

## In Tandem

# Working Together for a Better Future

IMTEX FORMING has been playing host to railway delegates for many decades. Their interaction held yesterday with Indian Machine Tools Manufacturers' Association (IMTMA) may lead to the two joining forces in the days to come.



IMTMA members in a meeting with the delegates from the Indian Railways at IMTEX FORMING 2018.

Railways and the Defence industry are the two most significant Government customers for the Indian machine tools industry. However, the present scenario reflects a trade gap between the Indian Railways and the country's machine tools sector, which exists even though the industry possesses the requisite capability to design, develop and manufacture special machines required by the Indian Railways.

### Long-time associates

The association between IMTMA and the Indian Railways dates back to the 70s, when Indian Railway officers started visiting IMTEX fairs in Mumbai. However, organized railway delegations to IMTEX fairs have been coming

for the last twenty years. IMTEX FORMING 2018, therefore, holds significance to the two entities as it marks the completion of two decades of their organized connection.

"IMTMA and the Central Organisation For Modernisation of Workshops (COFMOW) had together planned an organized railway delegation for the first time in IMTEX 1998," recalled Indradev Babu, Vice President, IMTMA.

"It has been extremely encouraging for the Indian machine tools industry to learn about our government's resolution to invest ₹ 8.56 trillion over five years from 2014 – 2015. For the modernization of our country's most strategic sector of national importance, for us in the capital goods industry, it is truly inspiring to know that a

fair share of this investment will go into rolling stock as also in all the production units in the Railways," commented Babu while welcoming the Railways delegation to IMTEX FORMING 2018 & Tooltech 2018.

He also highlighted that the Indian machine tools industry has, on different occasions, supplied machines as directed by the COFMOW to the Railways. Drawing attention to the technical capability of the Indian machine tools manufacturers, he said, "We are now prepared to supply complex requirements for large engine blocks and head machining, boggy machining, wheel and axle machining, and rail machining."

While addressing the IMTMA members, Manoj Joshi, Chief Administrati-

ve Officer, COFMOW, said, "I sincerely thank IMTMA for giving us this opportunity to visit IMTEX FORMING 2018 & Tooltech 2018. The Railways is a technology-centric organization and uses various types of machines. This exhibition gives us an opportunity to catch up with the latest developments in the field of machining technology."

### Railways' immediate focus

While divulging the Railways' current focus of attention, Joshi informed, "As of now, the areas which are of special interest to us include: Press for railway applications, Sheet metal cutting for workstations, Heat treatment processes, Joining & welding applications, and Manufacturing automation."

As far as Tooltech was concerned,

Continued on page 2. ▶



Ball Transfer Units

Hall 3A - Stall D110

Continued from page 1. ▶

the railway delegation expressed their interest on tooling that were relevant to their applications. That apart, the team also explored Measuring machines & instruments; Sensors & diagnostics; Portable electric & pneumatic tools; Testing machines; and Hydraulic & pneumatic systems.

Besides collecting information on the latest relevant technologies, the delegation team also interacted with people from specific technical fields, who could support their mission for upgrading technological solutions for better quality and productivity.

**An experimental model**

As the machinery is getting increasingly complicated by the day, its operation and maintenance also asks for a specialized knowledge and complex management skills, not to mention the huge initial capital investment that goes in buying a new machine. Under such circumstances, Railways (in some areas) has, as an experi-

ment, started a new scheme (Wait Leasing) in Integral Coach Factory (ICF), Chennai.

According to the plan, the machines will be owned, operated and serviced by an organization, which will get a fixed remuneration even if at times there is no jobwork. This is a long-term 7 to 10 years contract. After the end of the contract period, Railways may repurchase the machine from the organization or renew their contract.

If this pilot plan succeeds in ICF, then it will be introduced in many other workshops. The railway representatives feel it saves them from blocking capital and investing in skill development, earning a high level of productivity at the same time. On the other hand, as the contractor organization also gets a pre-decided remuneration every month, they are also not in any loss.

**Proposals for joint work**

IMTMA team offered several propo-

sals to the Railway delegation during their meeting. Every year after budget, when the railway departments get sanctions, they send indent to COF-MOW. IMTMA representatives asked whether they could get such lists well in advance, which could help Indian manufacturers to prepare themselves for procuring the specialized machinery.

Additionally, IMTMA highlighted its capability for inspection of the specialized components and machines that are being used by the Railways.

The Railway delegates also conveyed their interest on developing new standards for some new machines and components through jointly working with IMTMA.

Director General and CEO of IMTMA, V Anbu proposed a regular yearly meeting between the two bodies that can pave the way to mutually develop more specialized machines for Indian Railways. Also, IMTMA

may help Railways in their skill development processes.

**Delegates take interest**

As per their plan, the Railway delegation visited and interacted with the exhibitors in IMTEX FORMING 2018 & Tooltech 2018. Joshi said, "We have taken notes on developments in certain areas, such as modern presses, laser cutting, metal forming and welding applications."

The railway workshops are currently using laser cutting machines up to 5 kW. The enhanced capacity of the displayed laser cutting machines (up to 10 kW) caught their attention.

**The future**

The Railways follow the government's policies on 'Make in India'. They offer some concessions to the domestic manufacturers. Perhaps more frequent interactions between IMTMA and Railway delegates will soon open up many new avenues for the Indian machine tools manufacturers.

**Opinion**



**Hats off to IMTMA Team!**

IMTEX FORMING 2018 has provided wonderful opportunity for Industry-Institute interaction through great initiatives like 'Connect' and 'i2 Academia Pavilion'. The stakeholders of higher education in India got a chance to have fruitful interaction with domain experts. One of the challenges in these turbulent times is the rapid pace of technology which makes skills obsolete at a greater pace before anyone can learn from the industries. This emphasizes the need to integrate technological knowledge and skills in education and training to expand employable capabilities of a professional.

We feel really privileged to get associated with the stalwarts here for future endeavours to foster Industry-Academia Collaboration and undertake projects initiatives. Looking forward to exploring potential collaboration with leading industries! Thanks a million for the opportunity!

**Prof Suraj S Bhoyar**  
**Industry Institute Interaction Cell**  
**MIT School of Engineering**  
**MIT ADT University Pune**



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Wise Words

# “Refrain from over-stretched goals”

CONNECT, an IMTMA initiative, continues to challenge young participants with thought-provoking sessions by industry stalwarts.



Vikramjeet Singh, Director, Automation, Hind Hydraulics & Engineers addressing the students on mapping their career growth.



The session witnessed an engaging audience.

We live in a day and age where we are constantly being fed by done to death phrases such as “Dream big”, “Set your goals”, “Follow your passion”. Whether it is media, or our role models or leaders, we are constantly being pushed to set super-ambitious goals. Little do we think realistically and understand that setting such super-aggressive goals is just counter-productive.

This was precisely the advice, Vikramjeet Singh, Director, Automation, Hind Hydraulics & Engineers, proffered to the young engineers - eager to start their journey in the industry - at CONNECT, the IMTMA initiative to learn from the industry insiders the nuts and bolts of the trade.

“Set short-term goals if you must,” he warned the participants. Big goals, Singh explained, breed unrealistic expectations, divert focus and encourage shortcuts. He encouraged young

people to focus on the here and now, and do complete justice to the job at hand. “Bigger achievements accumulate through a series of jobs well done,” he added.

### Veterans teach through their experience

Through CONNECT, students and young engineers are getting an opportunity to learn from senior and experienced leaders from the Indian manufacturing sector. Yuken, SLT, Ace Micromatic Group, Cimtrix and UCAM are among the companies who have partnered with IMTMA to educate and motivate the newcomers through these sessions.

“We get to learn a lot about how manufacturing works, and it helps us make informed decisions for our future life,” said Suhas OS, a Diploma student in

Mechanical Engineering, Government Polytechnic College.

Singh’s brief presentation entailed a slew of questions and heated discussions from the audience; some even stayed back for seeking answers

to their questions even after the session ended. Their curiosity indicated that some spark has been ignited, and, thus, the very purpose with which these programs are held is met.

## CONNECT @ Hall 4

	Session 1 Industry Connect (16:00-16:30 hrs)	Session 2 Technology Connect (16:45-17:15 hrs)
29 Jan 2018	<b>Cimtrix</b> Cimtrix Systems Pvt. Ltd.	<b>UCAM</b> Engineering Excellence. Exactly.

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Industry-Academia Collaboration

# Ushering in a New Age of Innovation

Industry-Academia partnership is increasingly gaining force to address issues that entail economic pressures and global competitiveness. i2 Pavilion by IMTMA at IMTEX FORMING 2018 is an attempt to converge the two entities to drive in technological breakthroughs imperative for tackling modern challenges. Here's a look at the works of the academic researchers who are part of the event.

**"Vision System to inspect a Spline Gear"** -- Rajalakshmi Engineering College, Chennai.

The research presents that checking the common errors in spline gear arises due to inadvertent repeat machine leading to double-broach, and error may arise due to missed process step.

**"Press Tool Design through Parametric Modelling for Electrical Lamination"** -- RMK Engineering College, Bangalore.

Generally, the press tool design takes almost a few weeks to make a fresh new product. However, the concept design of the tool may remain the same in most cases. The tools may be of compound or progressive type.

The cost of design process increases with every new product, particularly with increasing operating cost per hour of the use of computer and software for this purpose. To offset this cost, a parametric modeling process was worked out, by which the product cost could be controlled.

**"Development of Electrospinning System for Synthesis of Nanofibers"**-- RV College of Engineering, Bangalore.

The research presents Electrospinning, a versatile method for generating fibers in nano dimension from materials including polymers, composites and ceramics.

**"Experimental Evaluation & Analysis**

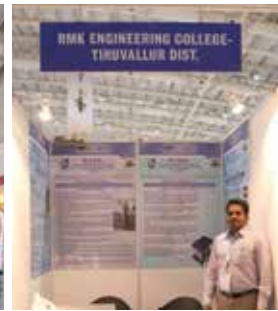
**of Mechanical Properties & Behavior of Polymethy Methacrylate (PMMA) Nanocomposites"** -- S.G. Balekundri Institute of Technology, Belagavi.

PMMA is extensively used by dentists in making dentures. The properties of prime importance is wet wear rate, impact strength and compressive strength. PMMA reinforced with nano ceramic oxides definitely help dentists and engineering materials scientists alike. It is hoped that the results of this research will help the design and materials engineers along with dentists.

**"Strain Energy Absorbing Metals - Plastically Deformed Metals"** -- Sambhram Institute of Technology, Bangalore.

The research talks about safely and effectively absorbing this energy before it impacts the products, equipment, or workers. Some preliminary work has been attempted in this direction to develop suitable 'Energy absorbing metals'.

**"Pulsed Current TIG welding on Al-SiC Composite"**--SASTRA University, Thanjavur. The research on Pulsed Current TIG (PCTIG) welding shows improved weld properties through grain refinement in weld zone microstructure from coarse grain structure to fine grain structure. PCTIG also reduces the width of the heat affected zone and thermally induced stresses through increasing cooling rate of the weld zone



and reduces the heat input compared.

**"Evaluation of Shape Memory Effect and Damping Characteristics of Cu-Al-Be-Mn Shape Memory Alloys"**-- Siddaganga Institute of Technology, Tumakuru.

The research presents that the shape memory effect and damping behavior of the alloys were studied by using differential scanning calorimetry and dynamic mechanical analyzer respectively.

**For other projects by the above institutes, visit Hall 4.**



Participating students with their faculty members at the Academia Pavilion

Source: Magic Wand Media Inc

Knowledge Sharing

## Monozukuri for Machine Tools Cover

Downtime in production is costly, in measurable as well as in ways that are not immediately obvious. Under a new manufacturing concept for machine tools cover, Amada India aspires to reduce secondary processes and enhance bending and welding process.

The Japanese word for manufacturing, 'Monozukuri' means more than just making things. With a focus on skill and method rather than the person behind the process, Monozukuri denotes a move towards higher efficiency and consistent quality. In other words, towards perfection in manufacturing.

With its long and celebrated history of excellence in metal working with a spirit of originality, Amada India aims to incorporate Monozukuri into manufacturing lexicon. The company shared its new manufacturing concept for machine tools cover.

**Towards process efficiencies**

With the "new manufacturing proposals", utilizing punch-laser combination machine

and laser welding system, the following three process efficiencies can be achieved:

**Reduction of secondary processes**

**Enhancement of bending process**

**Enhancement of welding process**

The approach is being considered for four sub-assemblies: Door, Tool box, Inner guard and Stand assembly for solution proposal.

**Punch-laser combination**

Punch-laser combination machines are fast emerging as an alternative to laser cutting to reduce down times, minimize part handling and secondary operations and increase processing speed. Modern punching machines, equipped with the right automation systems, are able to load raw sheets of

material, sort parts down part chutes, pick up parts and place parts onto an unloading area. The skeleton is removed to a separate area for full part sorting and material removal without any manual intervention or added time. These sorted parts can also be made available parallel to production so that they can be accessed at any time, even while the machine is in motion.

They are also designed for unattended operation since the process can be monitored from loading raw material to the unloading of complete parts.

**Proposal 1: Process Integration with BK-Extrusion + Tapping to replace weld nut Problem:**

Many times due to operator mistake, wrong placement or missing weld nut can create issues like misplacement and excessive preparatory operations of weld nut.

The conventional burring method results in ring-shaped burr that often intertwines with electrical wiring or electrical board, turning out to be the main cause for short-circuits. In the shopfloor, it is manually removed as a finish-process, which is sometimes one of the most time-consuming operation.

**Proposal:**

To use automated blanking process with the

combination machine, in a process called BK Extrusion - where the sheet is formed and cut, tapping can be performed online.

**Benefits:**

Elimination of nut welding process  
Mounting mistake prevention  
The formed and tapped hole has breaking load tension of 16440 N which is much stronger than a weld nut  
Burr-free extrusion and tapping process.

**Proposal 2: Set Back positioner – SBP Problem:**

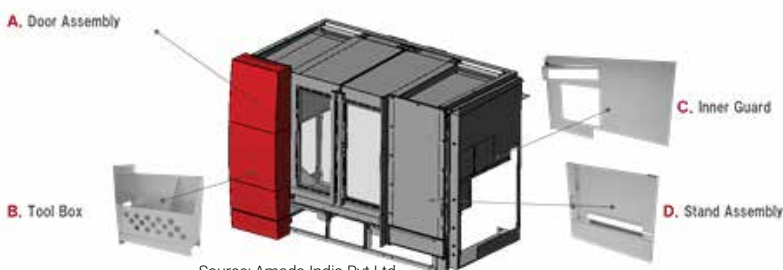
Many times, when we have requirement of welding with half thickness overlap, maintaining correct overlap amount is a tedious task.

**Proposal:**

With SBP process, we can create Tab and slot, which will provide us half thickness overlap during assembly / welding process.

**Benefits:**

Reduced weld positioning operation  
Stable welding quality  
Enhanced accuracy in parts' size.



Source: Amada India Pvt Ltd

**Amada India Pvt Ltd**  
www.amadaindia.co.in  
Hall & Stall: 4 / B-108

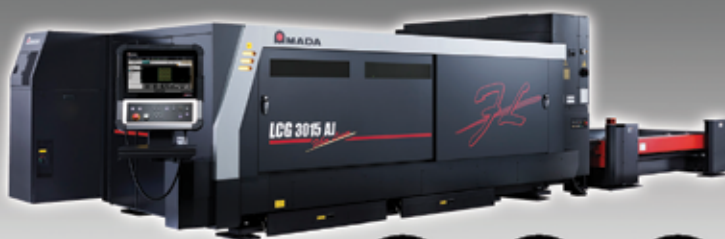
Amada India

# Fiber Laser line-up



**AMADA**  
Fiber Laser Lineup

Amada developed its own fiber laser oscillator as the laser machine manufacturer for the first time



3kW

6kW

9kW

**AMNC 3**

Global standard  
fiber laser cutting machine

**LCG-3015AJ**

\*Also available as LCG-4020AJ



3kW

**AMNC 3**

Energy saving, v-lot production,  
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**ENSIS-3015AJ**

\*Also available as ENSIS-4020AJ



Hall No. 4  
B108



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No.60, KIADB Bengaluru Aerospace Park,  
Singahalli Village, Budigere Post, Bangalore,  
North Taluk – 562 129, India.  
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Industry Delegates

IMTEX 2018: a good interaction platform



"Being from the capital equipment department of Godrej Boyce, I am interested in new machinery in the field of punching, moulding, laser cutting machines and have found several good products on display at IMTEX FORMING 2018. This time the footfall in the trade fair is quite good. This turns out to be a great opportunity for me to interact with people from different companies who might turn into my customers in future. Godrej is developing a green field project near Mumbai, so I am on a lookout for the latest automation and robotics products too.

**Deepak Jagannath Desai**  
**Associate General Manager**  
**Capital Equipment**  
**Corporate Procurement & Overseas Finance**  
**Godrej & Boyce Mfg Co Ltd**

Visitors' Views

Better road needed from the parking area



"Our existing suppliers are participating in the exhibition. We have come to see their latest product offerings and explore more. The show is very well organized but the only discomfort is the road from the parking. Otherwise, everything is just fine."

**Benny Samuel**  
**Director**  
**Swan Electric Engineering Co Pvt Ltd**

A platform for give and take



"I have come here with the purpose to source roll forming and shearing machines for our factory. And have found excellent machines being offered by international vendors and placed order for some Taiwanese machinery. Luckily, I got an international customer for our products, which is a bonus for us."

**Musthafa Mundassery**  
**Managing Partner**  
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## India-UK Ties Synergising Strengths

With UK businesses getting increasingly bullish about India and the latter being equally keen to strengthen their trade ties, there lies an immense potential to such engagement. James Selka, CEO, Manufacturing Technologies Association (MTA), tells us about the recent innovations in the metal forming field in the UK and how India can benefit from it.

The Manufacturing Technologies Association (MTA) is the UK's trade association for the companies who create and supply technologies that manufacturers use to make products. The products and services of its members feed into a wide range of technology driven industries, in the UK as well as globally.

### Import-Export of machine tools

According to James Selka, CEO, Manufacturing Technologies Association (MTA), India is a significant market for UK machine tool manufacturers, and in 2016 it was the 7th largest destination with shipments worth £14.7 million (3.4 per-

cent of total UK machine tool exports)." "The latest data, which covers the period from January to September 2017, shows a small fall in exports, but this trend could easily be reversed by a good end to the year as the fall we saw in 2017 was largely because of strong start to 2016 and the underlying trend for 2017 has seen a general improvement over recent levels," added Selka.

However, the imports of machine tools from India to the UK are not significant, amounting to only £1.5 million in 2016 and £1.1 million for the first 3 quarters of 2017.

Trade in other parts of the industry is not significant either, although India did have a small trade surplus with the UK for cutting tools in 2016 with imports from India valued at £2.1 million, while exports from the UK to India were worth just under £1 million. This is partly balanced by a small surplus for the UK in trade in tool/workholding equipment – here UK exports to India were worth £1.4 mil-

lion in 2016, while imports were valued at £0.7 million.

### Forming innovation from the UK

Shedding light on some of the recent developments in the metal forming sector in the UK, Selka said, "There are many institutions and companies within the UK working on the latest metal forming technology. The Advanced Forming Research Centre (AFRC) in Strathclyde are leading the way in this. They cover the whole lifecycle from material testing and characterization to testing final products. Some of their recent projects around forming are new lubrication systems for hot forming, investigating new technology for hydroforming and developing new test techniques to rapidly assess shear formability.

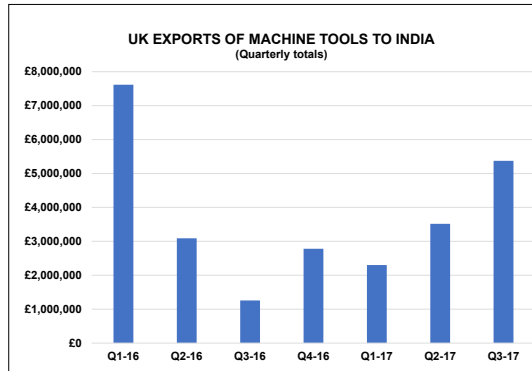
The University of Nottingham are also doing excellent work, they are developing new forming processes for 'hybrid' materials. They are also doing work around modelling and simulation and process optimization of forming processes and around material characterization (i.e. the better you understand your material the better you can simulate it).



**“ We understand the cost constraints that SME businesses face; it is important to let companies know that Industry 4.0 technology is accessible to them.”**

**James Selka**  
CEO  
Manufacturing Technologies Association (MTA)

**The Manufacturing Technologies Association (MTA) UK**  
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Laser Systems

# Displaying Indigenous Manufacturing Strength

Pune-based Suresh Indu Lasers Pvt Ltd (SIL) has been creating waves in the Indian industry with its innovations. Aligned with the government's 'Make in India' initiative, it is displaying some indigenously built laser technology-based machine tools at IMTEX FORMING 2018.

Applications like cutting, welding, marking, engraving and cladding that involved quite complex processes earlier can now be managed with a very simple technology.

Although globally, the use of laser-based technology has become quite popular by now, in India it is still in its infancy. Also, most of the Indian manufacturers lack thorough understanding of the application potential of the ever-growing green technology.

Responding to the government of India's ambitious 'Make in India' mission, the Pune-based Suresh Indu Lasers Pvt Ltd (SIL) is displaying some indigenously built laser technology-based machine tools in IMTEX FORMING 2018. "We have been showing our products through IMTEX for the last 10 years. It offers us a very sound platform for branding and positioning of our new

products," said Deepak Pundlik, Sales Director, SIL.

**Constantly innovating**

SIL has already introduced a number of laser-based systems in the country that cater to the widest possible application areas. It has in its credit the industry's first Low-cost entry-level CO<sub>2</sub> laser engraving and cutting system, Laser marking systems (compact and on the fly), Pulsed YAG and Pulse fiber laser welding systems, Economical laser cutting systems, High speed laser cutting machines with CO<sub>2</sub> or fiber lasers and Laser micro machining.

"This time IMTEX FORMING is generating great response for us. We are now positioning our products against many products supplied by the foreign companies, and are trying to align with the government's new policy, 'Make in India'," added Pundlik.



**“ We have been showing our products through IMTEX for the last 10 years. It offers us a very sound platform for branding and positioning our new products.”**

**Deepak Pundlik**  
Sales Director  
Suresh Indu Lasers Pvt Ltd

**Suresh Indu Lasers Pvt Ltd (SIL)**  
www.silasers.com  
Hall & Stall: 4/ B-114

Source: Magic Wand Media Inc

Laser Cutting Machines

# Mazak's Innovation into Structural Fabrication

Thanks to CNC scheduler software, automatic and continuous 3D laser cutting of large and long structural materials can be obtained by Mazak's 3D FABRI GEAR 400 III. The machine offers high precision cutting of complex features by 3D laser head and automatic focus positioning. It can cut long, large structural materials with maximum lengths of 8000 mm (option: 6100 mm, 12200 mm, 15100 mm); maximum cutting lengths for unloading of 8000 mm (option: 6100 mm, 12200 mm, 15100 mm); and maximum material diameter of round pipe: Φ406.4 mm, H beam: 300 mm, Square pipe: 300 mm.

The 3D FABRI GEAR 400 III comes with an optional chain conveyor for increased versatility and maximum

Mazak's 3D FABRI GEAR 400 III for the laser cutting of large and long structural material.



Source: Yamazaki Mazak India Pvt Ltd

quantity of workpieces. Optimum focus positioning is automatically determined resulting in considerably reduced piecing time. It can process any section - Closed as well as Open sections - with universal four jaw roller chucks.

After having loaded the long material in the loading station, the 3D cutting is performed automatically.

The finished parts then get automatically transferred to the unloading station. All cutting processes - from 3D cutting to tapping - are completed in just one machine when equipped with the optional tapping unit [Max. M12 (1/2 UNC and UNF)]. It is available in 2.5kW and 4.0kW versions.

**Yamazaki Mazak India Pvt Ltd**  
www.mazakindia.in  
marketing@mazakindia.com  
Hall & Stall: 4 / B-102

Specification	Values	
Capacity	Maximum Cutting Size (Round)	406.4 mm / 16.00 in
	Maximum Cutting Size (Square)	300 mm / 11.81 in
	Maximum Workpiece Length (Loading)	8000 mm / 314.96 in
	Maximum Workpiece Length (Unloading)	800314.960 mm / 314.96 in
Feed Axes	Travel (X axis)	8790 mm / 346.06 in
	Travel (Y axis)	1270 mm / 50.00 in
	Travel (Z axis)	370 mm / 14.57 in

Die Lifters

# Guthle's Solution for Easy Die Handling

The conventional procedure for changing press tools often becomes tedious and potentially dangerous when handling dies weighing more than 500 kg.

The Rollbloc die lifters are used for easy handling and precision positioning of dies weighing tons. Press tables can be equipped with Rollbloc die lifters, available in Ball or Roller version and in Spring or Hydraulic type. Load distribution over several balls/rollers and their mounting arrangement allows for smooth movement that makes it possible to quickly move the die with little effort in any direction. Exact manual positioning of the die, therefore, poses absolutely no problems and is reflected in increased productivity.



**Guthle Pressenspannen GmbH**  
www.guthle.com  
Hall & Stall: 3A / J-104

Source: Guthle Pressenspannen GmbH



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Bending Machine

Bending the rules with Bystronic's Xact Smart



Xact Smart 160

Source: Bystronic Laser India Pvt Ltd

**Bystronic Laser India Pvt Ltd**  
 www.bystronic.com  
 Hall & Stall: 4 / B-106

**B**ystronic, a leading global provider of high-quality solutions for the sheet metal processing business, has its focus on the automation of the complete material and data flow of the cutting and bending process chain. Bystronic's portfolio includes laser cutting systems, press brakes, and associated automation and software solutions. Comprehensive services round off the portfolio.

Xact Smart is a Swiss-quality bending machine from the company. Its software solutions optimally integrate the Xact Smart into the user's production environment. The company offers an extensive portfolio

of services from the offer through to shipping.

The machine's other features include: **Fast Bend+:** The safety system saves 20 percent time in comparison to conventional safety systems.

**Energy saver:** It reduces machine energy consumption by up to 60 percent. It helps in making the machine generate less noise and less heat.

**LED workspace lighting** illuminates the workspace perfectly and uses a minimum amount of energy.

**Flexible back gauge system:** It doubles the axis speed of standard back-gauges possible.

**Tandem operation:** The bending machine offers maximum flexibility for processing small to extra-long bent parts.

	Xact Smart 50, 100, 160, 225, 300
<b>Tonnage</b>	50-300 t
<b>Bending length</b>	1600-4100 mm
<b>Installation height</b>	430-580 mm
<b>Standard stroke</b>	150-300 mm
<b>Max. high speed</b>	140 mm/s
<b>Max. working speed</b>	10 mm/s

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Launch Pad

# First 10 kW Laser Cutting Machine Launched in India

**Penta Chutian Laser (Wuhan) Co. Ltd, a subsidiary of Electronic Engineering Spa (El.En) Group of Italy, has revolutionized the laser world with its first ever 10 kW laser cutting machine. The company, through its Indian partner REIN-TECH, has launched the machine in India at IMTEX FORMING 2018.**

Advantages of non-traditional cutting technologies such as plasma and laser over mechanical cutting technology are well known today. However, owing to better benefits -- lower power consumption, lower processing tolerance, lower noise pollution etc. -- laser cutting is considered superior to plasma cutting technology and is therefore, a preferred choice.

Higher the power of laser cutting machine, better is its capacity to cut thicker materials and more is its ability to increase productivity in thinner materials. Thus, as popularity of laser cutting is growing, machine suppliers are trying to provide more power to their products. Globally, so far 8kW was the maximum power available in the laser cutting machine.

**Surpassing the benchmark**

Recently, Penta Chutian Laser (Wuhan) Co. Ltd, an Italian-French company in China, which is also a subsidiary of Electronic Engineering

Spa (El.En) Group of Italy, has come out with the first ever 10 kW laser cutting machine. At IMTEX FORMING 2018, the company, through its Indian partner REIN-TECH, has launched the machine in India.

"It is the highest laser power technology in the world to date," informed Candy Lee, Sales Director, International Sales Department, El.en.

Raj Reddy, CEO, REIN-TECH, pointed out, "While the entire world is busy with 6 kW laser cutting technology, we are the only company displaying 10 kW technology."

While talking about the impact of the launch of the latest high power technology in India, Lee said, "As most of our customers are mostly exposed to 6 kW capacity or less, they are quite impressed by our high speed and high performance."

Penta Chutian Laser is increasingly enhancing its fiber laser cutting machine's capacity. Now with this 10 kW machine, the productivity of the Indian manufacturers will grow manifold, and the quality of the out-



Source: Magic Wand Media Inc

**“ Around 70 to 80 percent of the Indian market is covered with 1 to 3 kW machines. Our new machine will drastically improve the productivity of the Indian manufacturers.”**

**Candy Lee**  
Sales Director  
International Sales Department  
Electronic Engineering Spa  
(El.En) Group

puts will be much better. An internal assessment by the company shows that the use of the 10 kW machine will make the cutting process five to six times faster than that with a 1 or 2 kW machine.

**Penta Chutian Laser (Wuhan) Co. Ltd**  
www.pentalaser.com/en  
Hall & Stall: 4 /B-112





**Best choice.**

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Xpert 40



Visitor Responses



**IMTEX is a Unique Experience**

"It's a one of a kind experience to be witness to such ingenious technologies from world-over all displayed under one roof. The technologies are futuristic, especially, the Vector machine, which is amazingly swift."

**Toshifumi Yabuuchi**  
Sales Manager  
Maruka India Pvt Ltd



**SLTL's Opti-Store addresses the ubiquitous storage issue**

"IMTEX FORMING can be safely called as the best exhibition for the metal forming industry. The machinery at SLTL Group's booth is cutting-edge. The company's latest offering, Opti-Store is a smart storage solution for factories."

**N Rajendiran**  
Technical Director  
Laxmi Metal Crafts



**SLTL's new avatar is awesome**

"IMTEX FORMING is truly a world-class exhibition, disseminating knowledge on different technologies. That said, Sahajanand Laser Technology Ltd's new logo looks suave and so does the new avatar of the company. We have been using its marking machine and are completely satisfied with it."

**Parag A Panchal**  
Proprietor  
Surendra Industries



**Showcase of path-breaking technologies**

"IMTEX provides a global stage for all companies to showcase their technology. Fibo Cell, which is an advanced robotic system capable of performing multiple laser operations like cutting, welding, hardening, cladding, and robotic welding, is mind blowing."

**Manjeet Singh/Rajinder Singh**  
Proprietor  
Bara Cutting Tools/Aman Meta Products



**SLTL's products are a delight**

"At IMTEX, the technology is in the air. SLTL Group's new welding machine is a total delight that allows highly precise welding operation in no time."

**Manoj Joshi**  
Chief Administrative Officer  
Ministry of Railways, COFMOW



**New Logo reflects SLTL's philosophy**

"IMTEX FORMING presents best of technologies and offers exposure to the global market. Just like its technology, the new logo compliments SLTL's innovative and creative approach."

**Dharmichand**  
Proprietor  
Midaz Technologies

12



**Foundation Course in Sheet Metal Manufacturing**

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- Overview of Sheet forming Processes
- Basics of Cutting, Bending and Forming Operations
- Presses and Press Lines
- Type of Dies
- Manufacturing process for Dies
- Tryout of Dies
- Assembly Techniques and Fixtures

For Registration contact :  
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**Cutting**

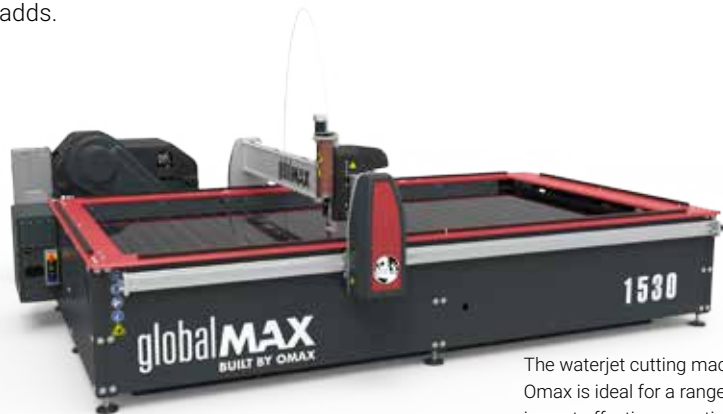
**Water cuts everything**

**A cost-effective and versatile approach to cutting, the waterjet cutting machine can cut all kinds of material for engineering industries.**

Waterjet cutting is an old and established concept in fabrication and has been evolving to incorporate CNC systems for present day manufacturing. OMAX software has been at the forefront of simple, fast and accurate waterjet cutting.

"We are offering entry level waterjet cutting machine from OMAX at IMTEX Forming 2018," says J T Matthew, Executive Director, M.D Corporation, "This machine, which can cut all types of material, is ideal for cost-effective operations. It is beneficial for all engineering companies looking for solutions for cutting difficult and different types of material."

Matthew is optimistic about pitching the technology to their potential customers at the show. "IMTEX is the ideal platform to introduce new technologies and product to the Indian market place," he adds.



The waterjet cutting machine from Omax is ideal for a range of materials in cost-effective operations

**M.D Corporation**  
[www.mdcorpindia.com](http://www.mdcorpindia.com)  
Hall & Stall: 2A / B-105

**Laser Cutting System**

**SLTL's cutting solution for growing businesses**

**S** LTL Group has come up with Infinity F1 series high productivity laser cutting system with a modular design. The power models come in a range of 500 W to 2 kW. The Infinity series comes in eight different variables designed to meet variable needs.

**Integrating other features**

With all new Infinity F1, it is possible to integrate other features with growing time and need. The machine can be upgraded with other systems and can perform laser cutting and tube cutting simultaneously. The machine, therefore, is a perfect fit for growing businesses.

It is a ready go-to-market machine with handy features to increase factory productivity and maximize profits. The machine comes in with cutting operations for 2D sheet cutting as standard and with tube cutting operations in other models.

Infinity series has different models with single palate and dual palate. It comes with innovative ASHS (Auto Sheet Height Sensing) technology and is covered with class 1 enclosure.

A few more fascinating features are butter cut, single lens mechanism, ball support sheet loading, dynamic fume extractor mechanism. Its vigorous flexibility extends thunderbolt reflexes for swift material change. Hermitically sealed cabinet keeps safety at its best. The machine takes negligible booting time. High-end 64 bit CNC controller is equipped with user-friendly operating interface. The controller responds within nano seconds which makes the Infinity super responsive.

**Sahajanand Laser Technology Ltd (SLTL)**  
www.sahajanandlaser.com  
Hall & Stall: 2A / B-106



Source: Sahajanand Laser Technology Ltd

**Industrial Automation**

**When Local Goes Global**

**While most Indian machine tools manufacturers are still importing automation components from well-known global companies, Mumbai-based Orbital Systems (Bombay) Pvt Ltd is all geared to offer its products globally.**

With the plans to explore foreign shores, Orbital Systems (Bombay) has been continuously developing various types of automation components.

"On the light curtain range, we are the only Indian company to have the type 4. We have over 1 lakh installations in the country. We have a particular model, which has been developed for Europe as we are going to showcase that at Hannover in April 2018 through one of our partners. They are going to launch it globally as they have a worldwide network," informed Ranjit Kambil, Director, Orbital Systems.

**On the display**

At IMTEX FORMING 2018, the company is displaying SPMs (Special Purpose Machines), riveting machines, clinching machines, concepts of assembly automation. It is also showcasing some electronic products including light curtains, encoders, potentiometers -- all elements which are used in industrial automation.

"We are going to smart products and finally to IoT. A German manufacturer approached us to discuss whether we could promote wireless technology along with his product. We have also developed a product with Fresnel Lens, which right now



Source: Magic Wand Media Inc

From: L to R: Ranjit Kambil, Director & Paramjit Singh Seehra, CEO & MD, Orbital Systems (Bombay) Pvt Ltd at the company booth.

**“We are the second company in the world to have a product with Fresnel Lens. We have also compacted the size of the product.”**

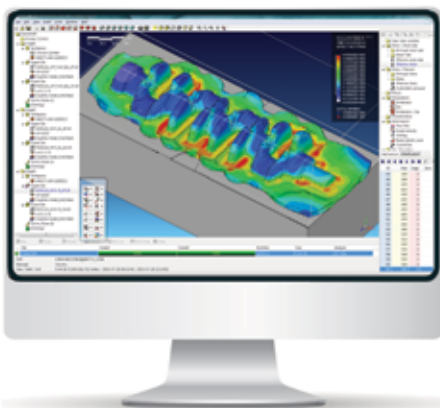
**Ranjit Kambil**  
**Director**  
**Orbital Systems (Bombay) Pvt Ltd**

Panasonic has," informed Kambil. For injection moulding, Orbital has developed a substitute for the world leader Gefran. It can just replace Gefran's components, both electrically and mechanically.

**Orbital Systems (Bombay) Pvt Ltd**  
www.orbitalsystems.net  
Hall & Stall: 3A / A-121

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Plasma Cutting

# Inverters for manual and mechanized plasma cutting from Kjellberg

With the plasma inverters CutFire 65i and CutFire 100i and the corresponding torches users benefit in many ways from using air as plasma gas as far as simple mechanised cutting applications are concerned. In addition to cooling of the inverter and torch, the air that rotates around the plasma beam stabilizes the arc and ensures a better protection and cooling of the consumables. Thus, the cutting speed is increased, the lifetime of the consumables is improved and the costs per cutting meter are reduced.

With the torch Flash 101 for the inverter CutFire 100i, the well-proven swirl gas technology is now also used for plasma cutting with air. With only one gas, the CutFire 100i cuts material thicknesses

of up to 30 mm reliably and can also be used for bevel cutting, marking and piercing.

The CutFire 100i is ideally suited for cutting thin sheets in ventilation and switch cabinet construction, in metal construction and many other craftsmen businesses, industrial and production plants.

The plasma hand torch KjellCut 70 is used for cutting manually with the CutFire 65i. The user benefits from its ergonomic handle design and low weight. A switch-on



Source: Kjellberg Finsterwalde

CutFire range of plasma inverters.

protection prevents the unwanted ignition of the plasma arc and ensures safety. A large variety of accessories is available for the flexible use of KjellCut 70.

**Kjellberg Finsterwalde**  
www.kjellberg.de/en  
Hall & Stall: 4 / B-113

Plasma Cutting

# LVD offers precision bending in a flexible machine

LVD is a leader in the field of press brake technology. At IMTEX FORMING 2018, LVD spotlights one of its most flexible bending machines – the PPEB.

PPEB Series press brakes offer high precision and flexibility. Equipped with state-of-the-art hydraulics and electronics and offered in multi-axis configurations, the PPEB can tackle bending applications from simple to complex, efficiently and cost-effectively. LVD's intelligent bend database is used to automatically optimize each part program to eliminate trial bending and reduce the time it takes to bend a quality part.

Designed with the operator in mind, the PPEB is functional and user-friendly. Status lighting built into the press brake ram covers offers a visual indication of the machine's operation status, enabling more effective shop management for higher throughput.



Source: LVD-Strippit India Pvt Ltd

**LVD-Strippit India Pvt Ltd**  
www.lvdgroup.com  
Hall & Stall: 4 / A-112

Power source	CutFire 100i
Cutting current at 100% duty cycle	100 A
Cutting range	1 - 30 mm (built in or after 2017)
Piercing	up to 20 mm (built in or after 2017)
Dimensions (L x W x H)	710 x 280 x 590 mm
Mass	50 kg
Plasma torch	Flash 100 Flash 101 (for CutFire 100i built in or after 2017)

Metrology / Quality Assurance

# Being Sensitive About Sensors

Zeiss India has grown from just a sales unit to a full-fledged manufacturing company with its own R&D center to introduce innovative products that cater to leading sectors in Indian industry. Adding to its impressive stable are two new products that are being launched at IMTEX FORMING 2018.

ZEISS in India is headquartered at Bangalore and is present in the fields of industrial metrology, microscopy, medical technology, vision care and sports and cine optics. Started as a pure sales unit in 1998, the company has now developed into a full-scale representation that includes an R&D centre, three production facilities, global IT services and 30 sales and service offices in almost all Tier I and Tier II cities in India.

Leveraging the IMTEX Platform

With the manufacturing industry being one of the foremost sectors contributing to India's GDP and, in particular, the contribution of sectors like automobile,



ABIS system surface inspection

aerospace, wind energy, auto components, gear, machine tools being quite huge, Zeiss India is of the firm opinion that a show like IMTEX is just right to showcase its innovative manufacturing and engineering products. At this year's edition of the show, the company has launched two new products.

The first is the **Zeiss AIMax digital-optical 3D sensor**, which is the new benchmark in robot-based 3D inline metrology for sheet metal processing and car body construction. "The unique combination of three measuring principles in one compact sensor enables the measurement of complex geometric characteristics such as holes, bolts and gap flush with maximum robustness, as well as attributive characteristic recognition," explains Sridhar V Pissay, Vice President (Sales & Marketing), Zeiss India.

The second is the **Zeiss ABIS II**, a surface inspection system. The surface quality of a product – particularly in the automotive industry – constitutes an important criterion for customers and is generally associated with the quality and value of the entire vehicle. The

timely detection and objective classification of surface defects with the high-precision Zeiss ABIS II system opens up new frontiers in quality assurance. It allows the fast, reliable and ultra-accurate detection of surface defects. "In addition, if a customer opts for our new software – Pi-Web – we are able to co-relate the measurement results and also compensate the values as required by the production department, thus avoiding any manual calculations," states Pissay.

Future forward

Planning to leverage the event maximum by introducing these new products with state-of-the-art technology in automated inspection, quality control and process control for sheet metal measurements, Zeiss India would also like to conduct webinars and customer forums to create a greater understanding of the solutions it provides. "Our target sectors are from the auto components, car body, BIW, metal casting, metal forming, metal machining, metal joining and finishing and sheet metal industry," he shares.



“Our target sectors are from the auto components, car body, BIW, metal casting, metal forming, metal machining, metal joining and finishing and sheet metal industry.”

**Sridhar V Pissay**  
Vice President - Sales & Marketing  
Carl Zeiss India (Bangalore) Pvt Ltd

**Carl Zeiss India (Bangalore) Pvt Ltd**  
www.zeiss.co.in/imt  
Hall & Stall: 3A (German Pavilion)/ C-102

Metal Forming

# Forming the Future

Schuler Group's collaboration with Yadon will now offer bigger benefits to Indian companies at all technological levels. The company is here at IMTEX FORMING to meet its customers from the metal forming sector in South East Asia and present them the wide range of its innovative technologies in presses, automation and service.

The Schuler Group has been serving the Indian clients for the past over 50 years and have successfully executed projects to the Indian engineering industries such as automobile, electrical motor, India Government mints and white goods. Schuler India Pvt Ltd, a wholly owned subsidiary of Schuler Group, Germany, has a wide range of solutions to the needs of engineering companies to offer together with the value added services in the field of metal forming.

### IMTEX is the right place

For the company, IMTEX FORMING is the right place to meet its customers from the metal forming sector in South East Asia and present them a wide range of innovative technologies in presses, automation and service that Schuler and its new subsidiary, Yadon, can offer at all technological levels. They have a joint booth of Schuler Group and Yangzhou Metal Forming Machine Tool Ltd (Yadon) at IMTEX FORMING 2018.

"From now onwards, Indian customers

can use the benefit to purchase either Schuler metal forming equipment or Yadon presses according to their needs – all from one source. At the booth, our customers will learn about Yadon's high-speed press lines (J76-200T), including decoiler, straightener and feeder for manufacturing of high-volume components like electric motor (stator/rotor) laminations having a wide range of sizes. Plus, they can see the high-performance C-frame press (YC1-80T) typically used as battery of presses for mass production and higher precision smaller sized parts used across all the industries," informs Nitin Kulkarni, Managing Director, Schuler India Pvt Ltd.

### Strong service capabilities

Located in Mumbai and Pune, Schuler India, has a strong service division with a highly skilled team. "Our service-related offerings cover the entire life of the equipment: ranging from project management during installation to technical assistance during full production on lines. Our service capabilities include proficiency in the handling

of turnkey projects, complete project management, after-sales services, and the refurbishment of used machinery. We also ensure a high degree of line uptime and performance enhancements achieved by line optimization and modernization, and we also provide training for the optimum utilization of manufacturing systems," Kulkarni shares.

### Success stories

Kulkarni quotes a few cases that provides an insight into Schuler India's competence: the company supported the relocation of a used press line for a leading automobile manufacturer, which had to be supplied very quickly, just a few months from the order to production launch. "We completely rewired the line that consisted of five individual presses and brought the control system up-to-date with the latest technology as well as installed and commissioned the press line," Kulkarni says. The company has also installed new equipment such as the first mechanical high-speed press line with crossbar feeder automation at Mahindra Vehicle Manufacturers Ltd, Pune.



“From now onwards, Indian customers can use the benefit to purchase either Schuler metal forming equipment or Yadon presses according to their needs – all from one source”.

**Nitin Kulkarni**  
Managing Director  
Schuler India Pvt Ltd

Schuler India Pvt Ltd  
www.schulergroup.com  
Hall & Stall: 4 / B-107



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