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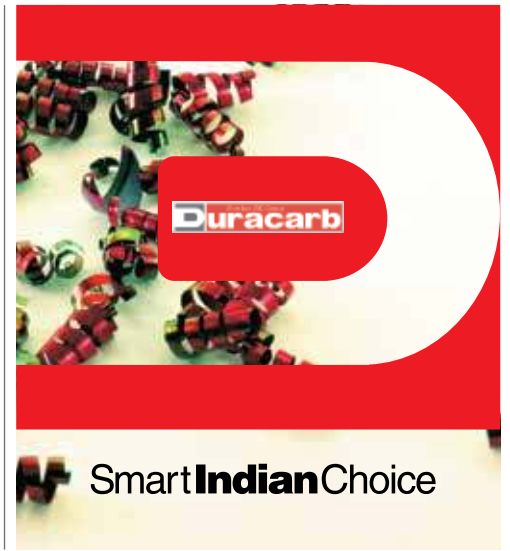
The official showdaily of IMTEX 2017

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Manufacturers' Association

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To IMTMA, Industry Stalwarts, Our Advertisers, Readers and Well-wishers, We **THANK YOU** profusely for your continued support. – Magic Wand Media Inc



## High-End Technologies

### Propelling Technology, **PROSPERING LIFE!**

**Jyoti CNC Automation Ltd (Jyoti) is known for its advancements in technology and innovation. Read on to know about its offerings and mission for India's progress.**

🇬🇧 Jyoti has grown leaps and bounds since its inception in 1989. The company has the largest booth measuring 1,426 sq mt at IMTEX 2017. It is displaying 26 machines of which six are new launches. From them one machine –The MTX 300—is a prime example of indigenous manufacturing. Under the scheme of 'Enhancement of Competitiveness' in the Capital Goods Industry by GOI, Jyoti and IIT Madras collaborated to develop and build the innovation. It offers turning, milling, gear cutting, additive machining, hardening (through laser) & grinding capabilities, making it the ultimate multitasking machine; is designed to specifically cater the most sophisticated applications of Aerospace and Defence. In fact, there is a landing gear on display at the booth, which

**Jyoti CNC Automation Ltd**  
www.jyoti.co.in  
Hall 4, Jyoti Pavilion



MTX 300 is a indigenously designed machine to cater to the needs of nuclear, defence, aerospace and automotive sectors

Source: Magic Wand Media Inc

## High-End Technologies

### प्रेरक प्रौद्योगिकी, सफल जीवन

ज्योती सीएनसी ऑटोमेशन लि (ज्योति) प्रौद्योगिकी और नवाचार में उन्नति के लिए जानी जाती है। भारत की प्रगति के लिए इसके ध्येय तथा प्रस्ताव को जानने के लिए पढ़िए आगे।

🇮🇳 ज्योति ने अपनी शुरुवात से याने वर्ष 1989 से दिन दुगुनी और रात चौगुनी विकास किया है। इमटेक्स 2017 में कंपनी का 1,426 चौ मी का सबसे बड़ा बूथ है। उसमें 26 मशीन्स को प्रदर्शित किया गया है, जिसमें से छः नये प्रक्षेपण हैं।

## High-End Technologies

### 技術革新，促進生活 繁榮

JYOTI CNC自动化有限公司 (JYOTI) 以其技術和創新的進步而聞名。讓我們頭過閱讀，了解其產品和在其印度的發展與肩負的使命。

🇨🇳 自從1989年成立以來，JYOTI公司已經實現了跳躍式的發展。公司在IMTEX 2017年最大的展佔地為1,426平方米。展出26台機器，其中6台是此次最新的發佈機型。

## High-End Technologies

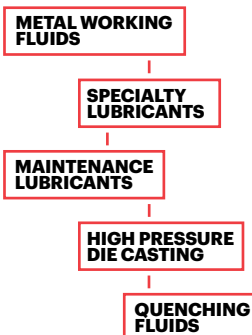
### Technologie antreiben, **WACHSEN UND GEDEIHEN!**

**Jyoti CNC Automation Ltd (Jyoti) ist bekannt für seine Weiterentwicklungen in Technologie und Innovation. Lesen Sie weiter, um über ihre Angebote und Mission für Indien zu erfahren..**

🇩🇪 Jyoti ist seit seiner Gründung in 1989 sehr stark gewachsen. Das Unternehmen hat den größten Messestand von 1.426 qm

To be continued on 4 ▶

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MACHINE TOOL DIVISION

**“Motivational reforms from the government are making way for strategic tie-ups and development in infrastructure & skill development.”**

**PG Jadeja  
CMD  
Jyoti CNC Automation Ltd**



Source: Magic Wand Media Inc

From page 1 ▶

has been manufactured entirely using this machine!

### Strengthening India

Being in alignment with the 'Make in India' campaign, PG Jadeja, CMD, Jyoti CNC Automation Ltd & President IMTMA, says, "We have a sharp focus on constant and consistent incorporation of future technology trends and with the best utilisation of in-house R&D, we are bringing these technologies in our products to cater best way for the Indian Market."

Apart from this, Jadeja informs, "I am extremely glad to say that today Jyoti has 450+ CNC machine installations in different Ordnance Factories of India and its indeed matter of pride and privilege to serve the ministry with our advanced machines."

### Leveraging on opportunities

Talking about where he sees India's potential growing, Jadeja informs that the aerospace and defence sectors have a huge potential owing to the government's offset policy which requires that 30 percent of the parts used need to be manufactured in the country itself. "In order to support this growth, IMTMA has formed a group—AeroDef—comprising manufactures who can support the Aerospace and Defence production units," he voices. The group, which includes Jyoti, aims to introduce the Indian machine tool industry to high-end technology and leading global practices through interaction and collaboration with global aerospace institutions, R&D institutions, academia, etc.

"When viewed in context with Liberalised Foreign Direct Investment, Defence Offset and Make in India policies, the opportunities in front of us are simply astounding. The AeroDef group will introduce Indian machine tool industry to exercise 'collective wisdom,'" avers Jadeja.

उनमें से एक मशीन अमेटीअक्स 300 स्वदेशी विनिर्माण का उत्तम उदाहरण है। भारत सरकार के पूंजीगत माल उद्योग में 'प्रतिस्पर्धा का संवर्धन' इस योजना के तहत ज्योति और आयएमटीएम ने विकास और नवाचार के लिए सहयोग किया। यह मशीन मोड़, पिसाई, गियर कटाई, योगज मशीनींग, (लेजर के माध्यम से) द्रुतीकरण, पिसने की क्षमता यह खूबियों के साथ बनाया गया बुनियादी बहुकार्य मशीन है, जिसकी रचना खासकर एयरोस्पेस तथा रक्षा के जटिल अनुप्रयोगों को पूरा करने की गई है। इस वृथ पर वास्तव में एक लैंडिंग गियर प्रदर्शित किया गया है, जिसको संपूर्णरूप से इस मशीन का इस्तेमाल कर बनाया गया है।

### भारत का सदृढीकरण

'मेक इन इंडिया' अभियान के संरक्षण में होने के नाते ज्योती सीएनसी ऑटोमेशन लि के अध्यक्ष एवं प्रबंध निदेशक तथा आयएमटीएम के अध्यक्ष पी जी जडेजा ने कहा, "भविष्य के प्रौद्योगिकी झुकाव का निरंतर एवं लगातार समावेश तथा आंतरिक अनुसंधान एवं विकास का उत्तम उपयोग यह हमारा स्पष्ट लक्ष्य है, इन प्रौद्योगिकियों को हम हमारे उत्पादों में भारतीय बाजार को उत्तम सेवा देने हेतु ला रहे हैं।"

इसके अलावा जडेजा ने कहा, "मुझे यह कहते हुए बेहद खुशी हो रही है कि ज्योति ने आज तक 450 से भी अधिक सीएनसी मशीन भारत के आयुध कारखानों में लगाए हैं और वास्तव में यह एक गर्व तथा सौभाग्य की बात है कि हमारे उन्नत मशीनों के माध्यम से हम मंत्रालय की सेवा कर सकते हैं।"

### अवसरों का लाभ उठाना

भारत की बढ़ती क्षमता को उनके नज़रों से देखते हुए जडेजा ने जानकारी देते हुए कहा कि एयरोस्पेस एवं रक्षा इन दोनों क्षेत्रों में एक विशाल क्षमता का कारण सरकार की ऑफसेट नीति है, जिसमें यह जरूरी है कि इस्तेमाल होनेवाले 30 प्रतिशत घटक देश में ही निर्मित किए गए हों। "इस विकास के समर्थन में आयएमटीएम ने एयरोस्पेस तथा रक्षा के उत्पादन इकाईवाले निर्माताओं को लेकर एक एयरोडेफ नामक समूह की रचना की," उन्होंने कहा।

यह समूह, जिसमें ज्योति का समावेश है, उनका यह लक्ष्य है कि भारतीय मशीनी उपकरण क्षेत्र का परिचय उच्चतम प्रौद्योगिकी तथा वैश्विक एयरोस्पेस संस्थान, अनुसंधान एवं विकास संस्थान, शैक्षणिक समुदाय आदि के चलते संपर्क और संयोग के माध्यम से अग्रणी वैश्विक प्रथाओं से कराएं। "जब रक्षा समंजन तथा मेक इन इंडिया योजना को उदारीकृत विदेशी प्रत्यक्ष निवेश के संदर्भ में देखा, पता लगा हमारे सामने अवसर बस अदभूत है। एयरोडेफ समूह भारतीय मशीनी उपकरण क्षेत्र का परिचय 'सामूहिक बुद्धिमत्ता' के प्रयोग से करवाएगा," जडेजा ने दावे के साथ कहा।

從他們其中的一台機器 - MTX 300 - 即是印度本土製造的一個最好的例子。根據GOI的資本物品行業“提高競爭力”計劃，JYOTI和IIT MADRAS 共同合作開發和架構創新。它提供車床切削，銑削，齒輪切削，附加加工，硬化（通過激光）和磨削功能，使其成為終端多功能機械，專為迎合航空航天和國防最先進的應用而設計。事實上，在他們的展位上更展示了一個起落架，這是完全使用這台機器所製造的！

### 強化印度製造

為了與“印度製造”的計畫保持一致性，PG JADEJA, CMD, JYOTI數控自動化有限公司和IMTMA總裁提到：“我們非常關注未來技術發展趨勢的持續性和一致性的整合，我們將這些技術帶入我們的產品中，以滿足印度市場的最佳解決方案。

除此之外，JADEJA告訴我，“我非常高興地說，今天JYOTI在印度的不同軍事機械工廠安裝了總數達到了約450多組數位控制工具機，這是使用我們的先進工具機為部門服務的驕傲和特權。

### 爭取更多的機會

談到他所看到的印度潛在增長，JADEJA提到，航空、航天和國防部門擁有巨大的潛力，由於政府的補助政策，故要求使用的30%的零配件需要在印度本身製造。而“為了支持這一增長，IMTMA組建了一個由AERODEF組成的集團製造商，用來支援航空、航天和國防生產部門。”他說到。

該團隊包括JYOTI，其主要在於通過與全球航空、航天機構，研發機構，學術界等的互動和合作，將印度工具機行業引入高端技術和領先的全球實際參與。

“由自由市場全球化國際直接投資，國防補助和印度製造政策的的角度來看，在我們面前的機會是驚人的。AERODEF集團將引進印度工具機行業來實踐此一“集體智慧”的發想，”AVERS JADEJA。

auf der IMTEX 2017. Es werden 26 Maschinen präsentiert, von denen sechs Neueinführungen.

Eine der Maschinen -Die MTX 300-ist ein Beispiel für indigene Fertigung. Im Rahmen des Programms "Verstärkung der Wettbewerbsfähigkeit" in der Investitionsgüterindustrie durch den GOI, haben Jyoti und IIT Madras zusammengearbeitet, um sich weiterzuentwickeln und die Innovationen auf dem Markt zu bringen. Die Maschine bietet Drehen, Fräsen, Verzahnen, additive Bearbeitung, Härten (durch Laser) & Schleif Fähigkeiten, so dass sie eine einzigartige Multitasking-Maschine ist. Sie wurde speziell für die anspruchsvollsten Anwendungen der Luft- und Raumfahrt entwickelt. In der Tat, ist ein Fahrwerk auf dem Stand gestellt, die vollständig mit dieser Maschine hergestellt wurde!

### Stärkung Indiens

Im Einklang der „Make in India“ Kampagne, sagte PG Jadeja, CMD, Jyoti CNC Automation Ltd & Präsident IMTMA: "Wir haben einen starken Fokus auf die ständige und konsequente Integration von zukünftigen Technologie-Trends. Mit der besten Ausnutzung der In- Haus F & E, bringen wir diese Technologien in unsere Produkte, um den indischen Markt zu besorgen."

Darüber hinaus informiert Jadeja: "Ich bin sehr froh zu sagen, dass heute Jyoti mehr als 450 CNC Maschineninstallationen in verschiedenen Munitionsfabriken in Indien hat. Wir sind sehr stolz drauf, dass wir das Ministerium mit der neuesten Maschinen bedienen dürfen."

### Chancen nutzen

Jadeja berichtet, dass die Luft- und Raumfahrt- und Verteidigungssektoren durch die Offsetpolitik der Regierung ein enormes Potenzial haben. Diese Sektoren müssen 30 Prozent der eingesetzten Teile im Land selbst fertigen müssen. "Um dieses Wachstum zu unterstützen, hat IMTMA eine Gruppe-AeroDef gegründet. AeroDef ist eine Zusammenstellung mehrere Fabriken, die Luft- und Raumfahrt- und Verteidigungsproduktioneinheiten unterstützen können." Die Gruppe, die Jyoti einschließt, zielt darauf ab, die indische Werkzeugmaschinenindustrie zu Spitzentechnologie und führenden globalen Praktiken durch Interaktion und Zusammenarbeit mit globalen Luft- und Raumfahrtinstituten, F & E-Institutionen, Hochschulen, etc. einzuführen. "Im Zusammenhang mit liberalisierten ausländischen Direktinvestitionen, Verteidigungsoffset und Make in India-Politik gesehen, sind die Möglichkeiten vor uns einfach erstaunlich. Die AeroDef-Gruppe wird die indische Werkzeugmaschinenindustrie vorstellen, um "kollektives Wissen" auszuüben," sagt Jadeja.



## Awarding Excellence

# RECOGNISING THE INNOVATIONS!

The prestigious FIE Foundation Awards at IMTEX are bestowed those who contribute significantly to growth of the nation through technical innovations. The Foundation takes in to consideration factors such as Performance, Reliability, Aesthetics, Ergonomics. Each award winner is given a prize of ₹1,00,000. Judged by Dr Jayant Padate, Dr Salinker, and Mr Anil Narayan Swamy, this year's winners are—

## FIE FOUNDATIONS AWARD'S LIST

S. No.	Name Of Company	Name Of Product	Contact Person	Remarks
1	CADEM Technologies Pvt Ltd, Bangalore	LEAN Works Cloud	Mr. S K Bhagwan	Electronic
2	Bestek Engineering Pvt Ltd, Ghaziabad	CNC External Grinder	Mr. Rajkumar Sharma	Machine Tool
3	Sunita Engineering Corporation, Nashik	V Cam CNC user interface	Mr. Nitin Kumar	
4	Mac Power CNC Machine Pvt Ltd, Rajkot	V855 Twin Head	Mr. Haresh Bhalu	Machine tool
5	Sur Henning Pvt Ltd	BIR Drive	Mr Pankaj Bir	Internet of Things
6	Marshall Machines Pvt Ltd, Pune	IoTQ	Mr Gaurav Sarup	
7	Electropneumatics & Hydraulics Pvt Ltd, Pune	Indigenous CNC Package	Mr. Amit Goradia	
8	Jyoti CNC Automation Rajkot	MTX 300(CNC Multitasking)	Mr. Vijay Zala	Internet of Things
9	Bemco Fluidtechnik Pvt Ltd, Belgaum	Compact Power Pack	Mr. Naveen P	
10	Kennametal India Limited, Bangalore	PCD Tools Grinding Machine	Mr. D.A. Sainath	



Dr. Jayant Padate, Director, FIE Research Institute

5








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The software was launched on AMS Machining centres and Micromatic Grinding Technologies-Grinding Machines by L Krishnan, CEO, Taegutec India Pvt Ltd and Chandra Mouli, CEO, Starrag India Pvt Ltd at the company's booth during IMTEX 2017.

**Ace Micromatic Group  
unveiled its latest range  
of new machines in the presence  
of industry stalwarts**



Source: IMTMA

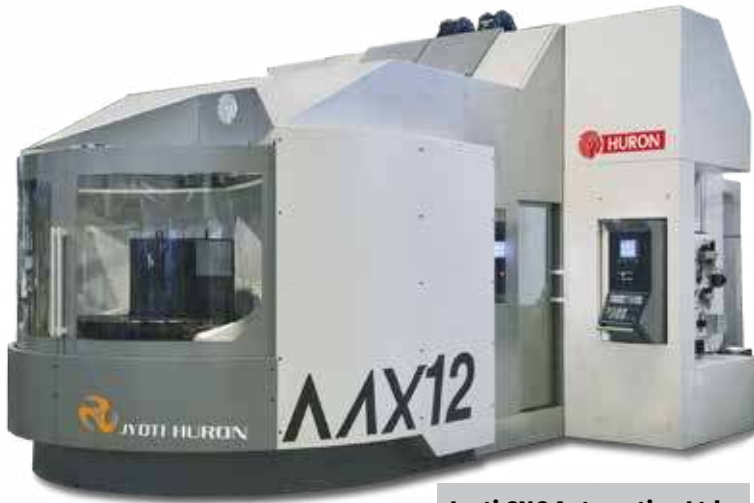
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## Aerospace Machining

## Made in India FOR THE WORLD

The Indian aerospace industry is one of the fastest-growing aerospace markets in the world. "The Global Aerospace industry is attracted to India owing to factors like engineering workforce, R&D expertise, increasing global acceptance, geo position in South East Asia, its reliability and compliance," notes Mihir Baxi, President – Global Sales, Jyoti CNC Automation Ltd.

Aerospace Machining activities within India can hence look forward to take off with a massive acceleration, with adoption of advanced machining technologies. "Jyoti is at the forefront of this development, having already supplied and successfully commissioned complex five-axis machines—the MX series—in the global market, including India. It is a 100% home-grown product, and proudly so!" asserts Baxi.



**Mihir Baxi, President – Global Sales, Jyoti CNC Automation Ltd**

**Jyoti CNC Automation Ltd**  
www.jyoti.co.in  
Hall 4, Booth A106

## Metrology

## Synergising for GROWTH

**Marposs sees the exhibition as a space to share knowledge and seek solutions**

India is an important player in manufacturing. "In the current market scenario, we expect to see a synergy between globally adapted solutions and the Indian industry," proclaims SM Sood, Managing Director, Marposs India Pvt Ltd, while highlighting the relevance of seminars and presentations for MSME industries.

### Quality at every step

The company has a comprehensive product display for a variety of shop floor metrology solutions highlighting the integration to Industry 4.0. One of the innovative products on display is the new TBD HS, High Speed, programmable system for non-contact checking of hi-speed tools, particularly committed to those applications where there is the need for hi-speed spindles, up to 80,000 rpm. Sood elaborates, "We provide solutions to control the quality during each phase of manufacturing process. This helps our customers reduce scraps and maintain component size closer to the centre of tolerance."



**“We provide solutions to control the quality during each phase of manufacturing process.”**

**SM Sood, Managing Director, Marposs India Pvt Ltd**

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## Technology Collaboration

## i2 Pavilion Displays Innovative Products

IMTMA has been at the forefront of connecting Industry with Academia. One of its initiatives comes in the form of i2 wherein Indian Academia institutions participate at IMTEX every year. The best projects and demonstrations are awarded. The winners of this year's edition are –

## 1st Prize

**Indian Institute of Technology, Kanpur**

Theme: Active Damping and Isolation of Machine Tool Vibrations.

## 2nd Prize

**Sastra University, Thanjavur**

Theme: Investigations on Effects of Process Parameters on Micro hardness of Electrodeposited Nickel - Slag Powder Composite Coating

## 2nd Prize

**SSN College of Engineering, Chennai**

Theme: Liquid Coolant Combined with Vortex Tube Cooler for Grinding Applications

## 3rd Prize

**Maharashtra Institute of Technology, Aurangabad**

Theme: Automation in Thread Inspection using Internet of Things

## 1st Consolation Prize

**NMAM Institute of Technology, Udupi**

Theme: Design, Fabrication & Testing of Piezo Actuator based Workpiece Feeding System for CNC Micro-Milling Machine.

## 2nd Consolation Prize

**PDPM Indian Institute of Information Technology, Design & Manufacturing, Jabalpur**

Theme: Electric Discharge Machining (EDM) of Non-Conductive Materials



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Source: Lakshmi Machine Works Ltd

## Die &amp; Mould Machining

## High-Speed VMCs

### JV 80 Vertical Machining Centre is suitable for Aerospace and Automobile industry.

The LMW JV 80 high speed Vertical Machining Centres are ideal for Die & Mould machining, particularly for roughing and finishing operations on medium and large parts. Automobiles and aerospace are two crucial markets for high-end machine tools and this model suits their requirements.

The machining centre comes with a BBT40 spindle taper and direct driven 12,000 rpm spindle speed. The machine has a 1000 x 560 mm working table with X, Y, and Z axis travel of 800 mm, 540 mm and 600 mm, respectively. Excellent repeatability, high reliability and performance are the key features of this machine.

The JV series employs high precision linear motion guideways and large diameter, pre-tensioned ball screws for the axis traverses.

## Safe-Lock System

## Preventing Tool Spinning

### Proper tool holding saves cutting time

Haimer is displaying their Safe-Lock at IMTEX 2017. When dealing with difficult to machine materials, any High Performance Machining (HPM) process undergoes several challenges associated with tool holding. One of them is a slow micro-creeping movement that occurs causing the tool to be pulled out from the chuck owing to the high degree of axial forces.

Thus, finally the tool is not completely taken advantage of and the machining is ineffective. With the Safe-Lock System, special drive keys in the chuck and grooves in the tool shank prevent the milling cutter from spinning during extreme machining.

This way, due to the increased cutting depths and feeds, the metal removal rate can be increased by up to 100%, and to a similar degree tool wear decreases.



**Haimer India Pvt Ltd**  
www.haimer.com  
Hall 3B Booth B103





## Industrial Skill Development

# MAKING ENGINEERS Industry Ready

The biggest challenge the education system faces today is employability after engineering courses. Even though India has become a choice destination for all global players for their various manufacturing activities, fresh mechanical engineers from colleges lack the practical skills and confidence to meet the prevailing manufacturing environment. Keeping this in mind, the Indian Machine Tool Manufacturers' Association (IMTMA) has been organising an exclusive four week job oriented course—'Finishing School in Production Engineering' at the IMTMA Technology Centre, Bengaluru. The

intensive course involves hands-on training on production cnc machines, cad/cam, metrology equipment, tooling and work holding systems and related accessories. The course is open to engineering freshers as well as for new recruits in the industry. The students that have completed this course have been able to excel in their interviews in the industry and now have employment in companies such as Carl Zeiss India, Kirloskar Toyota Textile Machinery (KTTM), Marposs India, Bharath Fritz Werner, Cadem Technologies, Miven Mayfran, Sansera Engineering, UCAM India & Taegutec India.

## Student testimony

Varun Rai, who is currently partaking in the four-week training course that began on January 11, 2017, voices, "The course is very intense; we get to learn the practical intricacies of the working on machines as well as theoretical aspects. We are encouraged to work on the various machines at the Technology Centre. In addition to this, we also get soft skill training; this has increased by confidence. I would recommend all freshers to take this course up."

## Innovation Corner

## The Future is NOW!

IMTMA 2017 and Tooltech 2017 played host to the 10<sup>th</sup> edition of JAGRUTI – IMTMA YOUTH PROGRAMME, held from January 28–30, 2017. The program is held with the objective of getting engineering students from select colleges acquainted with emerging technological capabilities and actual manufacturing shop floor set-ups through plant visits to prominent machine tool companies. Thirty-four engineering students participated in the programme. The students were from the following institutions:

1. CMR Institute of Technology
2. Dr. D.Y. Patil Institute of Engineering & Technology
3. Girijananda Chowdhury Institute of Management and Technology
4. GS Moze College of Engineering, Balewadi
5. Indian Institute of Technology, Madras
6. Indian Institute of Technology, Kharagpur
7. ICFAI University, Tripura
8. Kaziranga University, Jorhat
9. National Institute of Technology, Sikkim
10. National Institute of Technology, Agartala
11. National Institute of Technology, Durgapur
12. National Institute of Technology, Meghalaya
13. National Institute of Technology, Mizoram
14. Prof. Ram Meghe Institute of Technology and Research, Badnera
15. Indian Institute of Technology, Kanpur



## Global Outlook

Outlining a **WIN-WIN** Approach

**Czech Republic and India can both grow by leaps and bounds through bilateral trade**

 The Czech Republic has made its presence felt at IMTEX 2017. TOSHULIN, Strojimport, Slovacke strojirny, FERMAT, Strojimport, TOS Kurim and many more have their booths at the exhibition as part of the country pavilion.

Milan Hovorka, Ambassador, Embassy of the Czech Republic, who has been present at the event believes it to be well-organised and one of the most prominent shows in the world "IMTEX acts as an important gateway to the Indian market," he notes.

Pavel Cap, Project Manager, Association of Engineering Technology, Czech Republic, agreeing with this sentiment and also praising the venue avers, "Attending IMTEX is a must for companies that want to succeed in the Indian market. Furthermore, the facilities provided at BIEC are impressive."

## Growing together

India is an important market for the Czech Republic, Hovorka informs, "Trade figures (up till November 2016) show that bilateral trade between India and the Czech Republic increased by 12 percent."

Speaking on the types of machines that have been exported to India, Cap advises, "We have been exporting 5-axis machining centres and open type forging equipment to India. High-quality, high-precision machines available at competitive



**"I believe that both countries can benefit from each other if they join their efforts and grow together."**

**Milan Hovorka, Ambassador, Embassy of the Czech Republic**

prices from the Czech Republic are very successful in the Indian market." "India is well on its way to becoming a manufacturing hub," asserts Hovorka, "and we have a genuine wish to partner with India and are prepared to look beyond the supply mode and position ourselves as manufacturers with production based in India."

In agreement with this, Cap states, "Our members are significant machine tool manufacturers, and we help and encourage them to find partnerships in India."

On a concluding note, Hovorka says, "I believe that both countries can benefit from each other if they join their efforts and grow together."

## Global Outlook

Náčrt přístupu **WIN-WIN**

**Společnému růstu milovými kroky České republiky a Indie by mohl pomoci bilaterální obchod**



**"We help and encourage our members to find partnerships in India."**

**Pavel Cap, Project Manager, Association of Engineering Technology, Czech Republic**

 Česká republika svojí přítomností na IMTEX 2017 o sobě dává vědět. V rámci českého pavilonu na indickém veletrhu postavili své stánky společnosti TOSHULIN, Strojimport, Slovacké strojirny, FERMAT, TOS Kuřim a mnoha dalších. Velvyslanec České republiky Milan Hovorka, který se výstavy také zúčastnil, si myslí, že IMTEX je velmi dobře organizovaný světově významný veletrh. "IMTEX je významnou vstupní bránou na indický trh," dodává.

Teritoriální specialista Svazu strojírenské technologie České republiky Pavel Čáp souhlasně přitaká velvyslancovu tvrzení, také

chválí místo konání a dodává: "Účast na veletrhu IMTEX je nezbytná pro firmy, které by chtěli proniknout na indický trh. Navíc vybavení a zařízení BIEC jsou velmi působivá."

## Společný růst

Indie je důležitý trh pro Českou republiku, potvrzuje Hovorka. "Číslo za minulý rok (k listopadu 2016) ukazují, že bilaterální obchod mezi Indií a Českou republikou vzrostl o 12 procent."

V souvislosti s exportem strojů do Indie, Čáp oznamuje: "Vybavíme pětiosá obráběcí centra a zařízení pro volné kování. Vysoká kvalita a přesnost českých strojů dostupné za konkurenční ceny, mají v Indii velký úspěch."

"Indie je na dobré cestě stát se důležitým výrobním uzlem," pokračuje Hovorka. "Máme opravdový zájem stát se jejím partnerem a jsme připraveni nebýt jen dodavateli, ale ukotvit naši pozici jako výrobci s vlastní produkcí v Indii."

Na to souhlasně navazuje Čáp slovy: "Členové svazu jsou významní čeští výrobci a mi jim pomáháme a podporujeme je při hledání indických partnerů."

Závěrem ještě dodává Hovorka: "Věřím, že obě země mohou navzájem profitovat, jestliže spojí síly a porostou společně."



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## Metalworking Fluids

# Preparing COOLANT EMULSION

**Preparation of soluble fluids needs to be done by dilution of the concentrate in water at a given concentration and under specific conditions**

The preparation of the emulsion is crucial for the emulsion lifetime. Here are the few steps you have to follow to make a good start:

- Installation (tanks, strainers, pipes) must be clean
- Always use a proper water (cf ITS PoK-01) which is not too cold ( $>5^{\circ}\text{C}$ )
- Add slowly the coolant concentrate to the water with constant agitation
- Respect the concentration range recommended
- When the emulsion is ready, check the concentration with a refractometer and adjust it if needed

The emulsion can be prepared following different methods, the main ones being: manually, with a Venturi system, a volumetric injector system. Depending on the method used, the mixture will be more or less mixed. Manual Preparation

Manual preparation is constraining, slow, not very precise and generally not very homogeneous but it requires no investment, only workforce.

The mixture is carried out in several steps:

- add water in a container of premixing (or possibly in the machine tank)
- add slowly the desired quantity of concentrate to the water with constant agitation until obtaining a homogeneous emulsion
- fill the tank of the machine with the prepared emulsion
- check the concentration and adjust it if needed

Concentration mainly varies because of adjustments and maintenance actions.

Preparation with a 'Venturi' System

The Venturi effect is an example of Bernoulli's principle: the fluid velocity must increase when it passes through

a constriction (lower section of the pipe) to satisfy the equation of continuity.

This acceleration will generate a depression which will make it possible to suck the concentrated product and to inject it into water at a given concentration.

The pressure in "1" conditions is higher than "2", and the relationship between the fluid speed in "2" and "1" respectively, is the same as for pressure.

The mixture of water and concentrate will be carried out in the Venturi and in the pipe thanks to the fluid dynamics (in particular turbulences) without any mechanical action. At the exit, the emulsion is normally homogeneous but must be controlled in order to determine its concentration.

This system works with the pressure of the water supply network and simplifies the mixture, but the quality of the mix depends on the flow and the pressure of the network where variations can occur.

Preparation with a Volumetric Dosing System

The volumetric dosing system also uses the flow of water as power source but operates differently:

The water activates the Dosing System, which takes up the required percentage of concentrate directly

from the container and injects it into the water. Inside the Dosing System, the concentrate is mixed with the water, and the water pressure forces the solution downstream. The injection rate is set by lining up the top of the adjusting sleeve with the desired ratio on the scale. Once adjusted, the dispenser requires no action or external control.

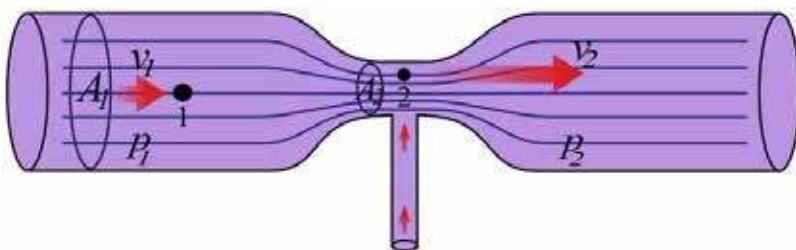
The dose of concentrate will be directly proportional to the volume of water entering the Dosing System, regardless of variations in flow or pressure, which may occur in the main line.

i.e., Adjustment at 1% = 1 : 100 = 1 Volume of concentrate into 100 Volumes of water.

The high dosing precision eliminates all risks of overdosing, thus contributing to the respect of the environment, the protection of the operators and the economy of lubricant.

Note\* MOTULTECH recommends the use of a volumetric dosing system, which gives high precision and is perfectly adapted for the mixture of its soluble cutting fluids

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## Global Outlook

## Collaborative Efforts Offer **MOST SUCCESS!**

**Owing to the 'Make in India' initiative by the government, India is being seen as a destination with immense growth capabilities in the coming years. Massimo Carboniero, President, UCIMU-SISTEMI PER PRODURRE, Italian Machine Tools, Robots & Automation Manufacturers Association, agrees with this sentiment.**

 Ties between India and Italy are quite strong. India ranks eight in the world as machine tool consumers, with 61 percent of its demand being met by imports, and Italy ranks fifth among suppliers to India. Carboniero considers India to be an important destination for the Italian machine tool sector not only in terms of a destination but also for its product offering.

Italy and India can be proud of their collaboration based knowledge exchange. Carboniero avers, "India offers excellent professional skills in the technological field and this

makes the collaboration with Italian companies easy and profitable. And, Italy offers flexibility and customisation as per requirements to all its customers."

### Italy's commitment to India

In India, UCIMU is directly present with its project PLATFORM INDIA. The hub aims to providing assistance and advice to the Italian enterprises interested in working in the country. Another avenue set-up is the Italian Technology Center (ITC) project, Pune, which promotes the ITC brand

as well as (approximately) 10 Italian manufacturers of capital goods, who want to increase their footprint in India. In line with this, there are over 20 Italian companies participating at IMTEX. "Most Italian companies, especially those from remote areas, use the show as their first and major marketing tool," informs Carboniero. According to Carboniero, what sets Italian companies apart from other competitors is the capacity of understanding needs and offering a high-level customisable solutions to it customers.



**“Italian companies who want to enter the Indian market use IMTEX as their first and major marketing tool.”**

**Massimo Carboniero, President, UCIMU-SISTEMI PER PRODURRE, Italian Machine Tools, Robots & Automation Manufacturers Association**

## Global Outlook

## Domande per Massimo Carboniero, presidente UCIMU-SISTEMI PER PRODURRE - IMTEX 2017

### Quali sono le sue aspettative per la fiera IMTEX 2017?

L'industria italiana costruttrice di macchine utensili, rappresentata da UCIMU-SISTEMI PER PRODURRE, l'associazione di settore che mi onoro di presiedere ha nell'India una delle aree di sbocco più interessanti per la propria offerta. L'India infatti occupa l'ottavo posto nella graduatoria internazionale dei paesi consumatori di macchine utensili e il 61% della sua domanda è soddisfatto dalle importazioni. Tra i suoi fornitori, l'Italia è quinta ma i costruttori italiani sono interessati ad incrementare l'attività di collaborazione poiché, al di là del posizionamento attuale, quello che caratterizza il paese è la sua incredibile potenzialità di sviluppo nel medio lungo termine. In questo contesto IMTEX, in costante crescita per numero di espositori e visitatori, riveste un ruolo importantissimo per le imprese italiane che, soprattutto in aree e paesi distanti, hanno nella fiera il primo e principale strumento di marketing. Non a caso la squadra italiana presente in fiera è composta da oltre venti imprese, stesso numero delle aziende che costituivano la collettiva italiana, organizzata da UCIMU e ICE-Agenzia nel 2015.

**Quali saranno le nuove tecnologie che giocheranno un ruolo importante nel futuro delle macchine utensili. Che cosa può offrire l'Italia su questo**

### argomento in termini di esportazioni verso il mercato indiano

Futuro e industria, in Italia, è un connubio che evoca subito il termine Industria 4.0. L'etimologia di questo termine ci suggerisce che ci troviamo in un momento di grande trasformazione del modo di produrre. Momento che racchiude in sé un'infinità di tecnologie che vanno dalla sensoristica evoluta alla manutenzione predittiva, dal controllo ai sistemi di visione, dall'automatizzazione fino all'additive manufacturing. Molte sono le innovazioni che entrano in gioco in questo cambiamento. Quali di queste si diffonderanno in modo assoluto e definitivo nel prossimo futuro è difficile dirlo oggi. Le leggi del mercato e dell'industria faranno il loro corso. Di sicuro le imprese italiane, da sempre pervase da una tensione evolutiva che le porta a sviluppare continuamente nuove soluzioni, possono offrire ai partner esteri il più ampio range di offerta di sistemi di produzione. Con specifico riferimento al mercato indiano, i costruttori italiani sono pronti ad offrire tecnologie adeguate alle specifiche esigenze, come già accade da anni con le macchine più tradizionali che gli utilizzatori locali ben conoscono e apprezzano. Perché, al di là della tecnologia, ciò che differenzia l'offerta di Made in Italy da quella dei competitors è proprio la capacità di interpretare al meglio le richieste della domanda e l'elevato livello di

personalizzazione della macchina utensile italiana.

### Il settore Indiano delle Macchine Utensili come può beneficiare degli insegnamenti dell'industria Italiana delle Macchine Utensili?

In India UCIMU è presente direttamente con il progetto PIATTAFORMA INDIA, che si propone come vero e proprio hub in grado di fornire assistenza e consulenza alle aziende italiane interessate a operare nell'area. Obiettivo dell'iniziativa è supportare le imprese nell'attività internazionalizzazione. Per questo "Piattaforma India" si avvale della collaborazione di un funzionario indiano che agisce come facilitatore direttamente in loco. A ciò si aggiunge il progetto ITC - Italian Technology Center, centro per la promozione del made in Italy di settore con sede a Pune che promuove il marchio ITC e il brand di una decina di imprese italiane costruttrici di beni strumentali che cooperano per sviluppare nuovi

contatti con il mondo dell'industria, della cultura e delle istituzioni indiane. Con PIATTAFORMA INDIA così come con ITC, l'intento è supportare l'internazionalizzazione delle imprese italiane nell'area.

### In termini di importazioni dall'India, quali sono le tecnologie di lavorazione che interessano il mercato italiano?

Le importazioni italiane dall'India, ormai divenuta uno dei grandi paesi manifatturieri del mondo in grado di assicurare un livello tecnologico soddisfacente per molte tipologie di lavorazione, soprattutto per le macchine con un grado medio di sofisticazione, sono in costante crescita. Nel 2015 sono aumentate del 51% rispetto all'anno precedente; il valore assoluto risulta però ancora piuttosto basso e pari a cinque milioni di euro. Il 91% dell'import affinisce al comparto della asportazione, in particolare importiamo centri di lavoro e fresatrici.







**UCAM India Pvt Ltd**  
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#### Workholding Equipment

## HIGH DYNAMIC Rotary Tables

**The Direct Drive Rotary Table UDDR-T-200/100 are specially designed for dynamic performance.**

The latest UDDR-T-200/100 model from UCAM drastically reduces component machining cycle time in demanding working conditions. This solution has been meaningfully brought in for the Indian customers. With a much lesser number of parts as compared to conventional Worm Gear driven Rotary Tables, these Direct Drive Rotary Tables have high acceleration/deceleration characteristics and reliability. The table has peak speed of 200 RPM and clamp torque of 650 Nm at 5

bar pneumatic pressure. These are ideally suitable for present day high-speed machining centres for varied precision applications for both indexing and rotary interpolation applications.

The rotary table uses torque motors from 'NIMBLE ELECTRIC'—a division of UCAM, and it is best suited for applications such as turbine blade machining, auto components where cycle time is key factor and in aerospace industries.

#### Gripping Systems

## HIGHEST HOLDING forces in small spaces

**Compact mechatronic module for flexible rotations**

The SCHUNK ERS rotary modules were developed for rotary movements in the medium load range. It is available in a unit size 170 with a height of 66 mm, achieving a nominal moment of 5 Nm, and a maximum moment of up to 17 Nm. The core piece is a torque motor with a hollow shaft. It is light-weight and compact, and is absolutely wear-free, making it very reliable. It can endlessly turn up to 250 rpm

to any intermediate position at a repeat accuracy of 0.01°. The centre hole allows feed-through of cables, workpieces or the use of a camera. It is available in three sizes 135, 170 and 210 with outside diameters of 135 to 210 mm. Also, there is a version with pneumatic-electric feed-through which is available with outside diameters of 170 and 210 mm



**SCHUNK Intec India Pvt Ltd**  
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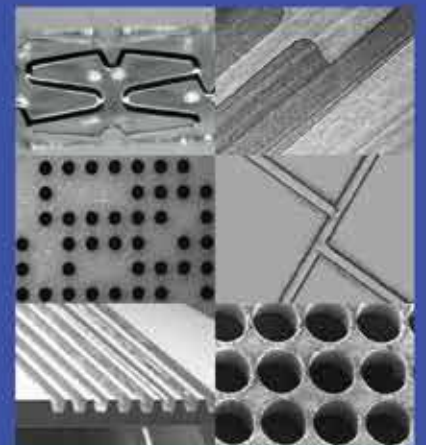
## LASER MICROMACHINING & PRECISION SYSTEM



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### APPLICATIONS

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Laser Dicing  
Laser Micro Welding  
Laser Probe Card Drilling  
Laser Processing PV Cells

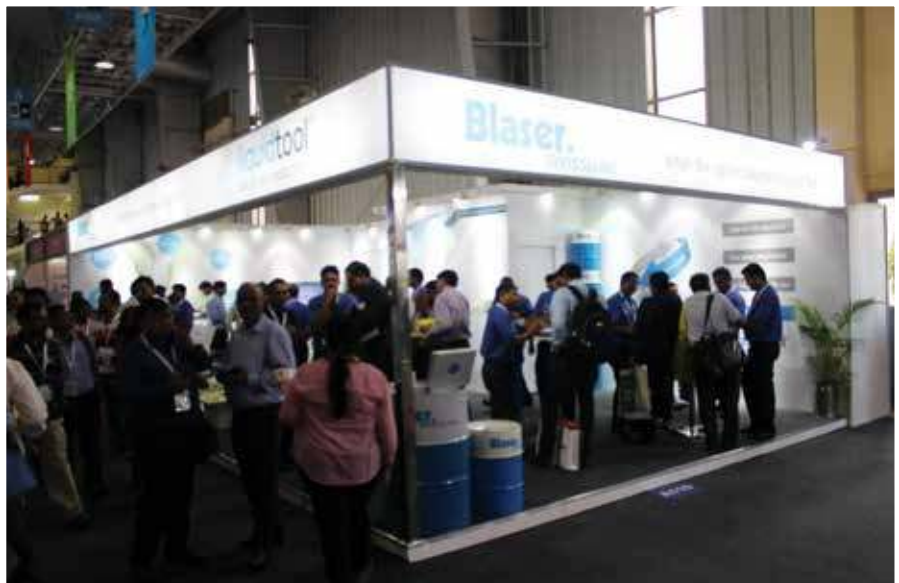


**Sahajanand Laser Technology Ltd.**

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## Lubrication

# MQL—A Path Breaking Technology

**Many machinists do not know or truly understand the true concepts behind Minimum Quantity Lubrication (MQL), and therefore never get to enjoy its benefits. Here's how understanding true concepts behind lubrications can make a huge difference to your business!**

Minimum Quantity Lubrication (MQL) goes by many names and sometimes incorrectly, referred to as 'mist coolant'. In an industry where production efficiency is crucial, the unknowns of a 'new' technology pose the potential threat of complications and downtime. The fear of the unknown may be the greatest challenge to MQL. The excellent lubricity of a good MQL lubricant means that most the heat from friction is transmitted to the chip and exits the interface as chips are thrown away. This lubrication and transfer of heat keeps the cutting tool much cooler, reduces tool wear and

allows a much higher productivity. "MQL is Business Process Management. Implementing an MQL process is like completing an engineering project and one needs to have competent partners who can support throughout this journey and contribute in the complete ecosystem," says Product Manager MQL, Blaser Swisslube AG, Jos Christoffel.

### Customer case study

In a close collaboration between Fraisa and Blaser Swisslube, a cutting process in stainless steel (1.4301) was optimised with MQL

in the medical industry. Prior, the cutting process was done dry without any coolant technology. The goal of the project was to find a suitable process with MQL that results in a substantial benefit.

To achieve this goal, different tools from Fraisa and MQL solutions from Blaser Swisslube were evaluated and compared under real conditions at its technology centre.

With the ideal combination of MQL oil and tool, an increased productivity and a better tool life were enabled. "Overall, the metal removal rate was increased by 70 percent and this resulted in a higher tool life by 243 percent" informs Christoffel. This convincing result was achieved with an internal aerosol transport through the tool with a one channel MQL device."



**Blaser Swisslube is always concerned with generating the highest productivity, efficiency and quality out of machining processes of our customers in close cooperation with our industrial partners."**

**Jos Christoffel, Product Manager, MQL  
Blaser Swisslube AG**

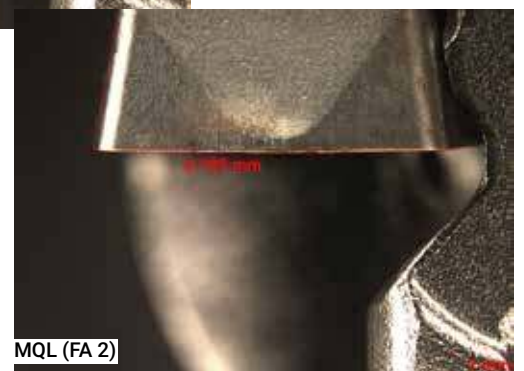


**Blaser Swisslube India Pvt Ltd**  
www.blaser.com  
Hall 3A, Booth A119

Source: Blaser Swisslube India Pvt Ltd



Dry



MQL (FA 2)

## Visitor at Blaser Swisslube booth

"It was a good experience visiting IMTEX 2017 to witness the new technologies. We received a very positive experience at Blaser Swisslube during the exhibition with their holistic Liquid Tool approach. We congratulate IMTEX and Blaser Swisslube team for showcasing the new dimensions in productivity."

Mr. Vikas Narula  
Mr. Ajay Gupta  
SATA Vikas (India) Pvt Ltd.

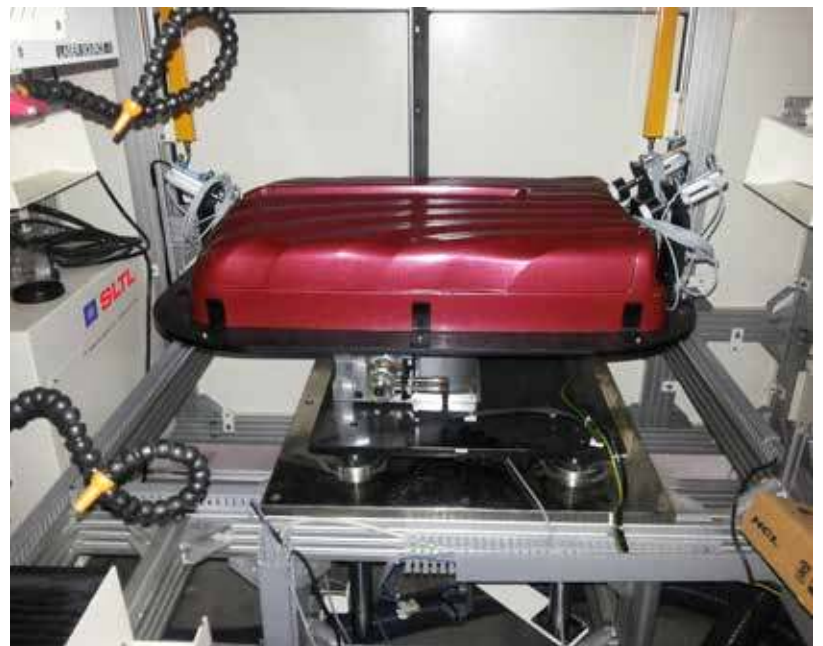




## Versatility of Laser

# A ray that personalises the precision

**Learn how Sahajanand Laser Technology Ltd (SLTL) helped their longtime client—Samsonite—with a solution that helped them manufacture with precision.**



17

Samsonite, known for its tremendously rugged travel bags, were looking for solutions to enhance the sustainability of their travel bags. Working with a new material (a composite plastic), the company was having trouble with finding the right solution for precision cutting. Apart from that, the quality of finished product was also the major concern.

After failing to find a suitable solution, they heard about the applications of lasers and contacted SLTL with regard to the same. SLTL invited them to its R&D centre for initiating experiments on the new composite material.

After some experimentation, the 3k CO<sup>2</sup> laser machine was selected as it met Samsonite's specific requirements. To further resolve issues in quality, SLTL created a customised solution—an 11 axis laser cutting machine with special features that could process the composite plastic with high speed and flexibility.

### Challenges:

- Difficult to find cutting process for Carbon Fibre
- Forming raw material into specific shapes and sizes
- Conventional approaches did not work

### Solution:

- Customised 11 axes laser cutting machine from SLTL

### Result:

- High flexibility in entire process allows multiple design modifications
- Dual cutting heads offer high speed cutting with precision
- No defects or issues faced compared to conventional methods



**“SLTL's solution matched our requirements perfectly—in quality, precision and productivity.”**

*Dr BG Kshirsagar, Sr Manager, Samsonite*



**“Samsonite's approach to innovation is exemplary, and it is what motivated us towards building a solution that would cater to all their needs throughout their ongoing journey.”**

*Sandeep Jain, National Business Manager – Sales, SLTL*

## Market Overview

# Leveraging Indian Opportunities for GROWTH

**This year will be the eighth time that Spain participates at IMTEX as a Country Pavilion. Juan Del Alcazar, Economic & Commercial Counsellor, Economic and Commercial Office of Spain in Mumbai, voices his reasons on why Spanish companies are committed to the Indian market.**



Almost all the Spanish companies participating as part of the country pavilion have their permanent offices in India. This is proof of the strong ties these companies have to the Indian customers and also the importance they have given the Indian market.

## Importance of IMTEX

According to Juan Del Alcazar, Economic & Commercial Counsellor, Economic and Commercial Office of Spain in Mumbai, companies not only exhibit at these fairs such as IMTEX to meet potential clients but also to find companies with complementary technologies, which open the door to all kinds of collaborations. He states, "The fair is the perfect platform to showcase new technological developments and offers a networking opportunities with operators and professionals of the machine tool sector to gauge the Indian market." Speaking on why collaboration is necessary, he avers, "We believe that this is especially important in countries like India, where we strongly advocate that Spanish and Indian companies reach mutually beneficial agreements. We have a lot to learn from each other and working together may help us to develop, grow and make us stronger."

## Expectations from the Indian market

The Government Policies such as 'Make in India' are promoting India as a production hub worldwide. Del Alcazar believes that there is a need gap that his country's companies can fulfil as India's demand of machine tools will increase accordingly. "Even today, India relies on Imports to fulfil its domestic demand. The Indian machine tools production in 2015 was \$820 million compared to a consumption level of \$1.76 Billion. Only 42% of the machine tool demanded in India is produced locally, the rest of the machinery is imported. Even considering the more modest forecasts for the Indian economy for the next few years, it seems evident that India's machine tool imports will continue to rise, even if part of the production is located in the country. In short, we are betting on a market with a lot of potential for our companies," he adds.

India ranks 12th in terms of exports from Spain, with a share of only 2.6% of the 82% machine tools that produced and exported. Del Alcazar notes, "It is clear that we can still further progress in this market. In any case, these figure does not include the sales made by Spanish companies that are already established in India and producing machine tools here, the number of which is increasing steadily."

# Advanced Engineering Test Facilities

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- DYNAMIC ANALYSIS OF MACHINES & MACHINE SUB-ASSEMBLIES
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## Technology Showcase

# PIONEERING TECHNOLOGIES for Sustainability

**Ace Micromatic Group is one of India's largest machine tool conglomerate. At IMTEX, the group is displaying a plethora of cost efficient CNC Turning Solutions to suit every need and process. Take a look at these and more at their booth.**

**The J300 G: Jobber Elite Series**

The Jobber series is equipped with a robust A2-5 spindle and a powerful motor for machining large size comments. The linear motion guideways offer flexibility in machining and extremely stable. The LASER calibrated axes provide precise position.

**The LT-2 LM 500 MSY: Turn Mill Centre with C Axis, Y axis, and sub spindle**

The multi purpose machine with Y axis functionality allows for flexible and improved machining operations. As everything can be done under a single set-up, cycle times are reduced. The machine is also IoT enabled.

**The LT 2 LM 1200: Slant Bed CNC Lathe**

Ideal for shaft machining applications, the machine provides rigidity. The IoT enabled lathe is operator friendly and offers easy access and hence enables easy maintenance.

**Simpleturn 50200 : Flat bed CNC Chucker**

This solution bridges the gap between manual and CNC turning. Robust double wall construction ensures vibration dampening. The self-compensating super precision taper roller bearings for the gearbox spindle offer high rigidity.

**SLC 16 LM G: Slant Bed Linear Chucker**

The slant bed linear chucker is a fully automated equipped with a 2 axis gantry and part carousel system. It is easy to maintain and IoT compliant turning solution is fully automated and hence enhances productivity.

**JC 08 LM : Compact Jobber series Turning centre**

The IoT enabled turning centre is a precision, cost effective, full fledge CNC machine. Its stepped up construction offers greater rigidity in a compact size. With roller type LM guideways, the machine can withstand more cutting loads.

**LT 40 3000 : Slant Bed CNC Lathe**

Ideal for heavy duty and interrupted cutting applications, the machine has a rigid structure as is equipped with a powerful spindle motor, roller guideways on the X and Z axes. The IoT enabled machine is ergonomically designed for ease of use by operators.

**SHA20\_3, Sliding Headstock Automat**

The CNC Sliding Headstock Automat machine is suitable for small part machining with 3 axes capability. It can house up to 12 tools including three rotary tools. Made for continuous run with bar feeder from  $\varnothing 3\text{mm}$  to  $\varnothing 20\text{mm}$ .

**SHA 32: Sliding Headstock Automat**

The CNC Sliding Headstock Automat machine has a rigid FEA optimised bed design with a motorised modular direct drive rotary guide bush. It has 5 axes capability with spindle speeds ranging up to 8000 rpm. It can house 27 tools including 4 rotary tools.

**TV6002X: Inverted Tailstock CNC Lathe**

The inverted tailstock CNC lathe has tooling options that enable parallel cutting and balanced cutting resulting in higher material removal rate. The vertical type spindle results in better dimensional stability for even unbalanced components. It is a compact solution with an ergonomic design.

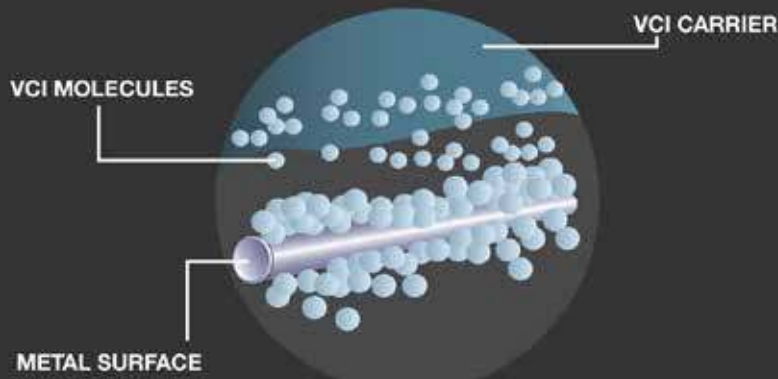
**SLC 16 LM 2S: Slant Bed Linear Chucker with gantry**

The automated machine with the twin spindles increase area productivity. Linear tooling reduces cycle time and the compact size and design of the solution always for easy maintenance with easy chip flow and disposal. The IoT enabled machine allows for robotic interface automation.

**Ace Colchester M 300**

The machine is capable of the entire range of turning operations. It offers easy to understand headstock mounted speed, threading and feed charts. Equipped with a large saddle and slide bearing areas along with smooth power transmission through a vee belt drive offer precision. The lathe also has a deep section top slide with dovetail guides and gib strip adjustment.

## VCI TECHNOLOGY



**Zavenir Daubert India Pvt Ltd**  
[www.zavenir.com](http://www.zavenir.com)  
 Hall 3B Stall B109

## Metal Working Fluids

Corrosion Inhibiting  
**PACKING**

**VCI Paper and Films provide excellent rust protection in high humidity and sea conditions...**

Daubert VCI Paper and Films provide long term preservation in storage and transit. The main benefits of the VCI technology lie in its ability to self-apply and dissipate and it is based on the combined principles of polarity and volatility. Metals in the vicinity of VCI products undergo a chemical reaction and form a protective molecular layer, which prevents moisture, salt, dirt, oxygen and other materials from depositing on the metals and inhibits corrosion.

There are two main product categories – VCI Papers and VCI Film. The technology is based on the concept of volatility and polarity, where volatile “V” components are added to Corrosion Inhibiting “CI” Components.

Benefits include: Excellent rust protection, protection in sea conditions and good strength and quality.

Source: United Grinding Group AG



## Grinding Solutions

Integrated dressing with  
**WIRE EROSION**

**This year will be the eighth time that Spain participates at IMTEX as a Country Pavilion. Juan Del Alcazar, Economic & Commercial Counsellor, Economic and Commercial Office of Spain in Mumbai, voices his reasons on why Spanish companies are committed to the Indian market.**

Fritz Studer AG brings a brand new dressing device to the market, which uses the wire erosion principle and is completely integrated into the grinding machine and its control system. With STUDER-WireDress, The grinding wheel never has to be removed for dressing. Thanks to the high proportion of grain space, the wheel is very free cutting. This allows much more grinding oil to enter the grinding slot, enabling a high feed with less workpiece deflection. Very complex contours can also be dressed at shorter intervals. As the user can fully utilise the advantages of metal-bonded grinding wheels during rough and fine grinding, the dressing system pays for itself in less than a year. Feeds of 15 to 25 mm/min can be achieved when dressing a typical metal bond.

## Pallet Changer

Making Globally **COMPETITIVE PRODUCTS**

**A developing industry is set to get a boost as manufacturing capacities expand**



**Vivek Nanivadekar**  
**Managing Director, Fibro India**  
**Precision Products Pvt Ltd**

FIBRO built a manufacturing plant in India, in 2008, to fill a need gap of getting their customers the desired components in a shorter time. The success from this endeavour allowed the company to build rotary tables.

“The tool & die industry in India is relatively young. A large number of tools and dies are still imported,” shares Vivek Nanivadekar, Managing Director, Fibro India Precision Products Pvt Ltd, “However, I am sure the ‘Make in India’ initiative will boost manufacturing in India.”

**New innovations**

The company is continuing its long history of innovation. At IMTEX 2017, the company is displaying a new product—Precision Pallet Changer with Hirth Face Gearing, alongside its existing range of rotary tables & automation systems. In addition, protection & window systems; and clamping & braking systems from HEMA Maschinen- und Apparateschutz GmbH - a European brand with whom Fibro recently tied up—will be displayed at their booth.

“With the increasing international participation in IMTEX, we get to see the latest Global trends in turn it helps Indian industry to set the direction for their own business,” he opines.”

**FIBRO India Precision Products Pvt Ltd**  
[www.fibro.com](http://www.fibro.com)  
 Hall 6, Booth B101





**S&T Engineers**  
www.stengineers.com  
Hall 3A, Booth B106



Source: S&amp;T Engineers

## Turning Centre

## CUTTING with Repeatability and Accuracy

**CNC turning centres made from Meehanite designed for ultra high productivity.**

The stress-relieved structure of the ML 300 CNC turning centre available from S&T Engineers features metallic stability and deformation-free characteristics for dynamic accuracy.

It employs high performance roller guideways on both X and Z axis aiming to satisfy customers who demand high productivities. The A2-B spindle is capable of accommodating 52 mm bar material. The X and Z axis is fitted with C3 class ball screws  $\varnothing 32$  mm &  $\varnothing 40$  mm enables high sensitivity in motion control. The rapid feed achieves 30 m/min and guarantees high efficiency machining capacity. Direct drive coupling have been tested in real pre-tensioned environments to ensure axis positioning accuracy. The hydraulic tailstock travel can be controlled by the NC program.

**GROB Machine Tools India Pvt Ltd**  
www.grobgroup.com  
Hall 3A, Booth B108

## Machining

## INNOVATIVE Machine Concept

**5-axis universal machines that assure workpiece accuracy, especially in the tool and die sector.**

The G750 universal machining centres from GROB rounds off the G-series at the high end. The G750 has an outstanding working area of X, Y, Z 1,000 x 1,100 x 1,170 mm. This means that large workpieces from mould making, the aviation industry and general mechanical engineering can be processed ideally.

The feed axes X and Z, located on the spindle side, are executed in linear motor technology. These non-wearing drives guarantee a lasting high positioning accuracy and control precision. The rigidity of the entire machine construction was optimised by means of FEM simulation, whereby the guide systems and turntable bearings are generously dimensioned.



**ACCURATE**  
Hall 3B, Booth B106

Source: Accurate Gauging &amp; Instruments Pvt Ltd

## Metrology

## 10 Capital Goods Orders Received by ACCURATE GAUGING

(From Left) Divekar S M, Director, Accurate Gauging & Instruments Pvt Ltd is extremely happy with this edition of IMTEX. He informs, "Compared to last year's edition, IMTEX has further grown in quantity and quality. The footfall consists of decision makers and the right audience. So far, we have received 10 Capital Goods orders at the show, several leads and invitations for forming alliances.



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**IMTEX 2017**  
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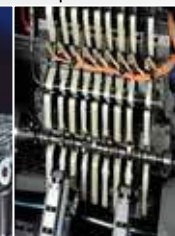
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www.gdweiler.com  
Hall 2A, Booth B103



CNC Lathes

## BUILT for the Industry!

**New generation of precision centre lathes exclusively developed for precision tool room and production applications.**

The LZ 330 G centre lathe is offered with a multi step gear box or infinitely variable speed mechanism with inverter drive.

The machine is rigid in construction and the main spindle is mounted on high accuracy bearings to machine components with high surface finish. To ensure repeated accuracy over a long period, the contact area of the saddle with bed is provided with anti friction coating to minimise wear and tear.

The cross-feed and longitudinal screw rod threads are profile ground for smooth rotation and fine machining. These lathes come in deferent versions to suit customer requirement.



Technology Upgradation



## Modernising the MACHINE TOOL SECTOR

**Global markets are now looking at India as the place to manufacture for high-end sectors. Foreseeing the modernisation that the Indian machine tool sector will need to be able to leverage this opportunity, IMTMA has formed the 'AeroDef' Group. Two of the stakeholders in the group explain....**

At IMTEX, it is evident that government initiatives have played a role in increasing emphasis on brand India. Maulik Patel, Executive Director, Sahajanand Laser Technology Ltd, asserts, "The government's 'Make in India' and 'Defence Off-set policy' initiatives are excellent opportunities for the Indian manufacturing sector to further enhance its capabilities. Earlier, machine tools for this sector were purchased as imports, but owing to these policies, smaller companies will also want to enhance their offerings."

Elucidating why IMTMA chose to set-up the 'AeroDef' group, Ravi Raghavan, Managing Director, Bharat

Fritz Werner (BFW) informs, "The objective behind the formation of the 'AeroDef' Group was to capitalise on the emerging opportunities in Aerospace & Defence manufacturing by forming a cohesive group whose interests would be aligned with and serving the interests of the current & emerging players in these industries. We envisage the 'AeroDef' Group as an advisory body from among the domestic machinebuilders positively contributing to the development and expansion of the manufacturing ecosystem for both industries."

It is clear from this that the road-map ahead is to develop machining technologies sought by the Aerospace & Defence Sector.

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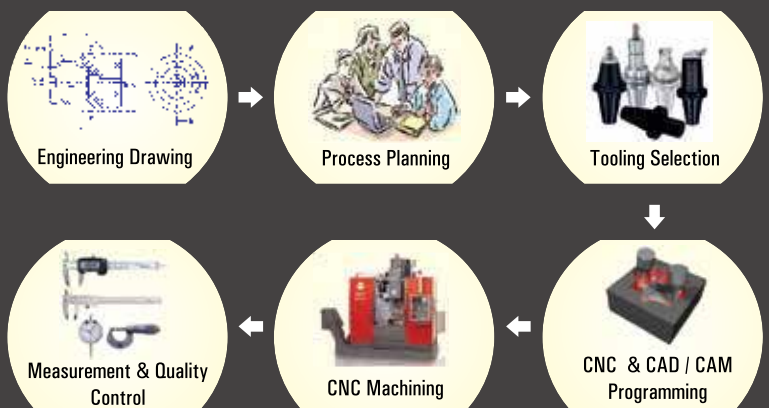
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Turning, Drilling, Tapping and Slot Milling in one setting with Live Tools



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- Turn parts in half the time
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- Follow on Finishing
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- Programmable tail stock

**QT 350 TM** (Optional variant)

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# Impacting the MANUFACTURING SECTOR!

**Excellent Tooling & Tool Cooling Systems**

"I have come to see IMTEX after three years. I expected to look at the latest machine tool technologies that are available today, so that we can think of replacement of our old machines for better productivity. So far whatever I have seen here, the most attractive is the tooling part. With many new tooling systems being displayed here, I am sure that we can achieve better productivity at lesser cost. Also, some of the exhibitors have shown good machine tool cooling systems for different processes."

**Mohit Sehgal**  
Senior Manager  
Maruti Suzuki India Ltd.  
Diesel Machine Shop, Gurgaon

**It's a Great Opportunity for the Buyers and Sellers**

"I have been coming to IMTEX for the last 20 years. This trade fair truly creates a platform for buyers and sellers meeting. Also, here I get information about the worldwide developments in the fields of machines, automation etc. IIT engineers' participation here is a new concept. This is a good step towards Make-in-India. It is growing bigger. This time many international participants have come here, this is a special opportunity for the visitors."

**Hemant Bhuta**  
CEO  
M. Jayant & Company, Mumbai

**High-Speed Carbide Tools are Attractive**

We came here as a team. We have very much liked this exhibition. We have observed a great progress from the previous show. New technologies and tools are on display here. Specially, high speed carbide tools are very interesting. Among 5-axes machines, we have liked the products from DMG Mori, BFW and Jyoti. Turn-Mill machines displayed this time are really excellent. We thank IMTMA, and wish IMTEX to become even better next time.

**R. P. Sharma**  
Chief Office Superintendent  
Indian Railways, and his colleagues  
New Delhi

**IMTEX shows the way to raise productivity**

Right from the beginning, we have been participating in all editions of IMTEX. I have seen several Machine Tools fair in different countries. Thus, I feel now this exhibition ground (IMTEX venue) has reached very close to the global standard. The high-end machinery needs high-end tools. In IMTEX 2017, I find a right balance of both – along with good focus on cooling systems. Thus, I say, visiting IMTEX 2017 is really worth it for all technocrats and business decision makers dealing with metal cutting.

**SS Shukla & His Associates**  
Ordnance Factory  
Project Kurva, Amethi

**IMTEX is the Best Platform for Technology Tracking**

"We market and service machine tools. So, we need to keep track of the changes in the machine tools' world. IMTEX is the best platform for this niche field. Every time I come to see IMTEX. I came here to watch the recent technological developments in the machine tools' field. The way technology is advancing, for every user, seller or designer, it is important to keep track of the new developments. I have especially liked some of the products from Starrag Group."

**P. R. Bhownik**  
Vice President  
MACO Corporation (India) Pvt. Ltd., Kolkata

**A Grand Collection of the Latest Technologies**

"We came here as a delegation of defence officers to see the latest developments in the field of machine tools. We have taken round in all the halls. Each hall presents some amazing developments. Multi-tasking machines, latest measurement systems, and machine tool cooling systems are very interesting. So many different kinds of machine tools coming under one roof is really a matter of great significance. Everyone has something or other to pick up from here."

**R. Rajasekharan**  
Addl. DGOF & Member  
Govt. of India, Ministry of Defence  
Ordnance Factory Board, Kolkata

**Automation, Robotics Technology Stalls are Very Attractive**

"We are into vibrator and shot blasting machines. I have come here to interact with the buyers. It is a nice experience. This time I find there are more stalls and more halls introduced. Lots of new product categories are being displayed. Awareness of the visitors also has gone up to very high level. They are asking very genuine questions, and truly looking for new technologies in the market. Mainly the automation and the robotics displays were very attractive to me."

**Ninad Sant**  
General Manager – Sales  
Rosler SurfaceTech (Pvt.) Ltd., Pune

**Impressive Multi-axes & CM Machinery**

"We are going to make fifteen new tool rooms. So, we are scouting for new machinery. WE wanted to list out the new types of machines and new suppliers. Apart from that we were looking for machines for training – say like simulators, robotic application demonstrators etc. I am satisfied to a great extent. In fact, many five axes and robotics-based machines are here. Interestingly, this time lots of Coordinate Measuring Machines (CMMs) are on display."

**Indrakumar Hariramani**  
General Manager  
Indo German Tool Room  
(Under Ministry of MSME),  
Ahmedabad



## IMTEX 2017 has been a versatile platform to state-of-the-art technologies related to machine tools.

### DELEGATES and VISITORS at the event voice their experience.

#### Wider Space Hosts a Big Trade Fair

"This is my first visit to IMTEX. In Bangalore International Exhibition Center (BIEC), this is an amazing story. The exhibition industry covers 15 to 20 different industries in the world. It was fascinating for me to see the incredible new technology, especially the robotics that enables the machine tools industry to thrive. My expectation before coming here for the show was – BIEC would be very large, I mean, probably more than 100 thousand people, 60,000 square metre of space. But it has exceeded my expectation."

David Dubois  
President & CEO  
IAEE, Dallas



#### The Best Place for Contact Development

"We are soon organising a Technology & Innovation fair for our industries in Mauritius. I believe that through IMTEX, I have been able to secure a lot of contacts of the Indian suppliers of machinery and tools. I am highly satisfied. IMTEX 2017 has created a very good platform for all segments related to machine tools. Especially, I thank the organisers – as it has been very nicely organised. It is very easy to move around, meet people and conduct B2B meetings."

Phalraj Servansingh  
Managing Director  
Small & Medium Enterprises Development  
Authority (SMEDA), Mauritius



#### Machine Vendors Intend to Help Skill Development

I am a former staff member of the United Nations, and I worked in different countries for industrialisation and technology transfer. Besides running my own industry, I work for skill development of the SMEs. I came here to promote Modiji's Skill India. I have talked to some manufacturers regarding the need for skill development. My ideology has been highly appreciated by many exhibitors. I'm going to start a Skill Development Centre at Karwar, near Goa. I have received assurance for support from many machine vendors present here.

Dr. Ganesh P. Rane  
Chairman / CEO  
RRR Industries, Mumbai



#### A Show with Balanced Focus on Machines and Tools

Right from the beginning, we have been participating in all editions of IMTEX. I have seen several Machine Tools fair in different countries. Thus, I feel now this exhibition ground (IMTEX venue) has reached very close to the global standard. The high-end machinery needs high-end tools. In IMTEX 2017, I find a right balance of both – along with good focus on cooling systems. Thus, I say, visiting IMTEX 2017 is really worth it for all technocrats and business decision makers dealing with metal cutting.

Hermann F Weiler  
Chief Patron  
Gedee Technical Training Institute  
Coimbatore



25



#### Good Focus on Machines & Metrology

"We are basically in the field of Defence equipment manufacturing. Ordnance factory produces arms and ammunitions. We are using many CNC machines. Now, we are looking at modernising our factories wherever possible. IMTEX is the right platform to see whatever latest machinery is available in the market. My experience is quite satisfactory. I have seen new things like – integration of gauging systems with the machining systems, high-end accuracy machines and several modern measuring instruments."

Vijay Kumar Ghadge  
Joint Director  
Govt. of India, Ministry of Defence  
Ordnance Factory Board, Kolkata



#### Touch-Feel Experience Enhances Seller's Confidence

"IMTEX is a very important source of knowledge for us. Here, I saw several new machines and tools. The ideas gathered from here will help me influence our customers in adopting latest technologies. As I deal with tools, to be very specific I have been benefited by TOOLTECH. TaeguTec's new products are on display there. I have been able to physically see them, understand their effectiveness, etc., which will help me in offering the most optimised tools to my customers."

Ajay Kumar Dube  
Sales Manager  
Bhatia Associates  
Kanpur



#### Excellent CMC and VMC Machines are on Display

"We manufacture auto components. I came here to look at new Computerised Numerical Control (CMC) and Vertical Machining Center (VMC) technologies. I am quite satisfied. The Makino CNC Turning Centre is very good. Also, I have seen 5-axes machinery, which is quite new for me. Overall the arrangement is very good here. The show has provided enough opportunities for me to update myself, and interact with several machine-tool suppliers."

Pravin Kulkarni  
Divisional Manager (ME)  
Micro Supreme Auto Industries (I) Pvt Ltd  
Pune

#### IMTEX has improved a Lot Over a Time

"I have come here to see the development in the machine tools field. Also, I want to assess what we can buy from here to put in our machines for better efficiency. So far I have selected two items. One is the drag chain, and the other one is the stepper motor. It is a big show – more or less at the international level. I have come to IMTEX after a very long time, things have improved a lot."

B. K. Mishra  
Director  
Weldman Synergic Pvt. Ltd., Kolkata





## 2<sup>nd</sup> Symposium on SMART MANUFACTURING

“Evolving the Factory of the Future”

**24-25 February 2017**  
**BIEC Conference Centre, Bangalore**

### Presentation Topics

- Industry 4.0 – 'Future of Manufacturing'
- Industrial Internet of Things (IIoT)
- Enterprise Manufacturing Intelligence – Big Data analytics, Data acquisition, Data Security etc.
- Connected Factory
- Manufacturing Plant Integration
- Pneumatics on the Network
- Smart & Cost Effective Automation
- Smart Logistics
- Smart Maintenance

### Event Highlights

- Interactive sessions, case studies and panel discussions by renowned industry experts
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Indian Machine Tool  
Manufacturers' Association  
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For more details, contact :

**Mr. Abhishek on 080- 66246829 / 6665**

**Mobile: +91 9886611007 or Email : [abhishek@imtma.in](mailto:abhishek@imtma.in)**

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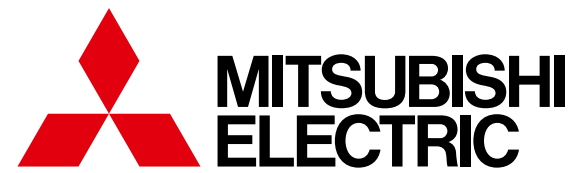
– Magic Wand Media Inc



 Hall 3c, Stall C104	 Hall 4, Stall B110	 Hall 4, Stall A120	 Hall 4, Stall A120	 Hall 3A, Stall A119	 Hall 2B, Stall B105	 Hall 3c, Stall C104	 Hall 3c, Stall C104
 Hall 1A, Stall A108	 Hall 1B, Stall E101	 Hall 1B, Stall E101	 Hall 3A, Stall A108	 Hall 1A, Stall A102	 Hall 2B, Stall A102	 Hall 3A, Stall B105	 Hall 3A, Stall B107
 Hall 4, Stall A106	 Hall 4, Stall A106	 Hall 1B, Stall B101	 Hall 4, Stall C109	 Hall 3A, Stall A120	 Hall 3B, Stall A137	 Hall 2A, Stall A102	 Hall 3B, Stall A112
 Hall 3c, Stall C104	 Hall 1B, Stall I108	 Hall 2A, Stall A112	 Hall 3B, Stall B103	 Hall 3A, Stall B108	 Hall 2A, Stall B103	 Hall 3B, Stall A104	 Hall 6, Stall B101
 Hall 3A, Stall B123	 Hall 6, Stall B101	 Hall 2A, Stall A106	 Hall 4, Stall C125	 Hall 1A, Stall B109	 Hall 7, Stall A105	 Hall 3B, Stall B109	 Hall 3A, Stall B106



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# EASY WAY OF ROBOTICS

The Industrial Robot from Mitsubishi Electric shows an easy way of Robotics! It is highly Efficient and Flexible with greater reach.

With a wide ranging application it is a great partner for your success.

## FEATURES

- Easy access to Robot rear side by enlarging the area (J1 Axis)
- No Blind area behind the Robot

## BENEFITS

- Short cut motion realises shortening cycle time
- Increase flexibility for Robot layout
- Increased Space Efficiency



## APPLICATIONS

- Machine Tending • Palletising • Packaging • Pick & Place • Deburring • Vision Application • Inspection
- Material Handling • Dimensional Measurement (Gauging) • Assembly (Component Assembly)
- Automated Screw Assembly

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■ VERTICAL MACHINING CENTRES

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