

Annual Report 2010 - 2011



Indian Machine Tool
Manufacturers' Association



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EXECUTIVE COMMITTEE 2010 - 2011



President

Mr. M. Lokeswara Rao
Managing Director
Lokesh Machines Limited.

Vice President

Mr. Vikram Sirur
Executive Chairman
Miven Machine Tools Limited.

Members

Mr. Syed Amjed

Vice President - Marketing
Bharat Fritz Werner Limited.

Mr. Indradev Babu

Managing Director
Uday Computer Aided Manufacturing
(Private) Limited.

Mr. Maitreya Doshi

Chairman & Managing Director
Premier Limited.

Mr. Satish Godbole

General Manager - Motion Control
Siemens Limited.

Mr. A. K. Kanth

Senior Deputy General Manager and
In-Charge (Marketing & RPD)
Heavy Machine Tools Plant
Heavy Engineering Corporation Limited.

Mr. Santanoo Medhi

Managing Director
Kennametal India Limited.

Mr. Vikram Vilas Salunkhe

Managing Director
Accurate Engineering Co. Private Limited.

Mr. Deepak S. Shrivastava

Executive Director
Electronica Machine Tools Limited.

Mr. K. H. Suresh

Director (Technology)
HMT Machine Tools Limited.
[Replaced Mr. V. Hemachandra Babu, who retired from
HMT Machine Tools Limited]

Mr. N. Umesh

Vice President
Business Head - Industrial Equipment Division,
Bosch Limited.

Past Presidents

Mr. Nirmal Bhogilal

Batliboi Limited. *

Mr. N. K. Dhand

Micromatic Grinding Technologies Limited. *

Mr. Jamshyd N. Godrej

Godrej & Boyce Manufacturing
Company Limited. *

Mr. V. S. Goindi

Parishudh Machines Private Limited. *

Mr. S. N. Mishra

Bharat Fritz Werner Limited. *

Mr. C. P. Rangachar

Yuken India Limited. *

Mr. Jayant H. Shah

Batala Engineering. *

Mr. G. A. R. Shaikh

Voltas Limited. *

Mr. Shailesh Sheth

Simtools Limited. *

Mr. Shrinivas G. Shirgurkar

Ace Designers Limited. *

Mr. Bir D. Singh

Voltas Limited. *

Mr. R. Srinivasan

Widia (India) Limited. *

Mr. C. R. Swaminathan

PSG Industrial Institutions. *

* Companies represented by Past Presidents during their tenure of Presidency.



EXECUTIVE COMMITTEE 2010 - 2011

Coopted Members

Mr. Ghanshyam Agrawal
Director
Nagel Special Machines
Private Limited.

Mr. R. D. Madan
President
I S G E C.

Mr. Praful S. Shende
President
Vigel Manufacturing Technologies.

Invitees

Mr. A. P. Arya
Managing Director
TAL Manufacturing Solutions Limited.

Mr. N. K. Balgi
Director
Ferromatik Milacron India Limited.

Dr. Ranjit Date
President and Joint Managing Director
Precision Automation & Robotics India Limited.

Mr. S. Elango
Executive Director
Galaxy Machinery Private Limited.

Mr. Parakram G. Jadeja
Chairman and Managing Director
Jyoti CNC Automation Private Limited.

Mr. Asit Joshi
Senior Vice President
Batliboi Limited.

Mr. L. Krishnan
Managing Director
TaeguTec India Private Limited.

Mr. Achal Nath
Executive Director
Ashok Manufacturing Company Private Limited.

Mr. S. K. Prasad
Managing Director
Prasad NC Machine Systems Private Limited.

Mr. Rajendra S. Rajamane
Chairman - 'UDAAN' &
Managing Director
Rajamane Industries Private Limited.

Mr. T. K. Ramesh
Chief Executive Officer
Micromatic Machine Tools Private Limited.

Mr. Aditya Ratnaparkhi
Deputy Chairman - 'UDAAN' &
General Manager - Production
Electronica Mechatronic Systems
India Private Limited.

Mr. Mukhinder Singh
Chief Executive Officer
State Engineering Corporation.

Mr. H. K. Sridhara
Director
Precitec Precision Machineries Private Limited.

Secretary and Executive Director

Mr. V. Anbu



On a New High

In the last twenty years – after the turn of every decade, we have been witness to dramatic developments within the Indian industry, especially manufacturing and specifically in the machine tool industry. In 1991, the liberalisation of the Indian economy led to end of the licensing-Raj; it enabled the mushrooming of talent and emergence of technocrat-entrepreneurs. In 2001, the resurgence of business opportunities after three preceding

years of painful recession, led to a downpour of orders for machine tool manufacturers continuing well past for six successive years.

And in 2011 we were blessed with opportunities and brought to the centre-stage. Criticality of machine tool industry in overall manufacturing competitiveness and in strategic positioning of India appears to be on everyone's mind – policy-makers, corporate thinkers, customers as well



FOREWORD

as the machine tool fraternity. It is indeed very encouraging to see a whole lot of stake-holders working towards putting together a comprehensive framework and vision for our industry over the next ten years.

Views of the machine tool industry are being considered at various levels of policy-making – be it the Planning Commission of India; National Manufacturing Competitiveness Council; Ministries of Finance, Heavy Industries & Public Enterprises; Department of Industrial Policy & Promotion, Medium Small and Micro Enterprises; and even in the office of the Principal Scientific Advisor to the Government of India. In equal measure is the active support and encouragement from key association and industry bodies. We do expect to see *light at the end of the tunnel*.

Since the turn of this decade, China and India were looked upon as the centres for revitalising growth of the global economy, after the severe downturn of 2008. Rapidly growing Indian manufacturing, coupled with a concerted focus on infrastructure development, pushed up the Indian machine tool market to the seventh position in global ranking, overtaking that of Brazil. Even indigenous production went several notches up that enabled India to emerge as the 13th largest machine tool manufacturing country in the world – surpassing both, France and United Kingdom (*for the first time ever*).

Industry Future

The appetite for machine tools in India has grown so much that, despite a 56 % growth in turnover, indigenous production was able to meet only a quarter of the demand. By a conservative estimate (of around 25 % compounded annual growth rate), we expect the demand to increase more than three times – to Rs. 29,300 crores - by 2019-2020. **Our projection is that, with focused efforts, the indigenous industry's turnover should touch around Rs. 23,000 crore – meaning a jump of around nine times the current turnover.** Clearly, the statistics look enormous and actually could become even bigger given the current growth magnitude.

This calls for a great deal of proactive measures by the Indian machine tool industry. First is the enhancement of internal capacities. Second, upgrading of technology levels in machine tools, including development of critical components. Third, institutionalising an efficient supply chain management. And fourth, making this industry an attractive career proposition so as to bridge the workforce deficit which is plaguing the industry at the moment.

No doubt, there are formidable barriers such as high interest rates, technology acquisition difficulties (*barred primarily by a denial regime*) and low availability of skilled manpower. But we will overcome the many challenges and perhaps even convert some of these into our strong points. Necessity is the mother of all inventions, as they say. **It is only apt that the long-pending agendas of the industry should be taken up on a war footing.**

Association Initiatives

The Association has lent that extra hand in providing proactive support to the industry in some of these tasks. Initiation of 'IMTMA Finishing School' as a case in point, is an attempt towards skill development by training fresh engineers from educational institutions as well as new recruits of industries. Since its launch at BIEC in October 2010, all batches of 'IMTMA Finishing School' have received tremendous response. Our aim in future, is to spread it across the other two centres in the west and north.

IMTMA is comprehensively working towards skill enhancement of the existing workforce within the manufacturing industry. Over the last one year, the Association has organised over 100 training programmes all over the country – focusing on technologies, productivity, reliability, quality and other key aspects relating to metalworking machine tools and manufacturing solutions. Our endeavour is to be the 'single point of contact' for all training programmes relating to manufacturing technologies in Indian industry.

This year also witnessed rollout of one of the key initiatives by the Association towards fulfilment of a major industry requirement – an Advanced Machine

Tool Testing Facility (AMTTF). To be housed in the Central Manufacturing Technology Institute in Bangalore, AMTTF will a great opportunity for the membership and the industry at large to participate in setting up and utilising its state-of-the-art facilities for product enhancement. Setting up of AMTTF is yet another successful case example of a unique partnership between the government, industry and academia. This will also open up avenues for several other technology initiatives strategised for the benefit of the industry, and membership in particular.

The preceding year also had its share of the mega-initiatives – the 12th VISION 2015 Conference for CEOs and “UDAAN” members; the 4th Productivity Summit and ‘IMTMA - Siemens Productivity Championship Awards’; and the International Seminar on Machining Technologies. The participation from industry in all these was outstanding.

The other key rollout pertained to the ‘Technology Upgrading and Productivity Enhancement of the Machine Tool Industry in India’. This unique project, the second in the successful partnership between United Nations Industrial Development Organisation, Government of India and IMTMA, led to a slew of activities during 2010-2011. Most notable among them was the initiation of regional clusters – in the north, west and south; scheduling of three ‘Technology Missions’ to United States, Germany and China; as well as conducting several technical programmes and seminars.

Exhibitions

The year, of course, had its spectacular culmination with the colossal success of IMTEX 2011 and Tooltech 2011 – bringing for exhibitors huge volumes of business orders and serious business enquiries. As an extension of IMTEX and IMTEX FORMING, IMTMA is taking the next major step forward – through MODERN MACHINE SHOP (MMS), to be scheduled in April 2012 near Delhi. MMS will be pitch-forked as the next key vertical after IMTEX in the exhibitions of the Association.

If IMTMA has truly attained a global status with its trade fairs, it is mainly due to its most primary brand – BIEC. The exhibition complex is clearly today recognised as India’s finest as well as state-of-the-art exhibition and conference venue – with a large number of industrial trade fairs and mega-events being held at its premises.

It would be the earnest endeavour of the Association, its membership and the executive committee in particular to arduously carry on these activities with far greater strength and enthusiasm. The achievements so far are just a benchmark to surpass these on a year-on-year basis.

Adieu

The last four years have been indeed very rewarding for me : first two as Vice President and subsequent two as President of IMTMA. It has been a great learning experience for me personally, to steer the affairs of IMTMA since September 2009. I share the steady achievements and accomplishments of the Association, with all my colleagues in the IMTMA Executive Committee, especially with our Vice President, Mr. Vikram Sirur and the Secretariat, who has been by my side throughout these last two years. It was equally gratifying to have the untiring guidance of all the Past Presidents of the Association.

As I lay down the office of Presidency at the forthcoming Annual Session, I commit my whole-hearted support to my successor and to the new Executive Committee, for successfully strategising for a brighter future.

M. Lokeswara Rao
President



64TH ANNUAL SESSION

The 64th Annual Session of Indian Machine Tool Manufacturers' Association (IMTMA) was held for the first time this millennium in Pune on 19 August 2010.

Delivering the annual address, IMTMA President, Mr. M. Lokeswara Rao, spoke about the status of the Indian machine tool industry, which is currently overloaded by deliveries of existing orders and besieged by new demand. However, at the same time, the reported share of the Indian industry is only around 25 % of the total consumption of metalworking machine tools in the India.

Mr. Rao sought the support of the membership and the industry in putting together comprehensive data about the industry. This would enable the Association to showcase the 'real' strengths of the industry to the external world.

Speaking about the initiatives of the Association, the President disclosed that IMTMA has carved out a key mission for itself – to organise 200 days of training programmes in the next one year. Achievement of this will boost the Association to a new league – matched only by national confederations of industries.

Mr. Rao also emphasised the need to enable the industry to harness new technologies and new markets for overall business development. This has been one of the key strategic objectives of the Association and would be accomplished through a wide array of initiatives. These include b2b Technology Missions, International Seminars on Metalworking Technologies and the Productivity Summit.

The President lauded the role of the three Regional Councils in contributing to the multifarious activities of the Association over the last several years. He specially exhorted the "UDAAN" group to kick-start activities for betterment of the industry.

About the BIEC, Mr. Rao said its mandate is to achieve a target of 120 exhibition / conference days in a year and it is well on course towards achieving this.

Highlighting the future endeavours of IMTMA, the President spoke about three major flagship programmes, initiated over the last six months.

These are :

- ▶ The third major trade-fair of IMTMA – MODERN MACHINE SHOP (MMS), which is designed to exhibit the complete range of machines, equipment and services that enable setting-up of a modern shop-floor in manufacturing companies. MMS is scheduled to be held from 05 to 08 April 2012 at India Expo Mart in Greater NOIDA (NCR Region).
- ▶ The ongoing partnership between the United Nations Industrial Development Organization, Government of India and IMTMA. The three organisations have yet again teamed up for a crucial project – Technology Upgrading and Productivity Enhancement of the Machine Tool Industry in India. The objective is to enable our machine tool companies to develop competitive technologies and new products.



64TH ANNUAL SESSION



- ▶ The focus on an increased industry - government interface. Elaborating on this, the President said IMTMA's efforts to partner with the Government of India has enabled the Association to put together a comprehensive report on 'Indian Machine Tool Industry Vision Document & Perspective Plan - 2010 to 2020'.

Mr. Rao thanked the membership, the executive committee and the secretariat for providing invaluable assistance, guidance and support in all the major endeavours of the Association.

Prior to the annual address, the IMTMA President took up the statutory agenda of the 64th business session of the Association, which was unanimously approved by a voice vote.

Following the President's address, a brief film was screened on IMTEX FORMING 2010 and Tooltech 2010.

The Annual Session concluded with a vote of thanks to the current office-bearers by Mr. C. P. Rangachar, Past President - IMTMA.

The Annual Session was followed by a meeting of the newly-elected members of the IMTMA Executive Committee. Members at the meeting unanimously re-elected the current office-bearers – Mr. M. Lokeswara Rao, Managing Director, Lokesh Machines Limited as President of IMTMA and Mr. Vikram Sirur, Executive Chairman, Miven Machine Tools Limited as Vice President of IMTMA for the year 2010 - 2011.





CALENDAR OF EVENTS

2010

JULY

- Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement' on CNC Machines in **Pune** on **12 and 13**.
- Seminar on 'High Performance Machining Technology' at **BIEC** on **15 and 16**.
- Workshop on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurements' in **New Delhi** on **16 and 17**.
- Seminar on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' at **BIEC** on **21 to 23**.
- Primer Course on 'Sheet Metal Forming Technology' in **Pune** on **23 and 24**.
- Seminar on 'Getting the best out of Coordinate Measuring Machines' at **BIEC** on **26 and 27**.
- Training Programme on 'Geometrical Dimensioning and Tolerancing in Design' through Manufacturing in **Pune** from **28 to 30**.
- Interactive meeting and plant visit by IMTMA Regional Council (North) members to Jai Bharat Maruti Limited in **Gurgaon** on **29**.
- Workshop on 'Low Cost Automation for Productivity Enhancement in Metalworking Manufacturing Industry' in **Gurgaon** on **30**.

AUGUST

- Seminar on 'Laser, Plasma and Waterjet Machining' at **BIEC** on **07**.
- Seminar on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' in **Gurgaon** on **12 and 13**.
- 4th Productivity Summit and the 4th 'IMTMA-Siemens Productivity Championship Awards' in **Pune** on **20 and 21**.

- Workshop on 'Failure Mode & Effects Analysis' in **Gurgaon** on **27 and 28**.
- Seminar on 'High Performance Machining Technology' at **BIEC** on **27 and 28**.

SEPTEMBER

- Symposium on 'Right Selection of Cutting Tools for Cost Reduction of CNC Machines' in **Jamshedpur** on **01 and 02**.
- Seminar on 'Latest Trends & Applications in Fine Blanking Technology' in **Chennai** on **03**.
- "Technology Mission – United States and IMTS 2010" in **Chicago, United States** from **13 to 18**.
- Training Programme on 'Right Selection & Application of Tooling for CNC Lathes (exclusively for Titan Group)' at **BIEC** on **21**.
- Seminar on 'Laser, Plasma and Waterjet Machining' in **Gurgaon** on **23**.
- Training Programme on 'Advanced Programming for CNC Turning' at **BIEC** from **23 to 25**.
- Training Programme on 'Right Selection and application of Tooling for CNC Lathes' in **Pune** on **24 and 25**.
- Training Programme on 'Practical Solutions for Designing Complex Injection Moulds' at **BIEC** on **27 and 28**.
- Finishing School in Production Engineering at **BIEC** from **27 to (23 October)**.
- Seminar on 'Getting the best out of Coordinate Measuring Machines' in **Pune** on **28 and 29**.

CALENDAR OF EVENTS



OCTOBER

- ➔ Awareness Programme on 'Seven Quality Tools and Problem Solving Tools' at **BIEC** on **11**.
- ➔ Awareness Programme on Quality Tools and Technology '5S & Kaizen' in **Hyderabad** on **14**.
- ➔ Workshop on 'Acceptance and Testing of CNC Machines' at **BIEC** on **25 and 26**.
- ➔ Workshop on 'Process Capability – The Quality route to Sustained Growth in Manufacturing' in **Pune** on **25**.
- ➔ "Technology Mission – Germany and EuroBLECH" in **Chemnitz** and **Hannover, Germany** from **26 to 30**.
- ➔ Seminar on 'Idle Time Reduction in metal working through quick changeover techniques' at **BIEC** on **27**.
- ➔ Seminar on 'Productivity and Modern Manufacturing Economics' in **Pune** on **28**.
- ➔ Seminar on 'Productivity and Modern Manufacturing Economics' in **Gurgaon** on **30**.

NOVEMBER

- ➔ Seminar on 'Die & Mould Manufacturing' in **New Delhi** on **19 and 20**.
- ➔ Training Programme on 'CNC Programming' (exclusively for Godrej & Boyce Manufacturing Company Limited) at **BIEC** from **15 to 26**.
- ➔ 12th "VISION 2015" Conference for CEOs of the industry and "UDAAN" members in **Bhopal** on **19 and 20**.
- ➔ Workshop on 'Calibration of Dimensional Measuring Equipment & Evaluation of Uncertainty in Measurements' at **BIEC** on **22 and 23**.

- ➔ Seminar on 'Die & Mould Manufacturing' in **Pune** on **22 and 23**.
- ➔ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' at **BIEC** from **25 to 27**.
- ➔ Seminar on 'Idle Time Reduction in Metalworking through Quick Changeover Techniques' in **Pune** on **29**.
- ➔ Workshop on 'Right Selection and Application of Tooling for CNC Lathes' at **BIEC** on **29 and 30**.

DECEMBER

- ➔ Seminar on 'Measurement System Analysis' at **BIEC** on **03 and 04**.
- ➔ Seminar on 'Die & Mould Manufacturing' at **BIEC** on **15 and 16**.
- ➔ Seminar on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' at **BIEC** from **21 to 23**.
- ➔ Workshop on 'Surface Finish & its Measurement' in **Pune** on **21**.
- ➔ Workshop on 'Calibration of Dimensional Measuring Equipment & Evaluation of Uncertainty in Measurements' in **Pune** on **22 and 23**.
- ➔ Seminar on 'Idle Time Reduction' in **New Delhi** on **03**.
- ➔ Seminar on 'Failure Mode & Effective Analysis' in **Gurgaon** on **17 and 18**.
- ➔ Seminar on 'Getting the best out of Coordinate Measuring Machines' in **New Delhi** on **22 and 23**.



CALENDAR OF EVENTS

2011

JANUARY

- ➔ Workshop on 'Failure Mode & Effects Analysis' in **Pune** on **04 and 05**.
- ➔ Workshop on 'Right Selection & Application of Tooling for CNC Machining Centres' at **BIEC** from **05 to 07**.
- ➔ Seminar on 'Low Cost Automation for Productivity Enhancement in Metalworking' at **BIEC** on **08**.
- ➔ 4th International Seminar on Machining Technologies in **Bangalore** on **18 and 19**.
- ➔ 15th Indian Metal-cutting Machine Tool Exhibition with international participation – IMTEX 2011; and 13th International Exhibition of Cutting Tools, Tooling Systems, Machine Tool Accessories, Metrology & CAD/CAM – Tooltech 2011, at **BIEC** from **20 to 26**.
- ➔ Presentation of the Second 'IMTMA - Vinod Doshi Outstanding Entrepreneur Award in Machine Tools' at **BIEC** on **20**.
- ➔ Presentation of the Third 'IMTMA - H. R. Gupta Lifetime Achievement Award' at **BIEC** on **20**.
- ➔ Third "JAGRUTI - IMTMA Youth Programme" at **BIEC** on **22 and 23**.

FEBRUARY

- ➔ Training Programme on 'Machining Centre' (exclusively for TVS Motor Limited) at **BIEC** from **(31 January) to 05**.
- ➔ Workshop on 'Surface Finish & its Measurement' at **BIEC** on **11**.
- ➔ Seminar on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' for (exclusively for Yuken India Limited) at **BIEC** on **16 and 17**.
- ➔ Seminar on 'Value Engineering & Value Analysis' in **New Delhi** on **17**.

- ➔ Workshop on 'How to Reduce Manufacturing Cost – To Enhance Productivity' in **Ludhiana** on **18**.
- ➔ Training programme on 'Right Selection & Application of Tooling for CNC Machining Centres' in **Pune** from **21 to 23**.
- ➔ Primer Course on 'Sheet Metal Forming Technology' in **New Delhi** on **22 and 23**.
- ➔ Training Programme on 'Tolerance Stack-Up Analysis' at **BIEC** on **24 and 25**.
- ➔ Training Programme on 'Practical Solutions for Designing Complex Injection Moulds' in **Pune** on **25 and 26**.

MARCH

- ➔ Training Programme on 'Machining Centre' (exclusively for TVS Motor Limited) at **BIEC** from **07 to 15**.
- ➔ Workshop on 'Surface Finish & its Measurement' in **Gurgaon** on **10**.
- ➔ Seminar on 'Laser, Plasma & Waterjet Machining' at **BIEC** on **11**.
- ➔ Seminar on 'Idle Time Reduction in Metal-cutting through Quick Changeover Techniques' in **Pune** on **11**.
- ➔ Workshop on 'Calibration of Dimensional Measuring Equipment & Evaluation of Uncertainty in Measurements' in **Gurgaon** on **11 and 12**.
- ➔ Workshop on 'Process Capability - The Quality Route to Sustained Growth in Manufacturing' at **BIEC** on **15**.
- ➔ Workshop on 'Measurement System Analysis' in **Pune** on **15 and 16**.
- ➔ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' at **BIEC** on **17 and 18**.

CALENDAR OF EVENTS



- ➔ Training Programme on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' in **New Delhi** on **17 and 18**.

- ➔ Seminar on 'Cost Reduction Through Appropriate Automation' in **Pune** on **23**.

APRIL

- ➔ Training programme on 'Right Selection & Application of Tooling for CNC Machining Centres' in **Gurgaon** on from **07 to 09**.

- ➔ "Technology Mission – China and CIMT 2011" in **Beijing, China** from **14 to 19**.

- ➔ Training Programme on 'Digital Factory' at **BIEC** on **15 and 16**.

- ➔ Seminar on 'Getting the best out of Coordinate Measuring Machines' in **Pune** on **18 and 19**.

- ➔ Training programme on 'Geometric Dimensioning and Tolerancing in Design through Manufacturing' in **Pune** from **18 to 20**.

- ➔ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' at **BIEC** from **19 to 21**.

- ➔ Training programme on 'Improving effectiveness of Process Planning, Scheduling and Working systems in Tool rooms' in **Pune** on **25**.

- ➔ Workshop on 'Failure Mode & Effects Analysis' at **BIEC** on **25 and 26**.

- ➔ Training programme on 'Reducing Cycle Time & Machining Cost on CNC machining centres' at **BIEC** on **27 and 28**.

- ➔ Seminar on 'Effective Utilisation of CNC Grinding machines for Productivity Improvement' in **Gurgaon** on **29**.

- ➔ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in **Pune** from **29 to 30**.

MAY

- ➔ Finishing School in Production Engineering at **BIEC** from **02 to 28**.

- ➔ Interactive meeting and plant visit by IMTMA Regional Council (North) members to Shriram Pistons and Rings Limited in **Gurgaon** on **07**.

- ➔ Workshop on 'Calibration of CNC Machine Tools' at **BIEC** on **11**.

- ➔ Workshop on 'Process Capability - The Quality Route to Sustained Growth in Manufacturing' in **Gurgaon** on **12**.

- ➔ Seminar on 'Getting the best out of Coordinate Measuring Machines' at **BIEC** on **12 and 13**.

- ➔ Seminar on 'Idle Time Reduction in Metal-cutting through Quick Changeover Techniques' in **Rudrapur** on **14**.

- ➔ Primer Course on 'Sheet Metal Forming Technology' in **Pune** on **16 and 17**.

- ➔ Seminar on 'Effective Utilisation of CNC Grinding machines for Productivity Improvement' in **Pune** on **18**.

- ➔ Seminar on 'Laser, Plasma & Waterjet Machining' in **Pune** on **20**.

- ➔ Training Programme on 'Practical Solutions for Designing Complex Injection Moulds' in **Gurgaon** on **20 and 21**.

- ➔ Seminar on 'Idle Time Reduction in Metal Cutting through Quick Changeover Techniques' at **BIEC** on **24**.

- ➔ Training Programme on 'Reducing Cycle Time & Machining Cost on CNC Machining Centres' in **Pune** on **24 and 25**.

- ➔ Seminar on 'High Performance Machining Technology' at **BIEC** on **25 and 26**.

- ➔ Training Programme on 'Reducing Cycle Time & Machining Cost on CNC Turning Centres' in **Gurgaon** on **27 and 28**.



CALENDAR OF EVENTS

JUNE

- ➔ Technology Competence Programme on 'Basics of Precision and Ultra Precision Machining and Machines' at **BIEC** on **08 and 09**.
- ➔ Technology Competence Programme on 'Basics of Precision and Ultra Precision Machining and Machines' at **BIEC** on **13 and 14**.
- ➔ Workshop on 'Right Selection and Application of Tooling for CNC Turning Centres' at **BIEC** on **10 and 11**.
- ➔ Workshop on 'Failure Mode & Effects Analysis' in **Pune** on **10 and 11**.
- ➔ Seminar on 'High Performance Machining Technology' in **Gurgaon** on **11**.
- ➔ Workshop on 'Calibration of CNC Machine Tools' in **Pune** on **15**.
- ➔ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in **Gurgaon** on **16 and 17**.
- ➔ Seminar on 'Cost Effective Automation for Metal Working' in **Gurgaon** on **18**.
- ➔ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' in **Pune** from **20 to 22**.
- ➔ Training Programme on 'Advanced Programming for CNC Machining Centres' at **BIEC** from **22 to 24**.
- ➔ Seminar on 'Laser, Plasma & Waterjet Machining' in **Gurgaon** on **24**.
- ➔ Training Programme on 'Practical Solutions for Designing Complex Plastic Injection Moulds' in **Coimbatore** on **24 and 25**.
- ➔ Seminar on 'Die & Mould Manufacturing' at **BIEC** on **28 and 29**.
- ➔ Primer Course on 'Sheet Metal Forming Technology' at **BIEC** on **28 and 29**.



The 15th IMTEX fair and the 13th Tooltech exhibition – echoed a resurgent and competitive India – through its vast spectrum of technological manifestations; and showcasing the beaming confidence of an optimistic global machine tool industry. The exhibitions, which truly attained a global image with an equal international participation, was indeed a gateway to a world-class experience in metalworking manufacturing technologies.

IMTEX 2011 – the Indian Metal-cutting Machine Tool Exhibition with international participation and Tooltech – the International Exhibition of Cutting Tools, Tooling Systems, Machine Tool Accessories, Metrology & CAD/CAM, was held from 20 to 26 January 2011. Organised by Indian Machine Tool Manufacturers' Association, the exhibitions were held at Bangalore International Exhibition Centre (BIEC) in Bangalore.

Spread across 40,000 square metres of gross area, IMTEX 2011 and Tooltech 2011 had on display 814 exhibitors from 24 countries. The exhibition featured 750 machines valued at Rs. 14,000 million, over a net space of 25,500 square metres in the three expansive halls of BIEC. 562 exhibitors showcased their capabilities at IMTEX, while the rest 252 manifested their developments at Tooltech.

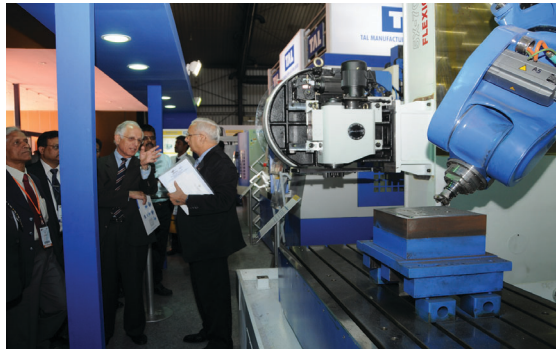
Indian participation, comprising 620 exhibitors, projected to India and to the world at large the new mindset in the machine tool industry. Interesting facet of the Indian representation was the presence of over 95 per cent of the machine tool industry at the exhibition.

For the first time ever, there were eight country-group participations from China, Czech Republic, Germany, Italy, Singapore, Spain, Taiwan and United States – clearly reflecting the process of globalisation of the machine tool industry in India.

IMTEX 2011 and Tooltech 2011 had a grandeur opening with inauguration by Mr. Arun Maira, Member, Planning Commission of India, along with Dr. K. Radhakrishnan, Chairman, Indian Space Research Organisation as well as Mr. Arvind Kapur, Vice President, Automotive Component Manufacturers Association of India.

Major highlight of displays included dramatic improvement in aesthetics and ergonomics of machines. Some of the recent technologies / solutions included contemporary developments of five-axis machines; use of latest coolant techniques, increased use of high-level automation; and greater focus on robotics in manufacturing requirements. Prominent aspect was about the splurge of CNC machines in almost all exhibition stands.





Indeed, IMTEX and Tooltech show proved to be the key turning point in providing a fillip to the already boisterous sentiments in the Indian machine tool industry. The seven-day exhibition recorded a huge turnout of around 1,00,000 business visitors.

Visitors comprised decision-makers, managerial level executives, technocrats, as well as technical workforce representing the entire spectra of the manufacturing industry, from India and elsewhere. Visitors came with the objective of not only witnessing the new facets of manufacturing technologies, but

also to firm up business decisions, forge strategic alliances, and even develop vendor bases.

Outcome from the serious interactions between exhibitors and business visitors was yet another milestone realised. IMTEX 2011 and Tooltech 2011 had business orders worth Rs. 10,220 million transacted across the stands, while generating potential business enquiries to the tune of Rs. 70,000 million. Undoubtedly, setting new records surpassing all previous achievements at any IMTEX fair.



MAJOR EVENTS

12th 'VISION 2015' Conference

The Association scheduled its 12th "VISION 2015" Conference for CEOs of the industry and "UDAAN" members on 19 and 20 November 2010 in Bhopal. Theme of the conference focused on how to better manage companies in the midst of an explosive growth environment.



Spread across eight interesting and brain-storming sessions, the Conference had the highest-ever participation from machine tool CEOs and "UDAAN" members. The Inaugural Session comprised thoughtful insights by two key customer segments : Automotive Component Manufacturers Association of India (ACMA) and Bharat Heavy Electricals Limited (BHEL).



Known for adding different flavours, the 12th "VISION" Conference had sessions on – Perspective Planning and the replication of Chanakya Fundas in the 21st Century. There was also an interesting discourse on pricing strategies in the machine tool sector through successful deployment of revenue management model. The theme session on "managing explosive growth" comprised a half-day

workshop on 'Scenario Planning' – with emphasis on impact of GDP growth on the machine tool industry and its response. The two-day conference concluded with a thought-provoking interaction on revisiting VISION 2015.



4th International Seminar on Machining Technologies

Conglomerating the latest technological advancements that have transformed the manufacturing concepts of today, the Association organised the 4th International seminar on Machining Technologies on 18 and 19 January 2011 in Bangalore. International experts from across the world shared the latest trends in the industry.



The seminar was spread across two keynotes and three concurrent sessions which covered topics such as auto components machining, aerospace, die & mould machining, new generation machine tools, electrical & micro machining, tooling, workholding, coolants & control systems, measurements and automation. The seminar was inaugurated by Mr. S. Tomonaga, Deputy Managing Director, Toyota Kirloskar Motor Private Limited and Dr. K Subramanian, Director - Core Technology, Saint Gobain Company.



ACTIVITIES DURING 2010 - 2011



Productivity Summit 2010 & 'IMTMA - Siemens Productivity Championship Awards 2010'

To bring productivity improvements of manufacturing companies to the forefront, the Association organised the 4th Productivity Summit and the 4th 'IMTMA - Siemens Productivity Championship Awards' on 20 and 21 August 2010 in Pune.



The Summit was inaugurated by Mr. Pradeep Bhargava, Managing Director, Cummins Generator Technologies Private Limited and with a keynote presentation by Mr. Ashok K. Taneja, Chief Executive Officer, Shriram Pistons and Rings Limited. They shared their views and experiences on some of the obvious management myths.



The two-day Productivity Summit witnessed case presentations made by the participants shortlisted from a list of about 350 entries.

Three winners from five streams such as manufacturing system redesign, better asset utilisation, productivity enhancement through quality improvement, optimising metalworking process and productivity improvements in SME sectors were rewarded with the coveted 'IMTMA - Siemens Productivity Championship Awards'.

SEMINARS / WORKSHOPS

Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines

12 and 13 July 2010 : Pune
23 and 24 July 2010 : New Delhi
17 and 18 March 2011 : BIEC
29 and 30 April 2011 : Pune
16 and 17 June 2011 : Gurgaon



Productivity improvement can be extensively achieved through right clamping system which includes workholding and fixturing techniques. Keeping its function on priority, five workshops on 'Workholding and Fixturing Techniques for Productivity on CNC Machines' were organised. Two programmes were scheduled in Pune on 12 and 13 July 2010 as well as on 29 and 30 April 2011. One event each was organised in New Delhi on 23 and 24 July 2010; at BIEC on 17 and 18 March 2011; and in Gurgaon on 16 and 17 June 2011.

High Performance Machining Technology

15 and 16 July 2010 : BIEC
27 and 28 August 2010 : Gurgaon
25 and 26 May 2011 : BIEC
11 and 12 June 2011 : Gurgaon



HPM is a comprehensive machining strategy that integrates the entire machine tool to ensure rapid delivery of high quality machined components. Understanding its importance, four seminars on 'High Performance Machining Technology (HPM)' was organised in Gurgaon and at BIEC. The seminars were organised at BIEC on 15 and 16 July 2010 as well as 25 and 26 May 2011; and in Gurgaon on 27 and 28 August 2010 as well as 11 and 12 June 2011.

Calibration of Dimensional Measuring Equipment & Evaluation of Uncertainty in Measurements

16 and 17 July 2010 : New Delhi
22 and 23 November 2010 : BIEC
22 and 23 December 2010 : Pune
11 and 12 March 2011 : Gurgaon



The process of calibration attains greater significance in the advanced technology to achieve required levels of product quality. Keeping this in view, four training programmes on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurement' were scheduled. These were in New Delhi on 16 and 17 July 2010; at BIEC on 22 and 23 November 2010; in Pune on 22 and 23 December 2011; and in Gurgaon on 11 and 12 March 2011.

Geometric Dimensioning and Tolerancing in Design through Manufacturing

21 to 23 July 2010 : BIEC
28 to 30 July 2010 : Pune
12 and 13 August 2010 : Gurgaon
21 to 23 December 2010 : BIEC
16 and 17 February 2011 : BIEC
17 and 18 March 2011 : Gurgaon
18 to 20 April 2011 : Pune



A designer's intentions can be clearly converted from paper to part using geometrical dimensioning and tolerancing (GD&T) system, which eliminates uncertainty in engineering drawings. Enabling a seamless communication among all the departments, seven training programmes on 'GD&T in Design Through Manufacturing' were held. Two programmes were held at BIEC from 21 to 23 July 2010 and 21 to 23 December 2010. Two programmes were held in Pune from 28 to 30 July 2010 and from 18 to 20 July 2011. And two more programmes were organised in Gurgaon on 12 and 13 August 2010 and 17 and 18 March 2011.



ACTIVITIES DURING 2010 - 2011

The Association also organised a customised training programme exclusively for Yuken India Limited on 'Geometric Dimensioning and Tolerancing' at BIEC on 16 and 17 February 2011. The programme was conducted by a team of IMTMA faculty members.

Sheet Metal-forming Technology

23 and 24 July 2010 : Pune
22 and 23 February 2011 : New Delhi
16 and 17 May 2011 : Pune
28 and 29 June 2011 : BIEC



Keeping pace with the growing innovations witnessed in the international market of sheet metal-forming industry, a Primer Course on 'Sheet Metal-forming Technology' was organized in Pune on 23 and 24 July 2010 as well as 16 and 17 May 2011; in New Delhi on 22 and 23 February 2011; and at BIEC on 28 and 29 June 2011. The primer course gave an outline on the latest topics making a revolutionary impact in the industry across the world.

Getting the Best out of Coordinate Measuring Machines

26 and 27 July 2010 : BIEC
28 and 29 September 2010 : Pune
22 and 23 December 2010 : New Delhi
18 and 19 April 2011 : Pune
12 and 13 May 2011 : BIEC

With increasing complexity of machined parts and demand for précised machine tools, coordinate measuring machines have replaced conventional methods of inspection with gauges and fixtures. Keeping pace with the increasing demand for controlling manpower and achieving precision



engineered machine tools, the Association organised five programmes on the topic 'Getting the Best out of Coordinate Measuring Machines'. It was scheduled at BIEC on 26 and 27 of July 2010; as well as 12 and 13 May 2011; in New Delhi on 22 and 23 December 2010; and in Pune on 28 and 29 September 2010 as well as 18 and 19 April 2011.

Cost Reduction through Appropriate Automation

30 July 2010 : Gurgaon
01 and 02 September 2010 : Jamshedpur
08 January 2011 : BIEC
18 February 2011 : Ludhiana
23 March 2011 : Pune
18 June 2011 : Gurgaon



Automation finds its application in a wide range of activities and appropriate level of automation increases productivity and reduces the cost in manufacturing. Keeping this in view, the Association organised six seminars on 'Cost Reduction through Appropriate Automation'. Two programmes were held in Gurgaon on 30 July 2010 as well as 18 June 2011. It was replicated in Jamshedpur on 01 and 02 September 2010; in Ludhiana on 18 February 2011; in Pune on 23 March 2011; and

at BIEC on 08 January 2011. Industry experts and renowned tooling specialists shared their knowledge on the topic.

Laser, Plasma & Waterjet Machining

07 August 2010 : BIEC
23 September 2010 : Gurgaon
11 March 2011 : BIEC
20 May 2011 : Pune
24 June 2011 : Gurgaon



LPW technology has an important aspect where it can be applied on non-metal and metal segment with the same orientation and end-result. Keeping its versatile applications in view, the Association organised five seminars on 'Laser, Plasma and Waterjet Machining'. These were held at BIEC on 07 August 2010 and 11 March 2011; in Gurgaon on 23 September 2010 and 24 June 2011; and in Pune on 20 May 2011.

Failure Mode & Effects Analysis

27 and 28 August 2010 : BIEC
17 and 18 December 2010 : Gurgaon
4 and 5 January 2011 : Pune
25 and 26 April 2011 : BIEC
10 and 11 June 2011 : Pune



Whenever there is a change in product, vendor, process, etc., failure mode and effects analysis is redone to evaluate their effects. Highlighting the importance of FMEA through group interaction, five workshops on 'Failure Mode and Effects Analysis' were organised by the Association. The events were held at BIEC on 27 and 28 August 2010 as well as on 25 and 26 April 2011; in Gurgaon on 17 and 18 December 2010; and in Pune on 04 and 05 January 2011 as well as on 10 and 11 June 2011.

Latest Trends and Applications in Fine Blanking Technology

Fine blanking is an innovative development in the metal forming industry which helps in rolling out flawless components. To facilitate and provide a comprehensive outlook on this, a seminar on 'Latest Trends and Applications in Fine Blanking Technology' was held in Chennai on 03 September 2010.



Selection of Tooling for CNC Turning Centres

The Association organised a customised training programme exclusively for Titan group of companies on 'Selection of tooling for CNC Turning Centres' at





ACTIVITIES DURING 2010 - 2011

BIEC on 21 September 2010. The programme was conducted by a team of IMTMA faculty members.

Advanced Programming for CNC Turning Centres

23 to 25 September 2010 : BIEC
22 to 24 June 2011 : BIEC

In order to keep the cost per component at minimum, and capitalising on every second at modern CNC machining centre, two training programmes on 'Advanced Programming for CNC Machining Centres' were organised at BIEC. The first was held from 23 to 25 September 2010 and second from 22 to 24 June 2011.

Right Selection & Application of Tooling for CNC Machining Centres

24 and 25 September 2010 : Pune
29 and 30 November 2010 : BIEC
05 to 07 January 2011 : BIEC
21 to 23 February 2011 : Pune
07 to 09 April 2011 : Gurgaon
10 and 11 June 2011 : BIEC



Right selection and application of tooling for CNC machining centres play a vital role in increasing productivity and controlling cost. Focusing on its importance, six workshops were conducted on this topic. Three programmes were organised at BIEC on 29 and 30 November 2010; 05 to 07 January 2011; as well as 10 and 11 June 2011. Two were held in Pune on 24 and 25 September 2010 as well as 21 to 23 February 2011 and one in Gurgaon from 07 to 09 April 2011.

Practical Solutions for Designing Complex Injection Moulds

27 and 28 September 2010 : BIEC
25 and 26 February 2011 : Pune
20 and 21 May 2011 : Gurgaon
24 and 25 June 2011 : Coimbatore



With a view to find solutions to the hurdles faced while designing a complex plastic-injection mould, four seminars on 'Practical Solutions for Designing Complex Injection Plastic Moulds' were organized. The programmes were scheduled at BIEC on 27 and 28 September 2010; in Pune on 25 and 26 February 2011 in Pune; in Gurgaon on 20 and 21 May 2011; and in Coimbatore on 24 and 25 June 2011.

Finishing School in Production Engineering

27 September to 23 October 2010 : BIEC
02 to 28 May 2011 : BIEC



Making the engineers industry ready and employable, the Association successfully organised two batches of 'Finishing School in Production Engineering' from 27 September to 23 October

ACTIVITIES DURING 2010 - 2011



2010 and from 02 to 28 May 2011 at the "Technology Centre" of BIEC. The programme focused on all the practical aspects of modern machining – from reading an engineering drawing through measurements and quality control and selection of measuring instruments. The programme also developed the technical and soft skills, making the participants equipped with the industry knowledge.

Seven Quality Tools and Problem Solving Tools



An awareness programme on understanding fundamental instruments used to improve quality of a product through analysis to achieve business competitiveness was organised jointly by UNIDO-ICAMT and IMTMA on 'Seven Quality Tools and Problem Solving Tools' in Bangalore on 11 October 2010.

Quality Tools and Technology "5S and Kaizen"



An awareness programme was organised on 'Quality Tools and Technology 5S and Kaizen', providing an insight on various ways of improving efficiency of an organisation by eliminating waste, improving flow and reducing process unevenness. The event was scheduled jointly by UNIDO-ICAMT and IMTMA in Hyderabad on 14 October 2010.

Process Capability

25 October 2010 : Pune

15 March 2011 : BIEC

12 May 2011 : New Delhi



Machine tool users expect that machines are not only reliable and productive, but also expect the machines to achieve high degree of process capability with consistency in precision and accuracy. In order to achieve the desired results through 'Process Capability – the Quality Route to Sustained Growth in Manufacturing, three workshops was held in Pune on 25 October 2010; at BIEC on 15 March 2011; and in New Delhi on 12 May 2011.

Acceptance and Testing of CNC Machines

Regular machine tool inspection of CNC machine is essential in accordance with international standards and procedures. Keeping this in view, a workshop on 'Acceptance and Testing of CNC Machines' was held at BIEC on 25 and 26 October 2010.



ACTIVITIES DURING 2010 - 2011

Idle Time Reduction in Metal-cutting through Quick Changeover Techniques

27 October 2010 : BIEC
29 November 2010 : Pune
3 December 2010 : New Delhi
11 March 2011 : Pune
14 May 2011 : Rudrapur
24 May 2011 : BIEC



It is important to utilise idle time ideally, so as to achieve increased demand for product variability. Brushing upon unexplored segments of the topic, a total of six programmes on 'Idle Time Reduction in Metal-cutting through Quick Changeover Techniques' were organised. Two events were held at BIEC on 27 October 2010 and on 24 May 2011; in Pune on 29 November 2010 and 11 March 2011; in New Delhi on 03 December 2010 and in Rudrapur on 14 May 2011.

Productivity and Modern Manufacturing Economics

28 October 2010 : Pune
30 October 2010 : Gurgaon



Bridging the widening gap between product price and the cost of production, by optimising the production, a seminar on 'Productivity and Modern Manufacturing Economics' was held in Pune on 28 October 2010 and in Gurgaon on 30 October 2010.

CNC Programming of Turning Centres & Machining Centres

The Association organised a customised training programme exclusively for Godrej & Boyce Manufacturing Company on 'CNC Programming of Turning Centres and Machining Centres' at BIEC from 15 November to 26 November 2010. The programme was conducted by a team of IMTMA faculty members.

Die and Mould Manufacturing

19 and 20 November 2010 : New Delhi
22 and 23 November 2010 : Pune
15 and 16 December 2010 : BIEC
28 and 29 June 2011 : Pune



Die and mould manufacturing with the new generation manufacturing techniques is capable of completing the process with little need for manual finishing and correction. To address various aspects of it, four seminars on 'Die and Mould Manufacturing Techniques' were organised. Two programmes were held in Pune on 22 and 23 November 2010 as well as 28 and 29 June 2011. One programme each was organised in New Delhi on 19 and 20 of November 2010 as well as at BIEC on 15 and 16 December 2010.

ACTIVITIES DURING 2010 - 2011



Effective Maintenance of CNC Machines for Productivity Improvement

25 to 27 November 2010 : BIEC

19 to 21 April 2011 : BIEC

20 to 22 June 2011 : Pune



There is a need to familiarise and upgrade knowledge base of the man behind the machine to achieve maximum productivity. Focusing on this, three workshops on 'Effective Maintenance of CNC Machines for Productivity Improvement' were organised. Two workshops were scheduled at BIEC from 25 to 27 November 2010 and from 19 to 21 April 2011; and the third in Pune on 20 to 22 June 2011.

Measurement Systems Analysis

03 and 04 December 2010 : BIEC

15 and 16 March 2011 : Pune



MSA plays a vital role in six sigma methodology and other quality management systems. Perceiving its vast application in the manufacturing industry, two seminars on 'Measurement System Analysis' were organised at BIEC on 03 and 04 December 2010 and in Pune on 15 and 16 March 2011.

Surface Finish & its Measurement

21 December 2010 : Pune

11 February 2011 : BIEC

10 March 2011 : Gurgaon



To ensure proper functional behaviour of the design, a quantitative study of the quality of a surface becomes an inseparable part. Addressing the importance and methodologies of evaluation in diverse range of manufacturing activities, three programmes on 'Surface Finish and its Measurement' were conducted in Pune on 21 December 2010; at BIEC on 11 February 2011; and in Gurgaon on 10 March 2011.

Course in Metal-cutting

The Association organised a customised training programme exclusively for TVS Motors Limited on 'Course in Metal-cutting'. The first phase was



held from 31 January to 05 February 2011 and the second phase from 07 to 15 March 2011. The programmes were industry specific focused at polishing skills of the working engineers.



ACTIVITIES DURING 2010 - 2011

Value Engineering & Value Analysis

In order to meet the emerging global market and customer demands, a value engineered product becomes more significant. Recognizing this growing demand, a seminar on 'Value Engineering and Value Analysis' was held in New Delhi on 17 February 2011. The programme was organised jointly by UNIDO-ICAMT and IMTMA.



Tolerance Stack-Up Analysis

Component tolerances are determined through the manufacturing process, productivity and cost and optimal tolerance is expected by the designers, to achieve the desired results. Keeping this in view, a training programme on 'Tolerance Stack-up Analysis' was conducted at BIEC on 24 and 25 February 2011 at BIEC.



Digital Factory

Along with increasing internal efficiency, speed of communication and management control, a digital factory also provides a paperless environment for efficient real time management of manufacturing units. To provide the true experience of working, the Association created a replica of a 'Digital Factory' engaged in batch production with all departmental functions and to spread awareness on its benefits. A training programme on the same was organised at BIEC on 15 and 16 April 2011.



Improving Effectiveness of Process Planning, Scheduling and Working systems in Tool Rooms

Optimum utilisation of all the resources depends largely on the level of knowledge and skill level of the planning engineers. Keeping this in view a training programme on 'Improving Effectiveness of Process Planning, Scheduling and Working Systems in Tool Rooms' was organised in Pune on 25 April 2011.



Reducing Cycle Time & Machining Cost on CNC Machining Centres

27 and 28 April 2011 : BIEC

24 and 25 May 2011 : Pune

27 and 28 May 2011 : Gurgaon



Understanding the importance of reducing cycle time and making the best use of it, three seminars were organised with one in each region on 'Reducing Cycle Time and Machining Cost on CNC Machining Centres'. The two-day seminars were organised at BIEC on 27 and 28 April 2011; in Pune on 24 and 25 May 2011; and in Gurgaon on 27 and 28 May 2011. The programmes focused on knowledge inventory, machining centre operations and techniques, demo on vertical machining centre, etc.

Effective Utilisation of CNC Grinding Machines for Productivity Improvement

29 April 2011 : Gurgaon

18 May 2011 : Pune



Grinding is a finishing process, and its optimization and effective utilization plays a major role in reducing

and controlling cost. Keeping this in view, two daylong seminars on 'Effective Utilisation of CNC Grinding Machines for Productivity Improvement' were organised. These were scheduled in Gurgaon on 29 April 2011 and in Pune on 18 May 2011.

Calibration of CNC Machine Tools

11 May 2011 : BIEC

15 June 2011 : Pune



Geometrical and positioning accuracies of the machine slides and guideways play an important role in attaining precision parts with tighter tolerances and the calibration of machine tools become an essential part. On ways to getting the measurements right in first attempt, two workshops on 'Calibration of CNC Machine Tools' were organised. These were held at BIEC on 11 May 2011 and in Pune on 15 June 2011.



ACTIVITIES DURING 2010 - 2011

SPECIAL EVENTS

Technology Mission – United States and IMTS 2010

A Technology Mission to United States, coinciding with the International Manufacturing Technology Show (IMTS 2010) was organised jointly by UNIDO-ICAMT and IMTMA from 13 - 18 September 2010 at Chicago.

The 'Technology Mission' included a guided technology exposure visit to IMTS 2010 exhibition by a technical expert. A visit to University of Michigan at Ann Arbor followed by a visit to Precision Optical Machining (POM) was made on 16 September 2010 which enabled the delegates to understand the best manufacturing practices.



A visit to General Motors plant at Warren, near Detroit was organized on 17th September 2010. The 'Technology Mission' consisted of an interactive meeting organised with the President of the US Machine Tool Distributors Association.

Technology Mission – Germany and EuroBLECH 2010

In order to provide adequate technology exposure to latest technologies and machines / techniques, a "Technology Mission" was scheduled comprising members of the TUPE regional cluster of Ludhiana and NCR. The "Technology Mission" was held so as to coincide with the 21st International Sheet Metal Working Technology Exhibition – EuroBLECH, from 26 - 30 October 2010, organised jointly by UNIDO-ICAMT and IMTMA.



Key objectives of the "Technology Delegation" included witnessing latest technology advances in metal-forming machine tools and manufacturing solutions at the EuroBLECH exhibition as well as enhancing business opportunities in Germany.

The "Technology Mission" also included an exhaustive visit to Fraunhofer Chemnitz Institute – a leading technology institute for metal-forming machine tools as also to three key metal-forming machine tool companies in Chemnitz. The visits, particularly to the Fraunhofer Chemnitz Institute enabled participating Mission members to gain an insight into the latest technology developments taking place in this segment of machine tools.

Technology Mission – China and CIMT 2011

UNIDO-ICAMT and IMTMA as part of the TUPE Project organised a "Technology Mission to China and more specifically to the China International Machine Tool show – CIMT 2011. The "Technology Mission" was scheduled from 14 to 19 April 2011.



The "Technology Mission" comprised a three-day visit to CIMT 2011; three interactive meeting and plant visits to Chinese machine tool companies – two in Tianjin and one in Beijing; and two meetings – first with the China Council for the Promotion of International Trade and second with the China Machine Tool & Tool Builders' Association. Key aspect of the "Technology Mission" were two interactive meetings – first with a senior government official of the China Council for the Promotion of International Trade; and second with office-bearers of the China Machine Tool & Tool Builders' Association

There were 2,400 exhibitors from China and all over the world at CIMT 2011, including presence of all famous global brands in the machine tool industry. The exhibition was held over an area of 1,20,000 square metres, and had the presence of 2,32,000 visitors from China and all over the world.

"IMTMA - Vinod Doshi Outstanding Entrepreneur Award"

The second 'IMTMA - Vinod Doshi Outstanding Entrepreneur Award in Machine Tools' was bestowed on Mr. A. V. Sathe, Chairman and Director, Pragati Automation Private Limited. The award was given to Mr. Sathe by Mr. Arun Maira, Member, Planning Commission of India at the 'Inauguration Ceremony' of IMTEX 2011 and Tooltech 2011 on 20 January 2011 at BIEC.



Mr. Sathe was recognised for his entrepreneurial achievements and for his immense contribution towards enhancing competitiveness of the metalworking machine tool industry in India.

IMTMA - H. R. Gupta Lifetime Achievement Award

The third 'IMTMA - H. R. Gupta Lifetime Achievement Award' was conferred on Mr. Shailesh R. Sheth, Chairman - Programme Committee and Past President of IMTMA as well as Director, Bharat Fritz Werner Limited. Mr. Sheth received the award from Mr. Arun Maira, Member, Planning Commission of India at the 'Inauguration Ceremony' of IMTEX 2011 and Tooltech 2011 on 20 January 2011 at BIEC.



Mr. Sheth was recognised for his immense, proactive and visionary contribution to the development of the Indian machine tool industry. Mr. Sheth is distinguished for his untiring involvement in enhancing the overall competitiveness of the industry.

"JAGRUTI - IMTMA Youth Programme"

In order to orient engineering students with technological facets of the machine tool industry and to familiarise them with the machines and concepts what they study as part of their course curriculum, IMTMA with active support from 'UDAAN' members organised the third – "JAGRUTI - IMTMA Youth Programme". The unique initiation was scheduled on 22 and 23 January 2011 during IMTEX 2011 and comprised participation of 16 students of mechanical engineering course from eight engineering institutions.



ACTIVITIES DURING 2010 - 2011

Participating students were taken through a guided tour to the entire exhibition and were hand-held by 'UDAAN' members, who explained to them in detail about the machines on display and its technological and other features. The young budding engineers were also witness to actual shop-floor operations in a manufacturing set-up, through 'live' demos in Ace Designers Limited.

Interactive Meeting & Plant Visit to Jai Bharat Maruti



For IMTMA Regional Council (North) members the Association organised an interactive meeting and plant visit to Jai Bharat Maruti Limited on 29 July 2010 in Gurgaon. Executives from JBM made an interesting presentation about their advanced manufacturing systems, which includes excellent

press line, weld line, surface treatment and exhaust line. The company also shared their experiences of using Indian and imported machine tools and manufacturing solutions in their manufacturing shop-floor.

Mr. R. D. Madan, Chairman of IMTMA Regional Council (North), assured of their complete support and commitment of the Indian machine tool industry to further strengthening JBM's manufacturing technology requirements.

Interactive Meeting & Plant Visit to Shriram Pistons & Rings

Yet another interactive meeting and plant visit was scheduled for IMTMA Regional Council (North) [RCN] members to Shriram Pistons and Rings Limited (SRPL) on 07 May 2011 in Ghaziabad. A thought-provoking presentation was made by SRPL on its HR initiatives as well as about its multifarious technological developments. Key challenge for the company pertains to new technologies – ones which increase productivity and validate costs.

Executives from SRPL shared key issues on quality, reliability and technology aspects of metalworking machine tools and manufacturing solutions. RCN members, present at the meeting, assured SRPL of further enhancing standards so as to enable the company to be globally competitive.

77th UFI Congress, Marina Bay Sands (MBS) Singapore



BIEC Participated in the 77th UFI Congress, Singapore from 10 to 13 November 2010. More than 450 delegates & Strategic thinkers from 56 countries attended the forum from the global exhibition industry. BIEC was the Diamond sponsor of the event. Besides the event became a forum to network with the exhibition industry representatives.

UFI Global CEO Forum and 2nd UFI Forum Meeting on Sustainability Development

The Third UFI Global CEO Forum for Exhibition Organisers (UCF) was hosted by PalExpo in Geneva, Switzerland from February 9-11, 2011. BIEC sponsored the Programme book of 2011 Global CEO Forum for Exhibition Organisers. Later in the same month on 23rd February UFI had organized its 2nd Focus Meeting on Sustainability Development in Bangkok, Thailand. The meeting

was hosted by Thailand Convention and Exhibition Bureau (TCEB) and attended by 60 participants from 14 countries and regions.



UFI President Visits BIEC

UFI President Mr Eric Edward visited BIEC on 22 March 2011 where Edward appreciated the international standard of amenities offered at BIEC. The visit concluded with a Dinner organized at Taj West End, in presence of the key exhibition organizers in India.





IEIA Open Seminar and Special General Meeting

The First Indian Exhibition Industry Association (IEIA) Open Seminar was held from 24 to 25 April 2011 at The Leela Kempinski, New Delhi. It received great response from international and national exhibition industry with presence of more than 150 delegates. BIEC marked its brand presence by sponsoring the dinner for the event. The programme was attended by Mr Subodh Kant Sahai, Minister of Tourism, Government of India, Mr. Eric Everard, President of UFI, Mr. Paul Woodward, Managing Director, UFI, Mr. Ashwani Pande CEO Koelnmesse India and Mr. Anil Arora and Mr. Indra Mohan, Secretary and President, IEIA respectively. The Indian Exhibition Industry



Association (IEIA) also met for the third session of its special general meeting (SGM), on 27th August 2010 which was held at BIEC, Bangalore. The meeting was open for existing members as well as prospective members of the organization.

Optimism of a buoyant global manufacturing demand, led to mighty gains for the world machine tool industry, in particular for most of the Asian builders. Turnover by the 28 principal machine tool manufacturing countries totalled 66.3 billion US Dollars in 2010, and represented a gain of 21 % over the previous year.

Global Production

Key highlight of the global performance during January - December 2010 was continued Chinese dominance. China – for years has been the largest machine tool consuming country. In 2009, it became the largest manufacturing nation as well. For 2010, that leadership continued – making substantial gains in shipments leading to a further enhanced share of total world production to 30 %.

Japan bounced back smartly to achieve a growth of 69 % in 2010 as well as retain the second position in the global ranking of the leading machine tool players. The gap, however, between the numero uno China and Japan was substantially large, making it an arduous task for the latter to catch even in the next few years.

2010 was equally a year of delight for the other Asian performers – Korea, Taiwan and India. All three countries grew at over 65 % and secured leading positions of fifth, sixth and thirteenth, respectively in the overall production ranking.

Sluggish market conditions in Europe led to a slump in fortunes in most of its machine tool manufacturing countries during calendar year 2010. Germany, Italy, Switzerland, Austria, Spain, France, Czech Republic, Netherlands, Belgium – either had flat growth or witnessed decline in production. United Kingdom managed a marginal 7 % growth.

United States of America mirrored a similar business scenario – dropping by 9 % in total machine tool turnover; and falling to the eighth position in 2010. It's the second successive year of decline for United States – with production worth 2,026 million US Dollar, being less than half of what it achieved in 2008.

With Asia being seen as the future destination for global machine tool market, it is expected that 2011 would be the year of resurgence for all regions across the board.

World Trade

Exports of metalworking machine tools by 28 countries in 2010 totalled 32.7 billion US Dollars, registering a 18 % increase – almost maintaining parity with global turnover.

Japan was the largest exporter of metalworking machine tools, followed by Germany. While the former recorded a quantum 86 % growth in export orders, the latter had a decline of 9 % over the previous year of 2009. Among other key manufacturing countries that made substantial percentage increases in machine tool exports last year included Taiwan, China and Korea.

Global imports fared better with a higher growth of 23 % on a total machine tool shipment worth 26.2 billion in 2010. China, as usual, led the pack, with an estimated 9.1 billion US Dollars worth of metalworking machine tools shipped in; and topping it with a 54 % increase over. It was followed by United States, Germany and Korea. Except for Korea, the other two countries registered a fall during January - December 2010.

Overall Consumption

On consumption side, China is estimated to have made further gains, via boosts in both imports and domestic production, and thus is far and away the world's largest consumer of machine tools. By value, four out of every ten machine tools produced anywhere in the world last year went into a Chinese factory.

Germany was a way distant second, followed by Japan and Korea. Except Germany, the rest of the top three Asian countries had a healthy growth in their consumption intake.

As a bloc, five Asian nations (China, Japan, Taiwan, South Korea and India) account for 39.2 billion US Dollars worth of consumption. The global consumption of metalworking machine tools during January - December 2010 stood at 59.8 billion US Dollars, representing a 19 % overall growth over the previous year.



Global Machine Tool Production

Annual Report 2010 - 2011

Rank	Country	2010			2009	Change in US Dollars
		(Value in US \$ million)			(Value in US \$ million)	
		Total	Cutting	Forming	Total	
1.	People's Republic of China	19,980.0	73 %	27 %	15,300.0	31 %
2.	Japan	11,841.7	89 %	11 %	7,007.0	69 %
3.	Germany	9,749.9	70 %	30 %	10,800.1	-10 %
4.	Italy	5,166.4	53 %	47 %	5,242.2	-01 %
5.	Republic of Korea	4,498.0	69 %	31 %	2,758.0	63 %
6.	Taiwan (ROC)	3,803.3	77 %	23 %	2,266.4	68 %
7.	Switzerland	2,185.4	84 %	16 %	2,164.5	01 %
8.	United States	2,026.2	72 %	28 %	2,218.9	-09 %
9.	Austria	908.9	64 %	36 %	897.4	01 %
10.	Spain	812.0	66 %	34 %	1,035.9	-22 %
11.	Brazil	714.2	81 %	19 %	714.2	00 %
12.	Turkey	555.0	26 %	74 %	441.3	26 %
13.	India	525.0	86 %	14 %	278.0	89 %
14.	France	503.4	70 %	30 %	557.6	-10 %
15.	United Kingdom	471.0	72 %	28 %	438.4	07 %
16.	Canada	459.6	62 %	38 %	434.0	06 %
17.	Netherlands	369.6	20 %	80 %	369.9	00 %
18.	Czech Republic	346.0	90 %	10 %	433.0	-20 %
19.	Belgium	316.6	10 %	90 %	368.5	-14 %
20.	Sweden	249.7	44 %	56 %	233.3	07 %
21.	Russia	239.7	59 %	41 %	229.3	05 %
22.	Finland	151.0	10 %	90 %	153.0	-01 %
23.	Mexico	132.5	52 %	48 %	132.5	00 %
24.	Australia	129.9	96 %	04 %	32.0	306 %
25.	Denmark	76.8	40 %	60 %	80.6	-05 %
26.	Portugal	49.0	08 %	92 %	62.6	-22 %
27.	Romania	34.7	71 %	29 %	36.4	-05 %
28.	Argentina	33.3	43 %	57 %	26.7	25 %
Total		66,328.9			54,711.7	21 %

Credit & Source : Gardner Publications, Inc.

Global Machine Tool Consumption



Annual Report 2010 - 2011

Rank	Country	2010	2009	Change in US Dollars
		(Value in US \$million)		
1.	People’s Republic of China	27,280.0	19,790.0	38 %
2.	Germany	5,033.9	5,798.4	-13 %
3.	Japan	4,445.3	3,239.5	37 %
4.	Republic of Korea	4,264.0	2,679.0	59 %
5.	Italy	2,768.7	2,799.1	-01 %
6.	United States	2,752.3	3,245.6	-15 %
7.	India	1,740.0	1,205.0	44 %
8.	Taiwan (ROC)	1,505.5	867.5	74 %
9.	Brazil	1,488.3	1,488.3	00 %
10.	Russia	1,243.0	1,189.0	05 %
11.	Mexico	1,012.6	1,012.6	00 %
12.	Turkey	834.0	580.2	44 %
13.	Switzerland	824.3	909.1	-09 %
14.	Canada	783.2	738.4	06 %
15.	France	680.9	851.0	-20 %
16.	Spain	494.1	557.6	-11 %
17.	Austria	487.9	633.5	-23 %
18.	United Kingdom	401.5	381.2	05 %
19.	Netherlands	314.0	314.3	00 %
20.	Belgium	266.3	324.0	-18 %
21.	Sweden	254.1	466.2	-45 %
22.	Australia	250.8	180.0	39 %
23.	Romania	204.1	214.2	-05 %
24.	Argentina	141.1	145.9	-03 %
25.	Czech Republic	128.0	226.0	-43 %
26.	Finland	98.0	166.9	-41 %
27.	Portugal	96.7	112.6	-14 %
28.	Denmark	82.1	86.2	-05 %
Total		59,874.7	50,201.3	

Apparent Consumption = Country's Production less Exports plus Imports.

Credit & Source : **Gardner Publications, Inc.**



TRENDS IN INDIAN MACHINE TOOL INDUSTRY

Annual Report 2010 - 2011

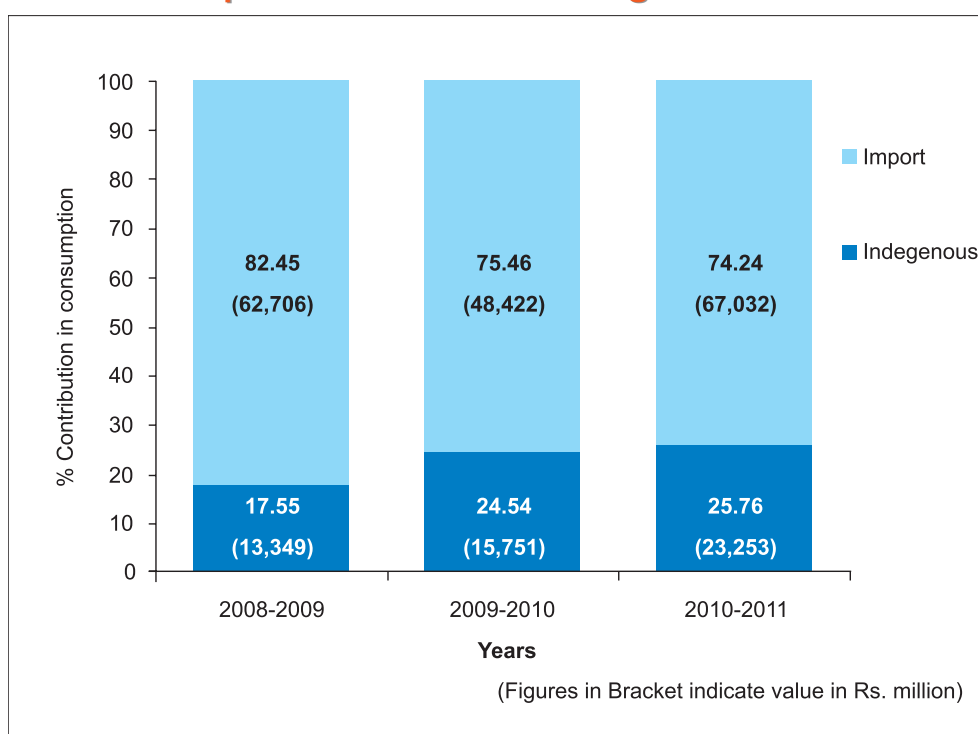
Production of Metalworking Machine Tools

	Years					
	2008 - 2009		2009 - 2010		2010 - 2011	
Machine tool segments	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)
Metal-Forming						
CNC	201	358.00	208	386.55	544	455.17
Conventional	273	1,878.00	378	2,247.35	683	2,628.62
Total Metal-Forming	474	2,236.00	586	2,633.90	1227	3,083.79
Metal-Cutting						
CNC	3,437	8,242.00	4,460	10,843.27	7203	17,043.12
Conventional	1,910	3,766.00	2,586	3,084.68	3016	4,031.40
Total Metal-Cutting	5,347	12,008.00	7,046	13,927.95	10219	2,1075.52
Total Metalworking of which	5,821	14,244.00	7,632	16,561.85	11446	24,158.32
CNC	3,638	8,600.00	4,668	11,229.82	7747	17,498.30
Conventional	2,183	5,644.00	2,964	5,332.03	3699	6660.02
Members reporting data	66		79		89	

Export of Metalworking Machine Tools

Machine tool segments	Years					
	2008 - 2009		2009 - 2010		2010 - 2011	
	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)
Metal-Forming						
CNC	5	11.00	0	0.00	1	0.8
Conventional	20	324.00	10	249.83	44	60.97
Total Metal-Forming	25	335.00	10	249.83	45	61.77
Metal-Cutting						
CNC	187	465.00	92	524.31	195	727.84
Conventional	47	95.00	39	35.87	80	115.20
Total Metal-Cutting	234	560.00	131	560.18	275	843.04
Total Metalworking of which	259	895.00	141	810.01	320	904.80
CNC	192	476.00	92	524.31	236	730.64
Conventional	67	419.00	49	285.70	84	174.17

Consumption of Metalworking Machine Tools





NEW PRODUCTS DEVELOPED BY MEMBERS IN 2010 - 2011

Ace Designers Limited

- Twin turret machine [Model Vantage Dio].
- Sub-spindle turn-mill machine [Model LT 2 XL 500 MS].
- Small-size CNC lathe [Model Apollo].
- CNC centre lathe [Model Simple Turn 40100].
- Gantry loading machine [Model LT-2 XL Gantry Loader].
- Standard jobber LM-fitted with ACE digi-CNC system.

Amount spent on R&D : Rs. 47.3 million.

Ace Manufacturing Systems Limited

- Compact twin-spindle vertical machining centre with pallet changer [Model Gemini Junior].
- Medium-sized vertical machining centre [Model Acer].
- Large-size vertical machining centre [Model MCV 700].
- Compact horizontal machining centre, with BT40 spindle and automatic pallet changer [Model Proton 40].
- Large horizontal machining centre [Model MCH 630].

Amount spent on R&D : Rs. 30.0 million.

Arsun Engineers

- Portable radial drilling machine with universal drill head; with drilling cap 30 mm [Model 'ARSUN' UR30].

Amount spent on R&D : Rs. 0.2 million.

Batliboi Limited

- CNC turning centre – with one metre admit between centre CNC lathe [Model Sprint 25 TC].
- CNC turning centre [Model Sprint 16 TC Junior].
- Radial drilling machine - 80 mm drill [Model BR 825].
- Radial drilling machine - 100 mm drill [Model BR 1030].
- CNC trainer series machine [Model CNC drilling centre - BTDC].
- Travelling column radial drilling machine 100 mm drill [Model 100mm - BMCR 100].
- Vertical machining centre [Model Chetak 35 MC].
- Vertical turning CNC lathe 630 [Model VTL 630].

Amount spent on R&D : Rs. 15.5 million.

Bharat Fritz Werner Limited

- CNC pipe-end chamfering machine.
- CNC line boring machine.
- CNC vertical milling machine [Model 'Sahaj'].
- CNC horizontal machining centre [Model 'Saksham'].

Amount spent on R&D : Rs. 49.5 million.

Crane-Bel International Private Limited

- Complete contamination monitoring and control unit with laser particle counter [Model "SYSTEMGUARD-PC"].
- Range of proactive maintenance products – including offline filtration machine, H₂O – pro-water removal spin-on Filter, H₂O – gate for restricting water moisture to enter oil reservoir and allowing water moisture to exit.

NEW PRODUCTS DEVELOPED BY MEMBERS IN 2010 - 2011



- Diametrically-controlled pressure control valve – for perfect stabilisation of pressure in system.

Amount spent on R&D : Rs. 2.0 million.

Electropneumatics & Hydraulics (India) Private Limited

- 5-axes CNC tube benders [Model 90 CNC 6X3].
- 3-axes CNC tube benders [Model 400 CNC 3X].
- CNC chassis long member punching machine with web and flange.
- Finned tube bender.
- AC servo drives for missile launchers.

Amount spent on R&D : Rs. 76.0 million.

Ferromatik Milacron India Private Limited

- Shuttle blow-moulding machine [Model UMS 25].
- Two platen maxima large tonnage machine [Model 1300 T and 1800 T].
- All electric machine [Model Elektron 350 T].

Amount spent on R&D : Rs. 49.5 million.

HMT Machine Tools Limited

- CNC drill mill centre [Model DMC 400].
- CNC 4-axis internal grinding machine [Model GI 400 CNC].
- CNC 5-axis heavy-duty centreless grinding machine with auto loading / unloading, auto balancing facility [Model CLG 310 x 500 CNC].

Amount spent on R&D : Rs. 21.0 million.

Ind-Sphinx Precision Limited

- Ultra micro drills dia 0.030 (30 microns).
- Single flute end mills for plastic / soft material machining.
- Micro coolant hole drills from dia 0.50 mm onwards.

Amount spent on R&D : Rs. 0.5 million.

Jyoti CNC Automation Private Limited

- Double-column vertical machining centre (NX series).
- Moving-column machining centre (EXF series / EXP series).
- Heavy-duty CNC turning centre [Model DX 500].
- Vertical machining centres (PX series).
- High-speed vertical machining centre, with automatic pallet changer [Model SX6].
- Special purpose turning centre for billet radius machining, with auto loading system.
- High-speed 5-axis machining centre, with automatic pallet changer [Model K3X8 Five].

Micromatic Grinding Technologies Limited

- Hydraulic cylindrical grinding machine; max swing 440 and ABC - 3000 mm [Model GCHE 440 x 3000].
- CNC angular grinding machine; max swing - 500, ABC- 3000, wh size - 760 x 180 power; 22 Kw and job; weight 800 kgs [Model H - grind 500 x 3000].
- CNC angular grinding machine; max swing - 500, ABC - 2000, wh size - 760 x 120 power; 22 Kw and job; weight 500 kgs [Model H - grind 500 x 2000].
- Production grinder with conveyor and robotic loading / unloading of components.



NEW PRODUCTS DEVELOPED BY MEMBERS IN 2010 - 2011

- Heavy-duty external CNC grinding machine [Model Stallion SH - 100].
- CBN external CNC grinding machine (80MPS) [Model Stallion SH-63 STAT].
- External straight head CNC grinding machine [Model Simple Grind - 50].

Amount spent on R&D : Rs. 15.0 million.

Miven Machine Tools Limited

- CNC lathe machine [Model MMU - 350].

Miven Mayfran Conveyors Private Limited

- Pallet handling conveyors – consisting of powerised roller conveyors and chain conveyors for handling pallets.
- Seat handling conveyors – consisting of roller and chain conveyors for handling car seats.

Amount spent on R&D : Rs. 0.8 million.

Prakash Engitech Private Limited

- Radial drilling machine, with 42 mm cap [Model DC410].
- Radial drilling machine, with 40 mm cap [Model R40 AA].
- Pillar drilling machine, with 40 mm cap [Model P40 AA].

Amount spent on R&D : Rs. 0.5 million.

Prasad NC Machine Systems Private Limited

- Gantry-type turning and machining centre [Model GTMC 5000].
- CNC vertical turn-mill turret with 'Y' axis column movement [Model SVT 18].

- CNC RAM-type horizontal floor-type boring machine.
- CNC travelling-column vertical machining centre, with 5,000 mm travel.
- CNC travelling-column horizontal machining centre, with 6,000 mm travel.

Amount spent on R&D : Rs. 50.0 million.

Premier Limited

- CNC high-speed gear hobbing machine, with direct drives and dry-cutting option [Model PHC - 150].
- CNC high-speed gear shaping machine, with direct drives and electronic helical path generation [Model PSC - 250].
- CNC gear shaving machine – import substitute [Model PSS - 300].
- CNC gear hobbing machine, having table diameter 400 mm [Model PHA - 400].
- CNC vertical machining centre – for special applications of die and mould machining [Model PVM - 40].
- CNC vertical turning centre, with C axis and live tool [Model PTB - 125].
- CNC vertical turning centre, with machining centre cum turning centre concept [Model VTMC - 80].
- CNC vertical turning centre with C axis and live tool [Model PTA - 40].
- Double-column CNC vertical turning centre, with moving cross-rail accommodating maximum load carrying capacity of 55 tonnes on table [Model PTD - 6000].

Amount spent on R&D : Rs. 31.1 million.

NEW PRODUCTS DEVELOPED BY MEMBERS IN 2010 - 2011



Wendt (India) Limited

- Profile grinding and dressing machine with video vision system [Model WDM 8V / 15V].
- High-precision rotary surface grinding machine, with vertical spindle [WRS 600 V].
- CNC notch-milling machine, for TC Rolls [Model Wentcut 405].
- Roll grinding machine (hydraulic) [Model WGM 20].
- Honing machines (horizontal and vertical spindle) [Models E1000S, E2000S and Powerhone].
- Speed testing machine [Model WST 500].
- Resin-bond diamond centreless grinding wheel for PCD.
- Metal-bond diamond wheel, for insert grinding.
- Metal-bond core drill, for dolomite brick and RCC.
- Electroplated-CBN wheel, for surgical-knee joint grinding.
- Vitrified CBN wheel, for chilled cast iron cam /journal grinding.

- Vitrified CBN wheel, for cast iron roll grinding for paper mills.
- Vitrified CBN centreless grinding wheel, for valve stem.
- Vitrified diamond wheel, for PCD / PCBN tool lapping and reconditioning.
- Precision dressing rolls, for aerospace.
- Precision dressing rolls, for crankshaft, taps and threads.
- Precision dressing rolls, for CV joint and turbo charger.
- Honing sticks, for hydraulic valve, barrel and steering pump.
- Honing sleeve, for compressor block.
- Segmented wheel, for ID grinding.
- Brazed diamond wheels, for concrete wall grinding, finishing and hacking.
- Brazed diamond tools, for drilling of dolomite.
- PCD guide ring assembly, for taper roller bearing radius lapping.

Amount spent on R&D : Rs. 22.7 million.



ISO CERTIFIED IMTMA MEMBERS

- ◆ Abhijat Equipments Private Limited
- ◆ Abro Balancing Private Limited
- ◆ Ace Designers Limited
- ◆ Ace Manufacturing Systems Limited
- ◆ Airtorq India
- ◆ Apex Industries
- ◆ Arihant Industrial Corporation Limited
- ◆ Artech Welders Private Limited
- ◆ Ashok Manufacturing Company Private Limited
- ◆ Batliboi Limited
- ◆ Bemco Hydraulics Limited
- ◆ Bharat Fritz Werner Limited
- ◆ Birla Kennametal Limited
- ◆ Bosch Limited
- ◆ Bosch Rexroth (India) Limited
- ◆ CMH Tools Limited
- ◆ Carborundum Universal Limited
- ◆ Crane-Bel International P. Limited
- ◆ Denison Hydraulics India Limited
- ◆ EFD Induction Limited
- ◆ EPE Process Filters & Accumulators Private Limited
- ◆ Electronica Machine Tools Limited
- ◆ Electropneumatics & Hydraulics (India) Private Limited
- ◆ Ferromatik Milacron India Limited
- ◆ Fenwick and Ravi
- ◆ Fluid Logic Systems Private Limited
- ◆ Fluro Engineering Private Limited
- ◆ Geeta Machine Tools Private Limited
- ◆ Godrej & Boyce Manufacturing Company Limited
- ◆ HMT Machine Tools Limited
- ◆ Hasolon Nylon Products Private Limited
- ◆ Heavy Engineering Corporation Limited
- ◆ Hi-Life Machine Tools (Private) Limited
- ◆ Hindustan Hydraulics Private Limited
- ◆ I S G E C
- ◆ Imperial Products of India
- ◆ Ind-Sphinx Precision Limited
- ◆ Jyoti CNC Automation Private Limited
- ◆ Jyoti Enterprise
- ◆ Kennametal India Limited
- ◆ Khushbu Engineers
- ◆ Kirpekar Engineering (Private) Limited
- ◆ Kulkarni Power Tools Limited
- ◆ Lakshmi Machine Works Limited
- ◆ Lokesh Machines Limited
- ◆ Machine Tool Prototype Factory
- ◆ Machine Tools Traders (Madras)
- ◆ Macpower CNC Machines (Private) Limited
- ◆ Micro Engineering Works
- ◆ Micromatic Grinding Technologies Limited
- ◆ Mikronix Gauges Private Limited
- ◆ Miven Mayfran Conveyors Private Limited
- ◆ Modern Machine Tools
- ◆ Modern Precision Tools Private Limited
- ◆ Mogora Cosmic Private Limited
- ◆ Neel Controls
- ◆ Nugen Machineries Limited
- ◆ Oriental Engineering Works Private Limited
- ◆ PMT Machines Limited
- ◆ Parishudh Machines Private Limited

ISO CERTIFIED IMTMA MEMBERS



Annual Report 2010 - 2011

- | | |
|--|---|
| ◆ Pinnacle Engineering Enterprise | ◆ State Engineering Corporation |
| ◆ Praga Tools Limited | ◆ Stuser Tools Private Limited |
| ◆ Prasad NC Machine Systems Private Limited | ◆ Suhas Hydrosystems Private Limited |
| ◆ Precihole Machine Tools Private Limited | ◆ Sunmas Machine Tools Private Limited |
| ◆ Premier Limited | ◆ TAL Manufacturing Solutions Limited |
| ◆ Presswel Industries | ◆ TMC Measuring Instruments Private Limited |
| ◆ Pricol Limited | ◆ Taegutec India Limited |
| ◆ Quality Engineering (Baroda) Private Limited | ◆ Uday Computer Aided Manufacturing (Private) Limited |
| ◆ Rattan Hammers | ◆ Unique Instruments & Manufacturers Private Limited |
| ◆ Ravjeet Engineering Specialities Private Limited | ◆ Unique Saws & Machinery Private Limited |
| ◆ SRB Machines Private Limited | ◆ Uttam Power Tools Private Limited |
| ◆ Sandvik Asia Limited | ◆ Wendt (India) Limited |
| ◆ Seco Tools India (Private) Limited | ◆ Yuken India Limited |
| ◆ Shri Balaji Engineering Works | |
| ◆ Speedfam (India) Private Limited | |



NEW MEMBERS ENROLLED DURING 2010 - 2011

Annual Report 2010 - 2011

Members Enrolled from April 2010 to March 2011

A. P. M. ENTERPRISES PRIVATE LIMITED

Kanganwal Road
Industrial Area - C, Jaspal Bangar
Ludhiana - 141 122
Punjab.
[Manufacturer : Accessories for machine tools]

BIRSON INDUSTRIES (REGD.)

262, Industrial Area - A
Ludhiana - 141 003
Punjab.
[Manufacturer : Accessories for machine tools]

COBRA CARBIDE PRIVATE LIMITED

54, Bommasandra Jigani Link Road
Industrial Area, Phase - IV
Bangalore - 560 099
Karnataka.
[Manufacturer : Metal-cutting machine tools]

COSMOS ENGITECH PRIVATE LIMITED

'Cosmos House'
85 / 2, Atladara, Padra Road
Vadodara - 390 012
Gujarat.
[Manufacturer : Accessories for machine tools]

COSMOS GRINDING TECHNOLOGY PRIVATE LIMITED

'Cosmos House'
85 / 2, Atladara, Padra Road
Vadodara - 390 012
Gujarat.
[Manufacturer : Metal-cutting machine tools]

DALJIT ENGINEERING WORKS

Plot No. 880
Industrial Area - A
Ludhiana - 141 003
Punjab.
[Manufacturer : Accessories for machine tools]

DANOBAT GRUPO MACHINE TOOLS INDIA PRIVATE LIMITED

Row House - 21
Aditya Breeze Park
Balewadi
Pune - 411 045
Maharashtra.
[Distributor : Metal-cutting machine tools]

DOOSAN INFRACORE INDIA PRIVATE LIMITED

106 / 10 - 11 - 12, Amrutahalli, Bellary Road
Byatarayanpura Post
Bangalore - 560 092
Karnataka.
[Distributor : Metal-cutting machine tools]

DRUPE ENGINEERING PRIVATE LIMITED

B - 29 / 2, M. I. D. C.
Taloja
District Raigad
Navi Mumbai - 410 208
Maharashtra.
[Manufacturer : Accessories for machine tools]

ELECTRONICA FINANCE LIMITED

'Kailaschandra'
S. No. 128 / 1 A, Paud Road, Kothrud
Pune - 411 038
Maharashtra.
[Services : Financing for metalworking machine tools]

HYT ENGINEERING COMPANY PRIVATE LIMITED

701 'A' Block
"Navrang House"
Kasturba Gandhi Marg
Connaught Place
New Delhi - 110 001
NCT.
[Manufacturer : Metal-cutting machine tools]

HAAS AUTOMATION INDIA PRIVATE LIMITED

Plot EL - 35, T. T. C. Industrial Area
M. I. D. C., Mahape
Navi Mumbai - 400 709
Maharashtra.
[Distributor : Metal-cutting machine tools and accessories for machine tools]

HARKARAM ENTERPRISES

7166, New Janta Nagar
Daba Road, Street No. 15
Ludhiana - 141 003
Punjab.
[Manufacturer : Metal-cutting machine tools and accessories for machine tools]

NEW MEMBERS ENROLLED DURING 2010 - 2011



HEIDENHAIN OPTICS & ELECTRONICS INDIA PRIVATE LIMITED

Ground Floor, Citi Lights Corporate Centre
1 - Vivekananda Road
Off. Spurtank Road, Chetpet
Chennai - 600 031
Tamil Nadu.

[Services : Electronics for metalworking machine tools]

INSPECS METROLOGY (INDIA) PRIVATE LIMITED

S N. 43 / 3, Gat No. 322
Pune-Paud Road, Piranguttal Mulshi
Pune- 412 108
Maharashtra.

[Manufacturer : Accessories for machine tools]

INTERNATIONAL ENGINEERS CORPORATION

B - XXI, 1254 Janta Nagar
Street No. 40, Ludhiana - 141 003
Punjab.

[Manufacturer : Metal -cutting machine tools]

JASMER MACHINE TOOLS

B - XXII, 693 Gill Road
Opp. State Bank of Patiala
Ludhiana - 141 003
Punjab.

[Manufacturer: Metal-cutting machine tools]

KALPAR ENGINEERS PRIVATE LIMITED

Plot No. 1809
Phase - IV, G. I. D. C.
Wadhwan - 363 035
Gujarat.

[Manufacturer : Accessories for machine tools]

KANEFUSA INDIA PRIVATE LIMITED

Plot No. 232, Sector - 8
I. M. T. Manesar
Gurgaon - 122 050
Haryana.

[Distributor : Accessories for machine tools]

KAROLIN MACHINE TOOL PRIVATE LIMITED

Unit No. 2 & 3, Ground Floor
Shrishti Plaza Commercial Building
Indian Cork Mills Compound
Off. Saki Vihar Road, Powai
Mumbai - 400 072
Maharashtra.

[Manufacturer : Metal-cutting machine tools]

KASHMIR MACHINE TOOLS (REGD.)

Street No. 5
Bhai Himmat Singh Nagar, Dugri
Ludhiana - 141 002
Punjab

[Manufacturer : Metal-cutting machine tools and accessories for machine tools]

MTE INDUSTRIES PRIVATE LIMITED

No. 58 / A, S. V. Cooperative Industrial Estate
Balanagar, Hyderabad - 500 037
Andhra Pradesh.

[Manufacturer : Metal-forming machine tools]

MATHAROO & MATHAROO INC

Plot No. 883, Industrial Area - A
Ludhiana - 141 003
Punjab.

[Manufacturer: Metalworking machine tools and accessories for machine tools]

MULTIDIMENSIONS

Office No. 24
Ghanshyam Bhavan CHS Limited
Ground Floor, Plot No .10
Sector - 3, Ghansoli
Navi Mumbai - 400 701
Maharashtra.

[Distributors : Accessories for machine tools]

NEW UNITED ENGINEERING WORKS

G. T. Road, Miller Ganj
Ludhiana - 141 003
Punjab.

[Manufacturer : Metal-cutting machine tools and accessories for machine tools]

ORBITAL SYSTEMS (BOMBAY) PRIVATE LIMITED

F - 129, Ansa Industrial Estate
Saki Vihar Road
Andheri (East)
Mumbai - 400 072
Maharashtra.

[Manufacturer : Accessories for machine tools]

POSSIBLE AUTOTECH ENGINEERS

C/o B. M. Engineers
Near Aarti Chowk
Ferozpur Road
Ludhiana- 141 003
Punjab.

[Manufacturer : Metal-cutting machine tools]



NEW MEMBERS ENROLLED DURING 2010 - 2011

PRAKASH ENGITECH PRIVATE LIMITED

Plot No. 13
"Sukh Sagar Society", Vijayraj Nagar
Bhavnagar - 364 001
Gujarat.
[Manufacturer : Metal-cutting machine tools]

PRECISION BEARINGS PRIVATE LIMITED

205 C 'Eastern Court'
Tejpal Road, Vile Parle (East)
Mumbai - 400 057
Maharashtra.
[Manufacturer : Accessories for machine tools]

PRECISION MACHINE TOOL

16 / 1
Gopinath Estate Part - II
Swaminarayan Chamber
Soni NI Chali Char Rasta, Odhav
Ahmedabad- 382 425
Gujarat.
[Manufacturer : Metal-cutting machine tools]

R. S. HYDRAULICS

Dashmesh Nagar
Street No.13, Gill Road
Ludhiana - 141 003
Punjab.
[Manufacturer : Metal-cutting machine tools]

S. S. TOOLS (INDIA) PRIVATE LIMITED

234, Second Floor, Ajmeri Gate
Delhi - 110 006
NCT.
[Distributor : Accessories for machine tools]

SADHU ENGINEERING WORKS

235, Industrial Area - A
Ludhiana - 141 003
Punjab.
[Manufacturer : Metal-forming machine tools]

SAHAJANAND LASER TECHNOLOGY LIMITED

E - 30, G. I. D. C.
Electronic Estate, Sector - 26
Gandhinagar- 382 028
Gujarat.
[Manufacturer : Metalworking machine tools]

SIGMA ENGINEERS

Plot No. 2
Building No. 9
Purna Nagar
Behind RTO Office
Chinchwad
Pune - 411 019
Maharashtra.
[Manufacturer : Accessories for machine tools]

SOLAR DIAMOND

213 Bhaveshwar Complex
Near Railway Station
Vidya Vihar (West)
Mumbai- 400 086
Maharashtra.
[Manufacturers & exporters : Cutting tools and tooling systems]

STARRAGHECKERT MACHINE TOOLS PRIVATE LIMITED

No. 349 / 350,
9th Cross, 4th Phase
Peenya Industrial Area
Bangalore - 560 058
Karnataka.
[Distributor : Metal-cutting machine tools]

SUPER THREADING INDIA PRIVATE LIMITED

C - 138
Phase - V
Focal Point
Ludhiana
Punjab.
[Manufacturer : Accessories for machine tools]

YG CUTTING TOOLS CORPORATION PRIVATE LIMITED

25 / 3
BSA Tech Park
Sitarampalya
Hoodi Industrial Area
Bangalore - 560 048
Karnataka.
[Manufacturer : Accessories for machine tools]

**Total Membership of IMTMA
as on 31 March 2011 : 470 members**

MACHINE TOOL MAKERS SEEK ₹ 2,000 CR FUND

REPORTER
Bangalore, 5 January

The Indian machine tool makers, who are facing a huge demand following the resurgence of the economy and automobile industry, have urged the government to set up a corpus of ₹ 2,000 crore to meet the growing demand for new machine tools.

Machine tool industry calls for cheaper funds

BANGALORE: The Indian machine tool industry has urged the government to make available funds at competitive rate of interest to fund their capacity expansion programmes in order to meet the growing demand from user industries.

Indian Machine Tool Manufacturers' Association (IMTMA), Chairman—Exhibitions, Jamshydn Godrej said, "The sector is witnessing huge demand for products from the manufacturing sector, but owing to capacity constraints machine tool manufacturers are unable to meet the demands."

The industry needs to access funds at lower rate of interest so that they can expand their capacities rapidly to meet the growing demand from user industries like automobile and components sector. It would also help the industry compete with global companies actively, he added.

According to Deccan Herald on sidelines of IMTEX 2011, he said, "The industry needs to invest in the next three years to meet the growing demand from the automobile sector, which is expected to see a volume of 5.5 million passenger cars and 25 million two-wheelers by 2015."

The IMTMA in its pre-budget memorandum has asked for a corpus of ₹ 2,000 crore to fund machine tool clusters across the country.

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Machine tool industry sees a surge in local demand

REPORTER
Bangalore, 5 January

The Indian machine tool industry is witnessing a surge in local demand following the resurgence of the economy and automobile industry. The industry has urged the government to set up a corpus of ₹ 2,000 crore to meet the growing demand for new machine tools.

MACHINE TOOL INDUSTRY SEE LOW COST FUNDS FOR EXPANSION

REPORTER
Bangalore, 20 January

The Indian machine tool industry, the mother of all manufacturing sectors, has urged the government to make available funds at competitive rate of interest to fund their capacity expansion programmes in order to meet the growing demand from user industries.

Indian Machine Tool Manufacturers' Association (IMTMA), Chairman—Exhibitions, Jamshydn Godrej said, "The sector is witnessing huge demand for products from the manufacturing sector, but owing to capacity constraints machine tool manufacturers are unable to meet the demands."

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City to host IMTEX 2011 from Jan 20-26

BANGALORE DHNS: The Indian Metal-Cutting Machine Tool Exhibition (IMTEX) 2011, international exhibition on metal-cutting machine and manufacturing solutions, will be held from January 20-26 at Bangalore International Exhibition Centre (BIEC) on Tumkur Road.

Spread across 40,000 sq. mt, it will feature over 80 exhibitors and 750 machines with total value of Rs 1,400 crore. IMTMA Media Chairman Shailesh Sheth said, "The exhibition will showcase an exhaustive range of innovations and technological refinements in the complete product segment of metal cutting machine tools. Concurrently, Tooltech 2011 international exhibition of cutting tools, tooling systems, machine tool accessories and metrology will feature newest trends in cutting tools and tooling systems from all across globe."

IMTMA past president C.P. Rangachar said, "The industry will be investing Rs 2,000 crore over the next 10 years on technology development."

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ಅಶಿಯಾನಾ ಸೌಖ್ಯ ಪ್ರದರ್ಶನ

ಬೆಂಗಳೂರಿನಲ್ಲಿ 20-26 ಜನವರಿ 2011 ರಂದು ಅಶಿಯಾನಾ ಸೌಖ್ಯ ಪ್ರದರ್ಶನ ನಡೆಯಲಿದೆ. ಈ ಪ್ರದರ್ಶನದಲ್ಲಿ ವಿವಿಧ ರೀತಿಯ ಮೆಷಿನ್‌ಗಳು ಮತ್ತು ಉಪಕರಣಗಳನ್ನು ಪ್ರದರ್ಶಿಸಲಾಗುತ್ತದೆ. ಇದು ಏಷ್ಯಾದಾದ್ಯಂತದ ದೇಶಗಳಿಂದ ಭಾಗವಹಿಸುವವರನ್ನು ಆಕರ್ಷಿಸುತ್ತದೆ.

TAL showcases new machines

BANGALORE DHNS: TAL Manufacturing Solutions Ltd., wholly subsidiary of Tata Motors, on Thursday, showcased new range of machines like vertical machining center VMT 300, V450 RAPC, V650 Twin Spindle, 5-axis and multi production Flexi One.

Machine tool sector seeks Rs 2,000-cr corpus

REPORTER
Bangalore, 20 January

The Indian machine tool industry is witnessing a surge in local demand following the resurgence of the economy and automobile industry. The industry has urged the government to set up a corpus of ₹ 2,000 crore to meet the growing demand for new machine tools.

Indian Machine Tool Manufacturers' Association (IMTMA), Chairman—Exhibitions, Jamshydn Godrej said, "The sector is witnessing huge demand for products from the manufacturing sector, but owing to capacity constraints machine tool manufacturers are unable to meet the demands."

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IMTEX 2011 from January 20

Staff Reporter
Bangalore, 20 January

The 15th Indian Metal-Cutting Machine Tool Exhibition, IMTEX 2011, billed to be the largest in South and South-east Asia, will begin in Bangalore on January 20.

The exhibition, organised by the Indian Machine Tool Manufacturers' Association (IMTMA), will showcase an exhaustive range of innovations and technological refinements in metal-cutting machine tools.

Along with IMTEX, an international exhibition of cutting tools, tooling systems, machine tool accessories and metrology, among others, will be held at the same venue.

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ಯಂತ್ರ ಪ್ರದರ್ಶನ

• ವಿಕ ಸುದ್ದಿಲೋಕ ಬೆಂಗಳೂರು

ಭಾರತೀಯ ಯಂತ್ರೋಪಕರಣ ಉತ್ಪಾದಕ ಸಂಘ (ಐಎಂಟಿಎಂ), ಬೆಂಗಳೂರಿನಲ್ಲಿ 20-26 ಜನವರಿ 2011 ರಂದು ಅಶಿಯಾನಾ ಸೌಖ್ಯ ಪ್ರದರ್ಶನ ನಡೆಯಲಿದೆ. ಈ ಪ್ರದರ್ಶನದಲ್ಲಿ ವಿವಿಧ ರೀತಿಯ ಮೆಷಿನ್‌ಗಳು ಮತ್ತು ಉಪಕರಣಗಳನ್ನು ಪ್ರದರ್ಶಿಸಲಾಗುತ್ತದೆ. ಇದು ಏಷ್ಯಾದಾದ್ಯಂತದ ದೇಶಗಳಿಂದ ಭಾಗವಹಿಸುವವರನ್ನು ಆಕರ್ಷಿಸುತ್ತದೆ.

23 ದೇಶಗಳ 800ಕ್ಕೂ ಹೆಚ್ಚು ಪ್ರದರ್ಶಕರು ಮೇಳದಲ್ಲಿ ಭಾಗವಹಿಸುತ್ತಿದ್ದಾರೆ. 750ಕ್ಕೂ ಹೆಚ್ಚು ಯಂತ್ರಗಳ ಪ್ರದರ್ಶನ ನಡೆಯಲಿದೆ. ಈ ಸಲ ಸಾಗರೋತ್ತರ ದೇಶಗಳ ಪಾಲಕರೇ 55 ರಷ್ಟು ಹಾಜರಾಗಿದ್ದಾರೆ. ಭಾರತೀಯ ವಾಹನ ಉತ್ಪಾದಕ ಸಂಸ್ಥೆ ಮೊದಲಾದ ದೇಶೀಯ ಸಂಸ್ಥೆಗಳು ಪ್ರದರ್ಶನದಲ್ಲಿರುತ್ತವೆ. ಒಂದೆ ಸೂರಿನಲ್ಲಿ ಲೋಹ ಕತ್ತರಿಸುವ ತಂತ್ರಜ್ಞಾನ ಅಭಿವೃದ್ಧಿ ಅಕಾಶ ಸಾರ್ವಜನಿಕರಿಗೆ ಲಭ್ಯ ಎಂದು ಐಎಂಟಿಎಂ ಮಾಧ್ಯಮ ವಿಭಾಗ ಮುಖ್ಯಸ್ಥ ಶೈಲೇಶ್ ಸೇಠ್ ಹೇಳಿದರು.

ಲೋಹ ಕತ್ತರಿಸುವ ಆತ್ಮಾಧುನಿಕ ತಂತ್ರಜ್ಞಾನವನ್ನು ನಾನಾ ಕಂಪನಿಗಳು ಪ್ರದರ್ಶಿಸಲಿವೆ. ಈ ವರ್ಷ 1 ಲಕ್ಷ ವೀಕ್ಷಕರ ಗುರಿ ಹೊಂದಿದ್ದೇವೆ. ಸಾರ್ವಜನಿಕರಿಗೆ ಮುಕ್ತ ಅವಕಾಶವಿದೆ. ಪ್ರವೇಶ ಶುಲ್ಕವಿಲ್ಲದಿದ್ದರೂ, ಏರ್ಪಾಡುಗಳು ಉದ್ಯಮಿಗಳಿಗೆ ಪ್ರತ್ಯೇಕ ಭೇಟಿಯ ಅವಕಾಶವಿದೆ ಎಂದು ಅವರು ತಿಳಿಸಿದರು.

High-level business delegations from the Automotive Component Manufacturers Association, Society of Indian Automobile Manufacturers

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Indian Machine Tool Manufacturers' Association

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