratec as a corporation is applying an international quality assurance system. For instance, all Murata Machinery Divisions obtained ISO9001 certification for all processes, from development to manufacture and customer services. Thorough awareness and dedication to quality in the context of an integrated quality assurance system, Muratec is able to offer customers, products they can use with peace of mind.

In pursuit of quality, Muratec introduced the concept of FMS for each production site. The first FMS "NC Center" was established in the Inuyama Plant, in 1981, and continued to establish FMS for various processes, successfully applying it to both quality and small-lot production of multiple product types. In time, with the development of computer technology, FMS evolved into a new concept of Computer Integrated Manufacturing (CIM). Muratec has incorporated its rich expertise into products as a manufacturer of production machinery and resources. Muratec has been providing advanced engineering technology, both hardware and software, to makers of many different products.



Mr. Yosuke Murata with  
Mr. A.V. Srinivasan

Muratec Machinery, Ltd. has been providing customers with solutions, including but not limited to equipment, throughout the world.

Meiban Engineering Technologies is a crucial partner to provide solutions to customers in India. In the last 15 years, it has gained substantial amount of capability supported by our customers in India. We will continuously grow with our customers to serve them, providing better solutions.

**Yosuke Murata**, Chairman  
Meiban Engineering Technologies Pvt. Ltd.  
An Associate Company of Muratec, Japan

*Muratec is not just a Turning Machine maker but a total automation solution provider. When we say complete solution, the proposal or solution includes machine plus peripherals and options to achieve full automation for unmanned operations on 24x7 basis, standardised and customised units to JUST-FIT the customer's productivity needs and specializes in Total Turnkey Solutions".*

Product line-up includes MW Series, MS Series, MD Series, MJ Series and MT Series – Multitasking Multi Turret machines

**Vision**

"Celebrating our Company's 15th anniversary gives me immense pleasure and fills me with a lot of gratitude for our Customers, Employees and our Partner "Muratec", Japan. Our goal of constant improvement might change things the way we do, but our commitment to "Smart Customer Support" remains as strong as ever. As our mission states, we will seek to achieve operational excellence in every Task we undertake by embracing people development, improving Customer experience and by following our localisation plan for skills and assembly," says A.V. Srinivasan. CEO, Meiban Engineering Technologies Pvt. Ltd.



## CUTTING SOLUTIONS


[www.proarcindia.com](http://www.proarcindia.com)


We take pride in being able to build our organization into a market leader in the metal forming Industry by conducting our business with utmost integrity. We will strive to grow our organization with the values instilled by the founders and work towards becoming the preferred choice for providing welding and cutting automation solutions in the Indian and global markets with focus on growth of all our stakeholders.

**Ajit Nair**  
Managing Director  
Pro-Arc Welding & Cutting Systems  
Pvt Ltd



With experience of 30+ years, 1000+ machine installations, 20+ service and dealer networks and 150+ ultra motivated employees, their clientele involves the who's who of the industry. From Private behemoths like TATA, L&T, Godrej to PSU's like the Indian Railway, BHEL, Ordnance factory, we take pride to have contributed to the hugely successful mission of building warships in GRSE, Kolkata & 50+ machines to Indian Railways.

**Revolutionary Projects:**

- Manufactured a one of a kind 3-D laser cutting machine for Honda for cutting pressed components
- Exported pipe cutting automation solution to a renowned company in the USA for cutting pipe diameter upto 60 inches. This project involved highly precise material handling systems, de-

veloped utilizing 60 servomotors.

- Developed plate processing machines which included drilling & cutting operation in the same machine for fabrication of girders used in railway bridges.
- Developed Cutting and Welding automated solutions customized for a prestigious vendor for the Indian Railways.

## PIONEERING SMART INNOVATION

**LEADING INITIATIVE:**

When the pandemic struck, the industry faced a challenge to run processes with oxygen which is a critical gas in metal cutting. Pro-Arc realized the importance of saving Oxygen which was lifeline of metal forming industry as well as essential for Covid19 treatment. They offered solutions to hundreds of clients to cut steel using only compressed air. One of our customers in Gujarat is even cutting steel upto 100mm thickness.



**P**ro-Arc Welding & Cutting Systems Private Limited is the largest Indian manufacturer automated cutting solutions for metal cutting industry. Established since 3 decades, they are oriented towards providing modern solutions for the multi-faceted demands of infrastructure, automobile, agriculture, shipbuilding & energy processing industries.

They have exported machines to the USA, the middle-East, Kazakhstan, Bangladesh, and Myanmar.

Pro-Arc has a high-class infrastructure, strict quality control processes, lean management practices & relentless R&D department to ensure exceptional quality systems with unmatched service support.

Pro-Arc delivers highly accurate, reliable & easy to operate machines. Their offerings include CNC Profile Cutting Machine with Oxyfuel, Plasma & Laser Technology with custom solutions for edge preparation solutions, pipe profile cutting, drilling & laser welding machines





# ROBUST, RELIABLE AND EFFICIENT

## CHALLENGES ARE A WAY OF LIFE

Since being established in 1975 the company has focused primarily on manufacture of COOLANT PUMPS and ELECTRIC Motors.

The Company has over 150 varieties of Coolant pumps ranging from low to high Flow / Pressure, thereby meeting the wide expectations of the Industry and being a ONE STOP SOLUTION PROVIDER for coolant pumps.

The company excels to supply special pumps in the shortest possible time and has standard pumps as ex-stock on a wide variety of products

Having a well-established in house manufacturing facility, from its own 200 Ton Ferrous foundry, a fully established machine shop and a complete winding facility and ably supported by a Integrated ERP between locations makes our production system flexible to meet the emerging needs of the Customer.

At Rajamane Challenges are a WAY OF LIFE

## COOLANT PUMPS



**R**ajamane Industries Pvt Ltd has established itself as a one-stop total solution provider in terms of design, development, support and implementation of its products in coolant pumps and motors. Founded in 1975, the company has grown from manufacturing a couple of models of coolant pumps today to more than 120 plus models of pumps in immersion, multistage, vertical and horizontal types, and from customised to mass produced. The company can claim to have the largest market share in the OEM sector of the machine tool industry.

Headquartered at Bangalore, Rajamane industries has manufacturing facilities at two locations in Whitefield, Bangalore and Somapura industrial estate, Tumkur. With a team of 150 people, a country wide dealer network and international dealers in Germany and USA, the products are getting global recognition also.

Apart from coolant pumps, the company's portfolio also includes manufacture of electric motors (AC induction & BLDC), oil skimmers (belt & disc types) and backward integrated with a ferrous and non-ferrous castings foundry.

Rajamane

www.rajamane.co



"Quality is not an act, it is a habit" has been the company's policy along with continuous improvement in its product and design. It is the only Indian company in this category with ISO certification from TUV NORD since 1999 and its products are certified with "CE" and UL mark.

### Product portfolio

The plant has an installed capacity of 10,000 pumps and 20,000 motors per month. It offers coolant pumps giving discharges up to 1,000 lpm and pressures up to 200 bar based on the requirement of the application. They are offered with various immersion depths ranging from 50mm to 1500mm. These pumps have numerous industrial applications like machining, filtration, chip cutting, temperature control of the machine tool industry, printing, etc.

Apart from coolants, pumps are supplied for other liquid media like chemicals, oil, ink, varnish, diesel, etc.

The company also provides customised solutions for special applications with special materials of construction and different ranges to include pumps for multistage and higher pressures, high pressure piston pumps having a range of 1 lpm, 10 bar to 150 lpm, 500 bar and supply of the patented world's first coolant pump with filter jointly produced in Association with Nippon Oil Pumps Japan.

It is equipped with a state of art foundry for its casting requirements with an installed capacity of 200 ton/month in the ferrous castings of grey iron FG grade 200 to 300 and SG grade up to 600 and weight up to 150 kg by manual moulding and up to 15 kg by an automatic line.

The non - ferrous castings are manufactured for import substitute aluminium, copper and special alloys up to 10 kg weight with an installed capacity of 10 ton/month.



Our company has been following the philosophy of delivering products of proven performance and will always strive to deliver the best solutions for our customers through technology and innovation by our inspired people and agile manufacturing systems. Going ahead, we would want to become a global leader for our products while being inclusive locally and environmentally through sustainable methodologies.

**Rajendra S Rajamane**

Managing Director

Rajamane Industries Pvt Ltd

The company provides standard "AC Induction motors" to OEM market as well as special ones with various features like special flange, different supply voltage and frequency, extended shafts, hollow shafts, dual speed, etc. The company is equipped with facilities to manufacture and supply IE3 motors.

### Sustainability in future

Recipient of various awards and recognitions like Business Excellence award from CII, appreciation for consistent support from various organisations in India and abroad.

Rajamane majorly exports to countries like USA, Germany, Thailand, Spain, UAE, UK and Taiwan.

All motors and pumps come with energy efficiency of IE2 and IE3 standards.

"BLDC motors" are also being developed and ready for production and testing, which find a huge potential in the electric vehicle (EV) market.

The foundry established in 2016 is an environmentally compliant plant with latest technologies and is a zero-discharge plant.

Oil skimmers (belt & disc type) are supplied which help to improve the life of coolant and finish of machined components.

Customer satisfaction as a reputed brand comes because of our vast variety, prompt delivery, ex-stock availability of standard pumps, maintenance of quality and good customer support and a strong after-sales-support.



## MACHINING SOLUTIONS



www.stmcnc.com



## DISCOVERING THE MEANING OF VALUE



## VL 850 PRODUCT HIGHLIGHTS

“A” Shaped structured column with widened base which results in high stability.

LM Roller Guideways offers higher weight carrying capacity and deliver exceptional stability under heavier cutting loads.

Meehanite casting contributes to increase the machine life and ensures higher vibration absorption.

Spindles from reputed brand of Taiwan comes with G1 Balanced Grade which offers increased tool life and higher cutting performance.

High efficiency and productivity can be ensured due to heavier cutting feed rate (10000 mm/min) and rapid feed rate (36/36/36 m/min)

All axes ball screws are center-mounted and supported on both ends by high precision angular contact thrust bearings.

Controller options with latest configuration from Mitsubishi and Fanuc are available.

As the industrial world expects the demand for CNC machine tools to grow steadily, there has always been a growing need for great efficiency in complex machining products from mass manufacturing industries like automotive, construction, aerospace, defence, and power.

One company that is ready to meet these demands is S&T Machinery. S&T Machinery, which is a part of the renowned S&T Group, began manufacturing machining products to keep up with the group's vision to “Making Technology Affordable” for every Indian customer.

When Prime Minister Narendra Modi announced his ambitious agenda to make India, a global manufacturing hub, S&T jumped the bandwagon to bring global technology to India through the “Make in India” policy to create a win-win proposition for a wide range of industries in India.

S&T, in association with leading Taiwanese machine tool builders developed ground-breaking products of International quality. “What made our products truly outstanding was the fact that they were affordable. With these innovations, S&T Machinery proved to the world



that truly innovative products can in fact be within reach and ensured that top-notch technology was accessible to all”, states D. Shanmugasundaram, Managing Director, S&T Machinery.

In 2015, S&T Machinery set up a world-class manufacturing infrastructure facility spanning 36,000 sq.ft. Today, S&T Machinery is an eminent industrial company and has grown into a multi-faceted and multi-locational organization that is in the business of manufacturing high quality CNC Machines.

S&T Machinery now has 16 branches in top metros in India and is one of the top 5 brands for machine tools in India.

STM's product range includes Vertical Machining Centers, Double Column VMCs, and CNC Cylindrical Grinders. In the past 5 years, more than 1600 CNC VMCs were produced and delivered across India and the team at STM believes that with the growing emphasis on Industrial development, the demand is set to soar high in the future.

“With our in-depth knowledge and experience in the trading sector, we serve clients from several industries including die and mould, commercial tool rooms, automotive, aerospace, defense, power, construction, and many others.” says the MD.

The company does not stop at providing quality products but also provides a prompt supply and service chain that ensures that customers are served on a timely basis. “The company is in the process of improving current business models in addition to delivering machining solutions to create more possibilities” concludes the MD.

With a growing dealer network, a solid product portfolio and a thirst for excellence, STM is all set to start its foray into the export markets



To derive new possibilities and to view old difficulties from a new angle marks real advancement in technology. The largest challenge for any nation is the ability to make advanced technology more accessible and affordable.

We are an open group of people who always welcome new ideas and newer possibilities. It is our attitude towards openness that has transformed us from a machine tool re-seller to a machine manufacturer.

Our two and a half decades journey has constantly been about discovering new ways and means to make technology affordable. When we make technology more affordable and accessible, we make the Indian dream of “Make in India” more achievable. And that is exactly what we do at STM. Our ability to envision the machine tool industry's needs has helped us deliver world class technology customized for Indian requirements. Now, brand STM has become synonymous with precision machinery that has been installed across India and few other Asian countries.

Our most recent acquisition is a 25-acre land to plan and build a state-of-the-art manufacturing plant for CNC machines at Coimbatore with plans to expand STM product and service offerings to global companies across the world.

**D. Shanmugasundaram**

Managing Director, S&amp;T Machinery

and we eagerly wait to see the next big chapter, for this revolutionary company, unfold.



## LASER MACHINES



www.sltl.com



## INNOVATIVE LASER SOLUTIONS

SLTL group has been recognised by numerous prominent organisations. The Group is the world's first manufacturer of fiber laser cutting machines. The company has received numerous national awards and recently, it was recognised and awarded as a Best Brand in Metal Cutting and Metal Forming 2020, by the Economic Times.

**Diamond:** One stop solution for diamond processing systems have been leading the industry with its sensational performance. The systems consist of processing a raw diamond to a sparkingly finished diamond with amazing accuracy.

**Medical:** SLTL Group has been actively contributing to the medical field with the systems that give meticulous precision. We aim to provide instruments that meet highly specific requirements and are utilised in the healthcare industry flawlessly.

**Industrial:** The systems are infused with enormous power to perform at par and make masterpieces at every stroke. Zero maintenance machines combined with intelligent interface deliver sublime experience while undertaking the task.

**Renewable Energy:** Master Class Solar Thermal Solutions that channelizes the heat exactly as required; making the process highly effective. A crucial liquid heating system that works incredibly across many kinds of plants and enhances the operations magnificently.

**RF and Microwave:** The superior isolation is what our systems are capable of delivering that allows great measurability. We make the systems which enable diverse sectors to work upon the radio frequency and microwave to identify the measurements perfectly.

Sahajanand Laser Technology Limited (SLTL GROUP) is a global technological conglomerate headquartered in Gandhinagar, Gujarat, India and operates in five verticals like Industrial Laser, Diamond Processing, Medical Devices, RF & Microwave and Renewable Energy. Trailblazer is a word that defines one who successfully brings something to reality. To say, it is merely a word, but what it takes is persistent efforts for a lifetime. Sahajanand Laser Technology Limited is the company that has defined what is called "Trailblazer".

The innovation is into the foundation of this organisation, as just after its establishment, SLTL GROUP has invented a fiber laser cutting machine. A laser cutting machine that went on to become a pioneer for the metal forming industry. Inventor of fiber laser cutting machine Dr. Arvind Patel founded SLTL GROUP back in 1989. Eventually Sahajanand Laser Technology Limited emerged as the first Indian company accounted for laser revolution across the globe.

The inception of our service diversification took place in 1995, since then we have explored and ingrained into multiple disci-



plines across the spectrum which is: Cutting, Marking, Welding, Micro Machining, Solar Cell Scribing/ Cutting, Diamond processing and scanning. We have explored all the domains keeping Laser at the center of our deliverables. SLTL GROUP is a Global leader in Computer Numeric Controlled (CNC) Laser services, a highly advanced service facilitates by a few manufactures internationally. Our innovative solutions are designed to match your industrial requirements and beyond. With high-end laser frameworks, we are on the way to transform your industries into smart facilities.

The Group has been consistently working on bringing in new technology to the nation and following the pattern last year, a series of dedicated tube cutting systems are developed to meet yet another requirement of the industry.

We aim to bring in the technology that will add another milestone to industry. With an introduction to our hand held laser welding machine Hertz, we are focused to serve all your requirements. The machine is framed to provide strengthened joints and perfect finish to larger components with ease.

Being equipped with high end technology such as industry 4.0, IoT we are moving towards making life easier by automation.

Adding a new by-product to our Brahmastra series, we have developed IntegreX, InfinityF1 with E- Tron – High Power Fiber Laser Cutting System with intelligent functions to help modern day manufacturers and new generation fabricators to achieve optimum results at an economical price.

With installations of 15000+ systems and introduction to newer technologies to the industry, we have been



We believe in continuous innovation and challenging our capabilities to deliver high tech solutions valuable for all strata of Industry. SLTL GROUP is committed to bring the best innovation, reliable products, service and total solution to customers for global market with strong coordination and learning of cross-functional departments through its world class manufacturing practices and best in class work culture to attain customer delight. We are holding strong making Innovation and dedication, a key to prosperity.

**Maulik Patel**  
Executive Director  
SLTL Group

serving and focusing on bringing innovation to the industry. The technology has always been our motto and with an enthusiastic team, we were still standing tall in the Coronavirus Pandemic. Our team has always been highly supportive and accordingly we developed Pran-Saiyam: Lifesaving ventilator last year to fight against Coronavirus.

Our team has always worked towards addressing the complex needs of the industry and for years it has successfully introduced ground-breaking Make in India products and advancements that led to boost the productivity of industries across the globe. We've got the vision to deliver with continuous innovation, working in the future, and making India Proud.



## TOOL DISCS AND TOOL HOLDERS

**SPHOORTI**  
*Precision Assured*

www.sphoorti.com



Our vision is to be the “Global leader in Machine tool accessories.” Given our aim to be globally-recognised Indian brand, we give products of global acceptance with competitive pricing to the world market. We strive continually to improve our process with new technology to meet international quality standards, and have state-of-the-art manufacturing facility for the same.

**R. K. Purohit**

Managing Director

Sphoorti Machine Tools Pvt. Ltd.

### Manufacturing excellence

Sphoorti had its first unit built over an area of 43,560 sq. ft., in Peenya industrial area. Currently, it also has another unit dedicated to the manufacturing of tool holders. Both the units together house more than 40 machines, which include Hard Turn, VMC, HMC and 5-axes machines. Having over 200 employees working in various departments, the company has a built-up capacity of manufacturing 10,000 tool discs and 60,000 VDI tool holders annually, besides manufacturing Driven Tool Holders, BMT Holders and customised holders.

The wide product range includes:

- (1) Tool discs
  - Slotted tool discs
  - VDI discs
  - BMT discs
- (2) Tool holders
  - VDI static tool holders
  - BMT static holders
  - VDI driven tool holders Axial (0°) and Radial (90°) varieties according to DIN 5482, DIN 5840, DIN 1809



- Angular tool holder in VDI 30 and VDI 40
- BMT driven tool holders Axial (0°) and Radial (90°) in BMT 45, BMT 55, BMT 65 and BMT 75
- Angular tool holder in BMT 45 and BMT 55

Customers can either choose from the standard products in the catalogue or tailor to customised designs as required.

The ISO 9001-2015 certified company has received first place for its 5S practice under the small-scale industry category for two consecutive years from CII and also a 5S Trophy from ABK-AOTS. Going ahead, Sphoorti wishes to expand its manufacturing capacities with better and more productive practices.

# EXCELLENCE AT SMART PRICE

## HIGHLIGHT

Sphoorti is manufacturing VDI driven tool holders and BMT static driven tool holders. The company offers VDI driven tool holder in DIN5482, DIN5480, DIN1809 and other drive-end couplings. The BMT static & driven tool holders can be offered in BMT 45-55-65 & 75 & also in BMT 40 & 60 for Japanese machines. It provides machines like Mazak, Okuma, HAAS, DMG MORI, Emco, Hwacheon, Hardinge as also for turrets of Pragati, Sauter, Duplomatic & Baruffaldi. With competitive pricing, Sphoorti products are import substitutes in the domestic market.



Incorporated in 1996, Sphoorti Machine Tools Pvt. Ltd. started its manufacturing activities with just two-vertical machining centres. Over the years, the company has transformed to emerge as one of India's leading manufacturers of tool discs and tool holders for CNC turning centres and turn mill centres.

Sphoorti is a part of ACE Micromatic Group and is currently dedicated solely to the purpose of design and manufacturing of tool discs and tool holders of high quality. The export market leader receives 50 percent of its turnover through export sales. The high-quality products are well accepted in the export market that encompasses countries like Germany, France, China, UK, USA, among others. In the domestic market, Sphoorti products are import substitutes since they offer high quality product at competitive prices.

With the aim of achieving global leadership in machine tool accessories, Sphoorti is equipped with 'State of the art' facilities and high-end precision machines. It ensures a clutter-free and productive working environment with practices such as 5S and TPM. The company believes in meeting commitments as its core value and ensures customer satisfaction. At Sphoorti, 'Precision' is not just achieved, it is assured.





## POLYGON TURNING MACHINES



www.trishulmachine.com



# POLYGON TURNING MACHINE

### WAY FORWARD

Trishul Machine tools is looking at expanding in the space of Polygon Turning and upgrading the machine, making it fit for the changing demands. The way forward is Artificial intelligence and automation at every stage. The company is now working with upgraded machines and look at expanding into the US market.

In addition to Polygon Turning Machines, Trishul is also Focusing on manufacturing cutting tools. The company is developing Rotary Broaching Tools (Internal and external) with completely inhouse Engineering Capabilities. Rotary Broaching Tools of various forms like Hexagon, Octagon, Square, Rounded Square, Torx, Spline are under development. The company is aiming to give its customers cost effective yet efficient tools to fulfil the raising demand for machine tools in the country.

**T**rishul Machine Tools Pvt. Ltd. has become a synonym for Polygon Turning in India and abroad. They own the field with the largest overseas export of the Polygon Turning Machines from India.

Established in the year 1994 in Bangalore the company had a humble beginning which has now grown into a company with manufacturing capacity of about 60-80 Polygon Turning Machines per year.

Trishul Machine Tools Pvt. Ltd. offer a wide variety of advanced Polygon Turning Machines well known for their high precision cutting and reliability. Polygon forms can be achieved by their highly advanced TPT Series of machines. The TPT-2S and TPT-5S, are some popular machines for the ISO 9001:2015 certified and CE compliant company which has been constantly adding laurels. The Company's Quality policy and customer-centric support has led to long term association with customers and has paved a way for its growth.

The company will continue to design and develop new machines. The global sourcing of auto parts from India will offer new challenges to quickly adapt to the changing needs. Automation is playing an ever-

increasing role in the manufacturing industry and the company will ensure the automation needs of the manufacturing industry are fully complied.

### Highlights

Trishul Machine Tools Pvt. Ltd. for the past 26 years has been achieving Excellence in the Polygon Turning sector. The machines are designed and developed keeping in mind the benefits it does to the end user. Around 80 machines are sold each year and the company is working to increase this number.

With the pandemic setting in, the Business sector went under an entire revolution. With robust leadership and a keen eye to see opportunities in the face of adversities, any company can pivot the worst of situations to the better. The same goes with Trishul Machine Tools Pvt. Ltd., it looks at beating their sales targets this year, and churn a 25- 30% growth in the upcoming financial year!

### Achievements and awards:

Trishul Machine Tools Pvt. Ltd. is a consistent winner of the EEPC Export Excellence Awards. Recognized as a outstanding Entrepreneur the company was awarded the outstanding Entrepreneur award in memory of Vinod Doshi by IMTMA in 2020.

### Key Highlights and milestones:

Trishul Machine Tools Pvt. Ltd. has introduced New controllers with Artificial Intelligence into its Polygon Turning Machines, making them highly efficient and productive yet keeping the cost under control.



Highly trained and skilled employees being the true asset of the machine tools industry, the company gives at most importance to training and education. The cumulative knowledge developed over the years will be imparted to the young engineers very quickly, and they will be trained to take this technology to new heights.

"Trishul Machine Tools Pvt. Ltd. is a pioneer in the Polygon turning sector. We are the best in the field and companies from all over the world prefer our machines. The machine is seeing exponential demand with "TRISHULING" becoming synonymous with milling. Now that is something, we are proud of" – R Venkatesh Kumar, General Manager.

"The Post COVID phase has shown to be very beneficial in terms of business. We are seeing huge orders coming in for exports. With China's dominance going down we can see a lot of scope for indigenous production. If one can keep up with state of art products, quality, great customer service, constant product evolution, and consistency any kind of competition can be faced with relative ease"

### C S Shivashankaraiah

Managing Director

Trishul Machine Tools.

The company has implemented Complete ERP automation changing the game of production with end-to-end monitoring making the production unit Robust and effective.

Providing solutions for Polygon cutting for the past 26 years to developing cutting tools the company has come a long way.



# DELIVERING INNOVATIVE SOLUTIONS WITH CONSISTENT QUALITY

All Tools are produced on the Advance 5 Axis CNC Tool Grinding Machine and inspected on CNC Inspection to ensure that tool manufactured at TruCut reaches the end-users with consistent quality and tight tolerance. In-house forming section from un-ground carbide blanks & final Grinding Operation process by Advance CNC 5Axis and 7Axis Tool Grinding Machines for consistent tool performance followed by Non-contact Zoller-Germany Tool Inspection Machine for Geometry and Dimension Check, all Tools are laser marked for permanent identification and High quality Single Piece packing used for best Tools protection.” claims the company.

TruCut stands ahead of the curve in terms of Innovative Tool Geometry & consistent Quality. Its product portfolio includes solutions for Automotive, Die & Mould, Aerospace, and Precision Engineering Industries.

**T**ruCut is a family-owned company established in 2008. The promoter of this decade-old business has more than two decades of experience in the Cutting Tool Industries. This brand was conceptualized with the sole motto of giving customers a One-Stop-Shop for All their Metal Cutting Tool Needs. TruCut serves customers through dealer network all over India with the best quality carbide cutting tools for metalworking industries. Every tool is produced in the company’s own facility located in Chennai, India. The production facility of 15,000 Sq.ft, with trained skilled workforce, advanced CNC grinding machines & tool inspection machines ensure all the tools leave the facility with high quality & consistency.

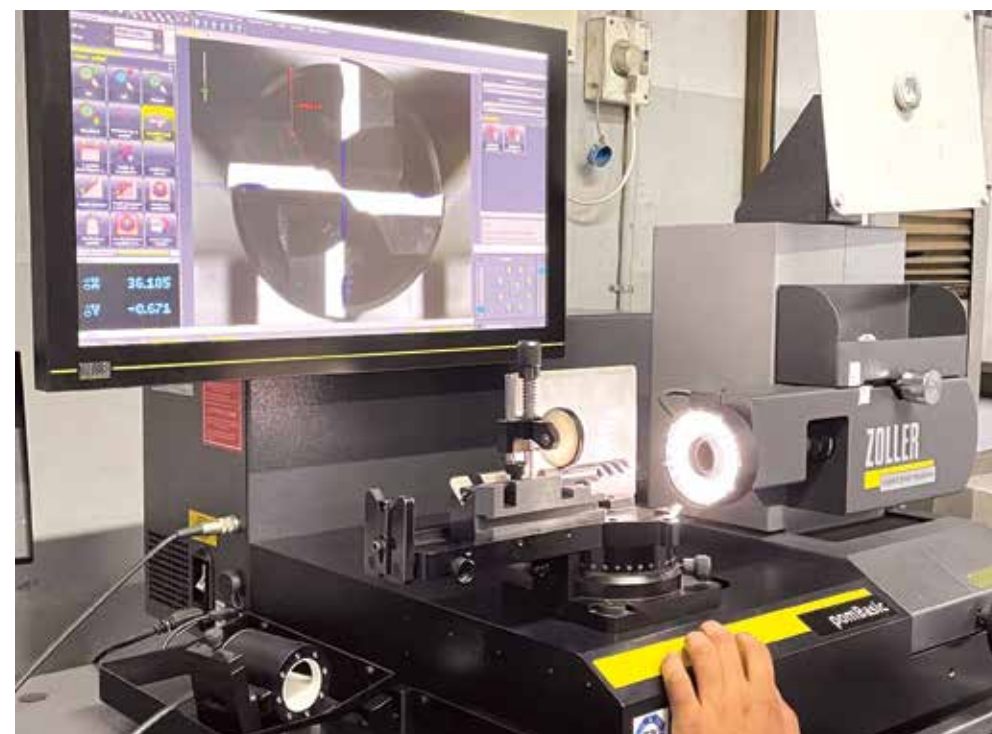
Since the Beginning, TruCut has focused on Export Market & invested in all Machines & Equipment to Produce High-Quality tools & also developed & designed products to meet International Standard For Export and for Domestic Market, which has enable us to have a good market share in International & domestic market.

The company satisfies major expectations of client such as Application based Tooling, High Precision tooling & Reduction in

## CUTTING TOOLS



www.trucut-tool.com



Process and Machining time. In the past two years, the company started working to position itself for upcoming demand and is Now well-positioned to accept & cater to the market for Developing & delivering high Precision Products in a short lead-time.

The ISO 9001:2015 Certified Company works on the philosophy that end-users deserves the highest possible value for their money. “In this fiercely competitive world, top-notch quality is our ultimate goal. At Trucut Tool, we take great pride to introduce the Domestic and International market, a comprehensive range of Solid Carbide Rotating Tools. We use High-Grade Microfine and UltraFine Grade carbide Rods .



TruCut is extremely proud and confident that its quality and product line meets all requirements and the end-users enjoy using it

**Zuzer T Lokat**

Director, TruCut Precision Tools



## The Journey and Future

Since the foundation, the production capacity & sales turnover growth has been recorded at 15 percent to 20 percent. In 2021, TruCut has a Plan for major expansion in new technology machines & equipment to cater to a future market including Aerospace Industry. In the next 5 Years (2021 – 2025), it plans to double its production capacity & sales numbers. The company also envisions having pan-India sales & application engineers to support all the existing customers.



## ABRASIVE (GRINDING WHEEL)



www.tyrolit.com



# MOVING TECHNOLOGY. INSPIRING LIFE.

Our patented lightweight core technologies enable us to improve customers' precision grinding processes, saving them time and money. This is possible through computer-calculated targeted material reductions or the use of natural fibers. This innovation is available in both Electroplated as well as Vitrified CBN Products in external grinding operations of Engine Shafts, Gear Shafts and various other parts.

New solution, MIRA ULTRA SF have been launched considering the increasing demand in the Gear Industry to enhance the surface quality of the profiles and to reduce the transmission noise to minimum.

In the Medical Industry the New Innovation GENIS 2 N-LW is an optimum solution for profile grinding of artificial knees. This is a CBN Grinding wheel with new natural Light Weight Core.

With our modular assistance system Tool Scope we set a milestone for the digitalization of grinding technology. The system allows customers to utilize existing data and through increased process transparency optimize their whole production chain. This is to provide strong support to our customers in moving towards Industry 4.0

**T**YROLIT is one of the world's leading manufacturers of grinding and dressing tools as well as a system provider for the construction industry. Since 1919, our innovative tools have made an important contribution to the technological development in many industries. TYROLIT offers tailored grinding solutions for various applications, as well as a comprehensive assortment of standard tools for customers all over the world.

Headquartered in Schwaz (Austria), the family owned business combines the strengths of being a part of the dynamic Swarovski Group with a century's worth of individual corporate and technological experience. We have 29 production facilities spread across the globe.

The company is organized the total business under three major Business Areas : Metal Industries, Construction and Quartz Industries. Through Metal Industries, we provide our services to various Industry segments like Automotive, Bearing , Gearing , Aerospace, Steel & Foundry, Tooling, Medical, Electronics , Fabrication etc.

Thanks to the Strong Research & Development team for bringing



innovations to the Market so as to provide substantial value additions to customers.

From precision machining to the production of cut-off wheels with a diameter of up to 2 m – our product range in Metal Industries includes high-tech tools for a wide variety of applications. In addition, we offer a comprehensive trade assortment for cutting, grinding and surface treatment.

The Grinding expertise has characterized TYROLIT for over 100 years with the wealth of process expertise commanded by our Specialist Application Engineers, we are able to provide our customers with sustained solutions in line with their demanding technical and economic expectations.

Bibielle is the New Member in the TYROLIT Family who manufacture and supply state of the art solutions for the applications of Surface Conditioning.

We are not just involved in making the grinding tools, but also optimize and monitor the processes and performance of our tools so as to help customers to meet Industry 4.0 requirements through our Tool Scope jointly developed along with Ceratizit.



We strive to impress internal and external target groups and to cultivate fair, long-lasting cooperation based on partnership. To be able to achieve this, we continually optimize the quality of our products and services, and constantly adapt our business processes to the changing demands of the market.

Added to that our efforts are to gain, retain and enhance the confidence of our customers on us by closely working with them to optimize the processes through continuous improvement programs and make them more competitive in their own fields.

## Subrahmanya Kumar V

Sales Director – India

Metal Industries Business

Tyrolit India Super Abrasive Tools

Pvt Ltd





## CUTTING TOOLS

**WIDIA**
[www.widia.com](http://www.widia.com)


# WIDIA MEANS COMPLETE QUALITY

## CUTTING TOOL EVOLUTION IN 2021

In 2021 the WIDIA brand continues to manufacture a broad range of cutting tools at global manufacturing sites, including modernized facilities in India. Today, product engineering is focused on providing advanced solid and indexable milling tools delivered at an optimal price-performance ratio resulting in excellent value for the customer.

Recent new product introductions included six game-changing milling platforms, two productive holmaking platforms and one versatile turning platform. Key technology enhancements included an eight-edged double sided true 0 degree shoulder-face mill, and extra-stable modular drill with material-specific inserts available to machine stainless steel, steel and cast iron components and a high-feed milling cutter equipped with a unique insert designed to achieve the productivity of both a round and square-style insert.



For more than 95 years the WIDIA™ brand has delivered high-quality milling, turning, holmaking, tapping and systems tooling to metal cutting customers across the globe. Customers experience reliability from selection to post-delivery support through product availability, digital connectivity, and an accessible network of authorized distribution partners.

The name, “WIDIA”, roots back to Germany in 1925 when Fried Krupp founded a “Hartmetalle” tool material that was “Hart Wie Diamant” or ‘as hard as diamond’. Krupp selected the name, WIDIA, from this phrase because of its hard material properties. Over the following years the WIDIA brand grew from an 18-employee workforce, operating in the basement of a chemical laboratory, to a leading cutting-tool manufacturer, distributing reliable tooling to customers across the world.

Today, the WIDIA brand portfolio encompasses WIDIA, Hanita™ and sub-brand, WIDIA-GTD™, operating as a cutting tool brand within the Kennametal Inc. corporation, headquartered in Pittsburgh, Pennsylvania.

When you buy WIDIA products, you are buying the ultimate in performance and tool life.

As an industry-leading manufacturer of cutting tools, WIDIA offers a complete portfolio of precision-engineered products and custom solution services. With thousands of milling, turning, holmaking, and tooling systems products and a skilled network of authorized distributor partners, you will find everything you need from one single source.

### Industry Knowledge

At WIDIA, a team of metal cutting experts combined their solutions knowledge to create an industry best-practices package featuring machining challenges and solutions experienced in Aerospace, Medical, Energy, General Engineering and Electronics component developers around the world.

#### Aerospace

Manufacturing aerospace components made of tough, corrosion-resistant materials (like super alloys and high-temps) requires tools built for productivity. With WIDIA, you will find proven tooling solutions, machining strategies, tool-path simulations and other content created to reduce cycle time in component applications like depressors, IBRs and single blades.

#### Energy

Manufacturing energy components often clad with stainless steels, and super alloys requires tools built for productivity. WIDIA offers proven tooling solutions, machining strategies, tool-path simulations and other content created to reduce cycle time in component applications like tube sheets and baffles.

#### Automotive

The automotive industry is undergoing a transformation characterized by efficient and light weight combustion engines, sustainability policies, digitization, increasing automation and changing customer preferences. WIDIA has a global expertise in offering a wide range of solutions for this segment - be it Internal Combustion Engines, Electric or Hybrid vehicles. We recently launched a range of new products in indexable milling that strikes a great balance between productivity and cost economy. WIDIA continues to offer cutting edge solutions to customers to enable them machine faster and more efficiently, to produce more, and to do it at less cost.



We focus in delivering productivity solutions to customers seeking peak performance in demanding environments by providing innovative custom and standard wear-resistant solutions. This proven productivity is enabled through our advanced material sciences and application knowledge. Our commitment to a sustainable environment provides additional value to our customers. Companies operating in everything from airframes to coal mining, from engines to oil wells and from turbochargers to construction recognize WIDIA for extraordinary contributions to their value chains.

**Vijaykrishnan Venkatesan**  
Managing Director



■ ToolBOSS Tool Vending Machine

#### Services

WIDIA has a global footprint for offering services to customers, ranging from inventory management solutions to knowledge centres. In India, we have 4 major reconditioning centres for round tools which offers round the clock support to customers.

WIDIA applies the best global metal working solutions through the industry's leading equipment and software that

- Manage tools & supplies
- Reduce supply related acquisition
- Lower possession and usage costs
- Increase operational effectiveness

This enables 24 / 7 fully unmanned secure tool stores, complete tool management system that records each and every transaction, and automatic re-ordering system further linked via e-commerce.



## MACHINING SOLUTIONS



www.widma.com



# MACHINING PRECISION AROUND THE WORLD

## ECOGRIND RX<sup>5</sup> NEO

WIDMA presents the all new and improvised Ecogrind RX5 Neo – the worthy successor to the hugely successful Ecogrind RX5+.

Ecogrind RX5 Neo is our fast moving 5 Axis CNC Tool Grinding Machine suitable for manufacturing of standard and complex round tools and also re-sharpening of a variety of tools like hob cutters, shaper cutters, skiving cutters, etc. This machine is capable of higher depths of cut because of its excellent structural rigidity, leading to increased productivity and reliability.

Ecogrind RX5 Neo is equipped with safety features like automatic fire extinguisher, pneumatic counter-balance for vertical axis, in addition to an electro-mechanical braking system that safeguards machine elements, tools and grinding wheels, in the event of power failure.

Ecogrind RX5 Neo is empowered with NUM CNC system and user-friendly menu driven Numroto Plus grinding software. Automation features such as unmanned operations are made possible by interfacing robot for loading & unloading of blanks.

**W**IDMA is India's pioneering machining solutions provider to some of the world's best manufacturing industry leaders. For over 36 years, WIDMA's customised Metal-Cutting Machines, Tool Grinding Machines and Fixtures have made a mark for themselves and continue to drive precision for mission critical applications – from automotive to aerospace.

## Empowering manufacturing industry with world-class capabilities

Established in 1984, WIDMA is a passion driven Machining Solutions Group. With its Registered Office and Manufacturing Plant at Bengaluru, WIDMA is a proud make-in-India designer and supplier of the best-in-class products to the world.

WIDMA's emphasis on empowering the Indian industry with world-class machining capability and continuous innovation has resulted in us being the leading import substitute for high-end precision machinery.

WIDMA Deep Hole Drilling Machines are amongst the first indigenous solutions from our stable. These machines have made a name for

themselves by playing a key part in enabling component manufacturing for industry leaders across the nation. Introduction of fine boring machines, valve seat generating machines, flexible SPMs, Ecogrind tool grinding machines, customised vertical turning lathes, vertical turn-mill centers, heavy crankshaft pad milling and crankshaft oil hole drilling machines are key milestones in WIDMA's solutions that drive the manufacturing sector.

## Manufacturing precision

Catering to a world where precision determines success, WIDMA is equipped with the latest in design, manufacturing, and testing facilities at its state-of-the-art manufacturing plant. Key components are designed and manufactured in-house. Our interactive, customer driven product development process results in solutions that match exacting needs.

Over 200 professionals ensure that every WIDMA product bears our legendary badges of robust quality, technical superiority and reliable performance. Precise performance that has resulted in repeat orders from customers.

Customised Special Purpose Machines form the core of our solutions portfolio, while WIDMA has an enviable reputation in deep hole drilling machines, special vertical turning machines and fixture & tooling segments. In the 5 Axes CNC tool and cutter grinding machines, WIDMA offers an array of machines with cutting-edge technology & software that cater to latest manufacturing processes.

Our position as the market leader in India is cemented by high end machines. Today, WIDMA delivers hundreds of machines and fixtures to the most demanding clientele across the world.

## Proven performance

Over 4,200 WIDMA machines and fixtures at various client locations are producing components to perfection, around the world. With installations in India, Thailand, Brazil and in advanced manufacturing



Our team at WIDMA embraced 'Customer First' as a guiding principle which paved the way to a successful journey over the past three decades. A journey marked by the launch of several new products to keep pace with advancements in machining solutions and our customer needs.

WIDMA continues to be among India's top technology solution providers, delivering high precision - high performance products for demanding environments. We are always at the forefront in adapting the latest technology and offering the best solutions to our customers to enhance their competitive edge.

**Vijaykrishnan Venkatesan**

economies like the USA, China and France, WIDMA's performance speaks for itself. WIDMA has won the prestigious "Best Design" award at IMTEX 11 times and has been awarded 6 times, as the "Best equipment Supplier" by Honda Motorcycles & Scooter India Limited. Our pan-India network of sales and expert service professionals ensure that there's always help, should a need arise.

## Driving the future

WIDMA's indigenous and robust high precision machines are now creating waves in the global manufacturing space, with more overseas buyers. The challenges of catering to advanced manufacture have driven us to raise the quality & productivity levels offered by our range that are now higher compared to what other top players offer.

As automation takes over the manufacturing space, WIDMA is all set to cater to Industry 4.0 with IoT compatibility built-in across our product range. WIDMA's 'anytime-anywhere' policy allows for 24x7 support and resolution. From predictive maintenance to process monitoring, WIDMA is with customers, so they can continue to deliver precision. The current pandemic became a catalyst to WIDMA offering machine installation on global platforms through augmented reality technology.

WIDMA – machineering tomorrow with passion driven machining solutions from India to the world.

# 100 Best Brands in the Metal Cutting & Metal Forming

Ace Designers Ltd	Cutting
ABB India	Cutting
Ace Manufacturing Systems Limited (AMS)	Cutting
Ace Micromatic Manufacturing Intelligence Technologies (AMIT)	Cutting
Allied Machines tools	Cutting
Amada India Pvt Ltd.	Forming
ANCA Machine Tools Pvt Ltd	Cutting
Autodesk India Pvt Ltd	Cutting
Balco	Forming
Bharat Fritz Werner Limited	Cutting
Birla Precision Technologies Limited (ITM)	Cutting
Blum Novotest Measuring & Testing Technology Pvt Ltd	Cutting
Bodor Laser	Forming
Bystronic Laser India Pvt Limited	Forming
Carl Bechem	Cutting
Carl Zeiss	Cutting
Castrol Limited	Cutting
Ceratizit India Pvt. Ltd.	Cutting
Chiron India Machine Tools Pvt Ltd	Cutting
Cosmos Impex India Pvt Ltd	Cutting
Carborundum Universal Limited	Cutting
CG Tech India	Cutting
DMG Mori India Pvt Ltd	Cutting
Doosan Machine Tools India Pvt Ltd	Cutting
Dormer Tools India Private Limited for brand Dormer Pramet.	Cutting
EMAG India Pvt Ltd	Cutting
Emkay Tools	Cutting
Exxon Mobil	Lubrication
Esprit CAD/CAM	Cutting
Fibro India Precision Products Private Limited.	Forming
Forbes & Company Limited for brand Totem	Cutting
Gedee Weiler Pvt Ltd	Cutting
GMT Industries Ltd	Cutting
Gravotech Engineering Pvt Ltd	Forming
Guhring India Pvt Ltd	Cutting
Haas Automation	Cutting
Harting India Pvt Ltd	Cutting
Hexagon Metrology	Cutting
Hypertherm (India) Thermal Cutting Pvt Ltd	Forming
igus (India) Private Limited	Cutting
Iscar India	Cutting
Janatics India Private Limited	Cutting
Jyoti CNC Automation Ltd	Cutting
Kawa Press Systems Pvt Ltd	Forming
Kennametal India Ltd	Cutting
Khushbu Honing	Cutting
Kyocera CTC Precision Tools Pvt Ltd	Cutting
Lapmaster Wolters India Pvt Ltd	Forming
Lapp India Pvt Ltd	Cutting
Lakshmi Machine Works Ltd	Cutting

## Continued

Lokesh Machines Ltd	Cutting
LVD-Strippit India Pvt Ltd	Forming
MAAN Aluminium Ltd	Forming
Mahr Metrology India Pvt	Cutting
Makino India Pvt Ltd	Cutting
Mastercam India	Cutting
Mazak India	Cutting
Messer Cutting Systems India Pvt Ltd	Forming
Micromatic Grinding Technologies (MGT)	Cutting
Mitsubishi Electric India Pvt Ltd	Cutting
Mitsubishi Heavy Industries Ltd	Cutting
Mitutoyo India	Cutting
MMC Hardmetal India Pvt Ltd	Cutting
MotulTech India	Cutting
Murata Machinery Ltd	Cutting
Nagman	Forming
Nebashi CNC Automation Pvt Ltd	Cutting
Nikon India	Cutting
Okuma India	Cutting
Omera Srl	Forming
Open Mind CAD CAM Technologies India Pvt Ltd	Cutting
PMT Machines Ltd	Cutting
Pro-Arc Welding & Cutting Systems Pvt Ltd	Cutting
QVI India	Cutting
Rajamane Industries Pvt Ltd	Cutting
Salvagnini Machinery	Forming
S & T Machinery Pvt Ltd	Forming
Sandvik Coromant	Cutting
Schuler India Pvt Limited	Forming
Schunk Intec India Pvt Ltd	Cutting
Seco Tools	Cutting
SLTL Group (Sahajanand Laser Technology Limited)	Cutting
Sphoorti Machine Tools Pvt Ltd	Cutting
Suntech Landriani Machine Tools Pvt Ltd	Cutting
Suresh Indu laser	Forming
Taegutec India Pvt Ltd	Cutting
Trishul Machine Tools India Pvt Ltd	Cutting
TruCut Precison Tools Pvt Ltd	Cutting
Tyrolit Superabrasive Tools Pvt Ltd	Cutting
UCAM Pvt Ltd	Cutting
United Grinding	Cutting
Universal Robots	Cutting
Usha Martin	Forming
Vargus India	Cutting
Walter Tools India Pvt Ltd	Cutting
Warrier Electronics with brand WEFIRE	Cutting
Wendt India	Cutting
WIDIA	Cutting
WIDMA	Machining
Zoller India Pvt Ltd	Cutting

- Company names arranged in alphabetical order.
- This is a listing of Best Brands. It does not imply ranking in any manner whatsoever.





# Disclaimer

*The Economic Times Best Brands in Metal Cutting and Metal Forming 2020 is the result of cumulative inputs taken from a sampling of brands and does not purport or claim to be a comprehensive study on the subject of branding. This book is not to be taken as a ranking of brands in the Indian context.*

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