Transformational shifts in the manufacturing landscape are driving companies to constantly innovate new ways to enhance productivity, reduce costs, improve responsiveness to customer demands and create a continuous improvement culture, in order to build a strong competitive advantage. Companies will also have to keep abreast of the evolving technologies, paradigm shifts in operations, dynamically evolving business models and adopt a highly structured approach to manage innovation, towards achieving sustainable growth.

To champion the cause of productivity in the Indian manufacturing industry, the Indian Machine Tool Manufacturers' Association (IMTMA) is organizing the 13th edition of National Productivity Summit on 20 – 21 August 2019 at BIEC, Bangalore. The event showcases best practices in manufacturing through enriching keynotes, Live Case Study Presentations, Plant Visits, Interactive panel discussion and so on.

This summit brings out why companies should embrace an integrated approach to increase manufacturing productivity, and how to prepare their people, processes and technology as part of this journey of productivity excellence.

**Enriching Keynote Sessions**

Industry leaders will share their knowledge and expertise on various facets of manufacturing competitiveness.

- **Mr. Vipin Sondhi**
  Managing Director & CEO
  JCB India Ltd.

- **Mr. Bhaskar Bhat**
  Managing Director
  Titan Company Ltd.

- **Mr. G. Parthipan**
  President
  Rane TRW Steering Systems (P) Ltd.

- **Dr. Babu Padmanabhan**
  Managing Director,
  Steer Engineering (P) Ltd.
Pre-Summit Plant Visits (Monday, 19 August 2019)

This summit offers technical tours to delegates, which provides a unique opportunity to witness some of the best productivity improvement projects being translated into action.

Leading manufacturing companies open their doors to participants on 19 August 2019 to showcase best manufacturing practices on their shop floor.

TOUR A : Ashok Leyland & TVS Motor Company
TOUR B : Volvo Trucks & Honda Motorcycle and Scooter India
TOUR C : Toyota Kirloskar Auto Parts & Bosch Ltd
TOUR D : Dynamatic Technologies & Volvo Construction Equipment

IMTMA - ACE MICROMATIC PRODUCTIVITY CHAMPIONSHIP AWARDS 2019

Witness Live Case Study Presentations on some of the best practices in manufacturing. The IMTMA - ACE MICROMATIC Productivity Championship Awards 2019 will recognize and reward outstanding efforts from the shortlisted case studies of companies which have excelled in achieving superior performance and gives away cash prizes worth ₹ 10 Lakhs.
Contesting companies and their Case Study Summary

**Bosch Limited - Ramanagar**

Innovative approach using mould flow analysis for productivity improvement in Common Rail Pump Housing.

An innovative approach of introducing a precast hole in the casting process was tried out by Bosch Ltd., using a “Mould flow Analysis” to ensure minimal shrinkage. A detailed and meticulous approach to reduce machining time by going to the root of the problem and partnering with their casting supplier, resulted in achieving cost leadership in a mature product with significant benefits in raw material, tooling and overall operational costs.

**Bharat Heavy Electricals Limited - Trichy**

Design and Development of Screwed type Forged Steel high pressure Globe valve by a nonconventional process

BHEL Trichy through this case study redesigned a valve that had customer issues, with breakthrough mindset. A process of producing a forged Steel high pressure valve eliminating welding, heating, grinding was developed, thereby eliminating leakages, cracks, rework at sites, which resulted in breakthrough benefits.

**Carborundum Universal Limited - Chennai**

Adoption of TPM methodology by using OSKKK and KK Pillar approach to overcome opportunity loss in key business processes

This case study uses the TPM tools of the Kobetsu Kaizen (KK) pillar along with the Makigami analysis and many other flow tools, ensuing in a dramatic reduction in lead time through single piece flow line and layout changes, leading to doubling productivity and reducing rejections. This led to elimination of various losses, thereby enhancing productivity and enabling CUMI to shore up its market share.

**Godrej & Boyce Mfg. Co. Limited - Mohali**

Use of Industry 4.0 in manufacturing for resource utilisation and reducing conversion cost

Godrej & Boyce Mfg. Co. Ltd. Appliances division has used digitalization as an enabler in the areas of production systems, energy & utility monitoring system and digital supply chain. A platform was designed to capture real time & accurate data for improving resource utilization & reducing operating costs.

Through multiple initiatives, they will demonstrate how they improved OEE, optimised tool life, monitored the health of critical machine components like spindle, servo motor and the use of smart sensors to improve the working conditions of their operators.

**Mahindra & Mahindra Limited - Kandivali**

Reduction of Specific Carbon Footprint by using Waste to Wealth, TPM (Breakthrough technology) and Industry 4.0 Concept in utility management area

Mahindra & Mahindra, Kandivali, will present a case study aligned to the Mahindra sustainability framework based on People, Planet & Profit. Despite increasing energy demand due to additional equipment, Mahindra & Mahindra targeted a 15% reduction in energy consumption. Their case study will share how they converted waste energy in air compressors to useful energy for washing machines to achieve this result, leveraging the principles of Industry 4.0 & a cloud based GPRS system for real time data tracking.
SAAB Engineering - Bangalore

Surface treatment using 100% recovered waste heat from furnaces and compressors - An eco friendly approach

SAAB Engineering’s case study is based on using the recovered waste heat from sealed quench furnaces and using the same for pre heating the phosphating line. While conceptually this was feasible, the heating coil design needed to be modified for practical use. This case study dwells on doubling the capacity of phosphating line, eliminating briquette heating, taking it to the next level of sustainability.

TVS Motor Company Limited - Hosur

Innovative approach of automation and reengineering to enhance productivity in 2&3 wheeler manufacturing

A highly structured approach towards Automation is a highlight of TVS Motor’s case study. Several in-house LCAs in assembly and Stores, such as Customized AGVs, reengineering projects, in-house Karakuri Systems, led to productivity improvements and substantial savings in Capex. This case study showcases use of conventional tools and techniques used in an innovative manner for productivity improvement.

Rane TRW Steering Systems Pvt Limited - Chennai

Use of Modular Fixtures for productivity improvement in machining pumps

Rane TRW Steering will share how they handled high schedule fluctuation, low batch quantity and short lead times through their case study. Their approach of process redesign, flexible cells by building modular fixtures for implementing SMED and de-skilling, stands out in their productivity journey.

Gala Precision Engineering Pvt Limited - Palighar

Use of Low Cost Automation for disc spring bending

Gala Precision Engg. will share their case study in developing an innovative Low Cost Automation (LCA) based SPM solution that enabled them to double their productivity of disc springs and created flexibility for various varieties, a safe working environment for their press operators, with benefits on all parameters of Production, Quality, Cost, Delivery, Safety, Morale (PQCDSM).

Khutale Engineering Pvt Limited - Satara

Lean & Green approach to layout planning

Khutale Engg. showcases the might of an SME that can stand up to any large manufacturing company on Lean manufacturing approach. It presents a case study of an integrated approach to overall productivity improvement, eliminating MUDAs in the work place by creating an effective layout.

UCAM Pvt Limited - Bangalore

On Time Delivery enhancement of housing by process reengineering

UCAM case study showcases how a company can gain considerably from a thorough study of a machining process of a critical bottleneck component. This involved changing a wooden pattern to an Aluminum pattern, working on the setups, moving to a pull down clamping system, tooling and allowances, which helped the Cross Functional Team achieve twin benefits of enhanced On Time Delivery (OTD) coupled with breakthrough cost reductions.

“The combination of automation and information is the next wave of productivity. That seamless integration of the enterprise, the supply chain and the plant floor is becoming the next wave of competitive differentiation.” - Keith Nosbusch
Panel Discussion

Panel discussions with manufacturing experts will address various aspects of Productivity and Innovation as applicable in the Indian context, technology gaps and considerations, cost implications, scalability etc., and draw up a Road map for successful implementation.

"Improve quality, you automatically improve productivity."
- W Edwards Deming

Key Take Aways

- Insightful plant visits to renowned manufacturing companies
- Learn & benchmark from best manufacturing practices
- Listen to keynote presentations from industry leaders
- Learn innovative approaches to address productivity challenges
- Exchange new ideas & concepts – Knowledge networking
- Ideal platform to interact and network with several manufacturing professionals

Who Should Participate?

CEOs, Top Management Executives, Senior Executives, Practicing engineers, Industry consultants and R&D Specialists from manufacturing industries Viz. Automotive, Auto components, Consumer durables, Machine tool, Tool rooms, Aerospace, Defence and Railway units, PSUs, General Engg. and other discrete manufacturing industries.

Productivity Champions of earlier summits

- Mahindra Rise
- HERO
- BOSCH
- TVS
- TATA MOTORS
- SKF
- SUZUKI
- ACE DESIGNERS
- TOSHIYA MACHINE
- ACE DESIGNERS
- DELPHI-TRW
- YUKEN
- Sona
- HAL
- BHEL
- TATA TOYO
- HAL
- BHEL
- Wheels India
- TE Connectivity
- KPLC
- Amara Raja
- TATA STEEL PROCESSING AND DISTRIBUTION LIMITED
- TATA
- TOYOTA KIRLOSKAR
- AUTO PARTS
- REIHN
- WABCO
- VE COMMERCIAL VEHICLES
- Badve Group

..... and many more .....
## Programme Schedule

### Pre-Summit Plant Visits - 19 August 2019 (Monday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0700 : 0800</td>
<td>Registration</td>
</tr>
<tr>
<td>0900 : 1700</td>
<td>TOUR A : Ashok Leyland &amp; TVS Motor Company</td>
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<tr>
<td></td>
<td>TOUR B : Volvo Trucks &amp; Honda Motorcycle and Scooter India</td>
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<td></td>
<td>TOUR C : Toyota Kirloskar Auto Parts &amp; Bosch</td>
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<td>TOUR D : Dynamatic Technologies &amp; Volvo Construction Equipment</td>
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### Summit Day 1 - 20 August 2019 (Tuesday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>0830 : 1000</td>
<td>Registration</td>
</tr>
<tr>
<td>1000 : 1135</td>
<td>Inaugural Session</td>
</tr>
<tr>
<td>1135 : 1200</td>
<td>Networking Tea / Coffee break</td>
</tr>
<tr>
<td>1200 : 1240</td>
<td>Case Study 1 : Use of Industry 4.0 in manufacturing for resource utilisation and reducing conversion cost, Godrej &amp; Boyce Mfg.</td>
</tr>
<tr>
<td>1240 : 1245</td>
<td>Change Over</td>
</tr>
<tr>
<td>1245 : 1325</td>
<td>Case Study 2 : Innovative approach of automation and reengineering to enhance productivity in 2 &amp; 3 wheeler manufacturing, TVS Motor Company</td>
</tr>
<tr>
<td>1325 : 1430</td>
<td>Lunch</td>
</tr>
<tr>
<td>1430 : 1510</td>
<td>Case Study 3 : Adoption of TPM Methodology by using OSKKK and KK Pillar approach to overcome opportunity loss in key business processes, Carborundum Universal</td>
</tr>
<tr>
<td>1510 : 1515</td>
<td>Change Over</td>
</tr>
<tr>
<td>1515 : 1555</td>
<td>Keynote Address 1: “Adopting modern manufacturing technology to enhance productivity”, Mr. G. Parthipan, President, Rane TRW Steering Systems</td>
</tr>
<tr>
<td>1555 : 1610</td>
<td>Networking Tea / Coffee break</td>
</tr>
<tr>
<td>1610 : 1650</td>
<td>Case Study 4 : Innovative approach using mould flow analysis for productivity improvement in Common Rail Pump Housing, Bosch</td>
</tr>
<tr>
<td>1650 : 1655</td>
<td>Change Over</td>
</tr>
<tr>
<td>1655 : 1735</td>
<td>Case Study 5 : Use of Modular Fixtures for productivity improvement in machining pumps, Rane TRW Steering Systems</td>
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<tr>
<td>1735 onwards</td>
<td>Networking evening</td>
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</tbody>
</table>

### Summit Day 2 - 21 August 2019 (Wednesday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0900 : 0940</td>
<td>Case Study 6 : Surface treatment using 100% recovered waste heat from furnaces and compressors - An eco friendly approach, SAAB Engineering</td>
</tr>
<tr>
<td>0940 : 0945</td>
<td>Change Over</td>
</tr>
<tr>
<td>0945 : 1025</td>
<td>Case Study 7 : Design and development of Screwed type Forged Steel high pressure Globe valve by a nonconventional process, Bharat Heavy Electricals Ltd.</td>
</tr>
<tr>
<td>1025 : 1040</td>
<td>Networking Tea / Coffee break</td>
</tr>
<tr>
<td>1040 : 1120</td>
<td>Keynote Address 2: &quot;Innovation as a powerful tool to enhance productivity&quot;, Dr. Babu Padmanabhan, Managing Director and Chief Knowledge Officer, Steer Engineering</td>
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<tr>
<td>1120 : 1125</td>
<td>Change Over</td>
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<tr>
<td>1125 : 1205</td>
<td>Case Study 8 : Reduction of specific Carbon footprint by using Waste to Wealth, TPM and Industry 4.0 concept in utility management area, Mahindra &amp; Mahindra</td>
</tr>
<tr>
<td>1205 : 1220</td>
<td>Change Over</td>
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### CONCURRENT SESSION

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>1220 : 1325</td>
<td>Panel Discussion</td>
</tr>
<tr>
<td>1210 : 1235</td>
<td>SME Case Study 1: Use of Low Cost Automation for Disc spring bending, Gala Precision Engineering</td>
</tr>
<tr>
<td>1235 : 1300</td>
<td>SME Case Study 2: Lean and Green approach to layout planning, Khutale Engineering</td>
</tr>
<tr>
<td>1300 : 1325</td>
<td>SME Case Study 3: On Time Delivery enhancement of housing by process reengineering, UCAM</td>
</tr>
<tr>
<td>1420 : 1500</td>
<td>Keynote Address 3: “Productivity - The ‘X’ Factor in manufacturing competitiveness” (Confirmation awaited)</td>
</tr>
<tr>
<td>1500 : 1520</td>
<td>Networking Tea / Coffee break</td>
</tr>
<tr>
<td>1520 : 1630</td>
<td>IMTMA - Ace Micromatic Productivity Championship Awards 2019 Presentation Ceremony</td>
</tr>
</tbody>
</table>
Indian Machine Tool Manufacturers' Association (IMTMA) is a single point of contact for the machine tool industry in India. The apex body of machine tool industry in the country, IMTMA has a membership of about 500 companies from both the public and private sectors, manufacturing a wide range of metal-cutting and metal-forming machines, accessories, cutting tools and other allied equipment. The Association has over the years deeply committed itself to focus on issues of productivity, quality, technology, new product development, design, customer satisfaction, etc. for enhancing competitiveness of the industry in both domestic and overseas markets. IMTMA is proactive in taking new initiatives to promote advancement of metalworking industry in India. IMTMA organises the prestigious IMTEX and Tooltech exhibition, where both Indian and overseas manufacturers showcase their metalworking machines, equipment and tools.

**Registration Fee**

19 August 2019 : For Pre-Summit Plant Visits
Rs. 2500 Per Delegate for Tour A / Tour B / Tour C / Tour D (Add 18% GST)

<table>
<thead>
<tr>
<th>TOUR</th>
<th>Companies nominating up to 3 delegates</th>
<th>Companies nominating more than 3 delegates</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Rs. 7000*</td>
<td>Rs. 6500*</td>
</tr>
<tr>
<td>B</td>
<td>Rs. 8000*</td>
<td>Rs. 7500*</td>
</tr>
</tbody>
</table>

**Note**
- Registration for plant visits will be limited to 25 delegates only and will be taken on first-come-first basis. Delegates opting for Plant visits must register on or before 4 August 2019.
- Plant Visits are open only to delegates participating in the summit and confirmation for plant visits will be at the sole discretion of the host companies.
- A participant has the option of choosing either Plant Tour A or Plant Tour B or Plant Tour C or Plant Tour D, since these visits are concurrent.

20-21 August 2019 : For Summit only (Per Delegate)

<table>
<thead>
<tr>
<th>Companies nominating up to 3 delegates</th>
<th>Companies nominating more than 3 delegates</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMTMA Members, Micro &amp; Small Enterprises, Research &amp; Educational Institutions</td>
<td>Rs. 7000*</td>
</tr>
<tr>
<td>All other Companies</td>
<td>Rs. 8000*</td>
</tr>
</tbody>
</table>

**Note**
- Registration fee includes summit documentation and Lunch on Day 1 and 2
- *Add 18% GST
- Pre-payment of delegate fee is mandatory for confirmation of participation
- Delegate fee is Non-refundable. However, change of nominations accepted
- Micro & Small Enterprises companies must produce valid Certificate.
- IMTMA Members may avail their membership redemption points for participating in the summit

Registration for participation must be made online only.
To register online, log on to www.productivity.imtma.in
For details or any queries/clarifications during ‘Online registration’ process, please contact
Abhishek, tel: (080) 66246829, (abhishek@imtma.in)
Prashant Kulkarni, tel: (080) 66246805, (prashant.k@imtma.in) Mobile : +91 9886611007

**About IMTMA**

Constituted in 1946, Indian Machine Tool Manufacturers’ Association (IMTMA) is a single point of contact for the machine tool industry in India. The apex body of machine tool industry in the country, IMTMA has a membership of about 500 companies from both the public and private sectors, manufacturing a wide range of metal-cutting and metal-forming machines, accessories, cutting tools and other allied equipment. The Association has over the years deeply committed itself to focus on issues of productivity, quality, technology, new product development, design, customer satisfaction, etc. for enhancing competitiveness of the industry in both domestic and overseas markets. IMTMA is proactive in taking new initiatives to promote advancement of metalworking industry in India. IMTMA organises the prestigious IMTEX and Tooltech exhibition, where both Indian and overseas manufacturers showcase their metalworking machines, equipment and tools.