

Annual Report 2009 - 2010



Indian Machine Tool Manufacturers' Association

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INDIAN MACHINE TOOL MANUFACTURERS' ASSOCIATION

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President

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

Vice President

Mr. Vikram Sirur
Executive Vice Chairman
Miven Machine Tools Limited.

Members

Mr. Indradev Babu
Managing Director
Uday Computer Aided Manufacturing Private Limited.

Mr. V. Hemachandra Babu
Managing Director
HMT Machine Tools Limited.

Mrs. Nabonita Baruah
Deputy Chief Executive Officer
Bharat Fritz Werner Limited.
[Resigned from Bharat Fritz Werner Limited in April 2010]

Mr. Maitreya Doshi
Chairman and Managing Director
Premier Limited.

Mr. Satish Godbole
General Manager - Motion Control
Siemens Limited.

Ms. Sonali Kulkarni
President and Chief Executive Officer
FANUC India Private Limited.

Mr. Santanoo Medhi
President
Kennametal India Limited.
[Replaced Mr. Dinakar A., who resigned from Kennametal India Limited in September 2009]

Mr. Vikram Vilas Salunkhe
Managing Director
Accurate Engineering Company Private Limited.

Mr. Deepak S. Shrivastava
Chief Executive Officer - EDM Division
Electronica Machine Tools Limited.

Mr. N. Umesh
Vice President - Industrial Equipment Division
Bosch Limited.

Past Presidents

Mr. Nirmal Bhogilal
Batliboi & Company Limited. *

Mr. N. K. Dhand
Micromatic Grinding Technologies Limited. *

Mr. Jamshyd N. Godrej
Godrej & Boyce Manufacturing Company Private 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 Institute. *

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

Co-opted Members

Mr. Ghanshyam Agrawal
Director
Nagel Special Machines Private Limited.

Mr. Praful S. Shende
President
Vigel Manufacturing Technologies.

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

Invitees

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

Mr. N. K. Balgi
President & 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 - 'UDAAN' &
Chairman and Managing Director*
Jyoti CNC Automation Private Limited.

Mrs. Manisha G. Kannur
*Deputy Chairperson - 'UDAAN' &
Manager - Business Planning*
Ace Designers Limited.

Invitees

Mr. Shailesh D. Kawa
President
Machine Tool Manufacturers Association - Rajkot.

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

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

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

Ms. Ingrid Rasquinha
Director - Production
Electropneumatics & Hydraulics (India) Private Limited.

Mr. K. Ravikumar
Head - R&D
Lakshmi Machine Works Limited.

Mr. Kirpal Singh Sagar
President
Ludhiana Machine Tool Manufacturers Association.

Secretary and Executive Director

Mr. V. Anbu.



BOUNCING BACK

It was clearly a year of 'equinox' for the Indian economy and its fledgling industry – especially the manufacturing sector. There were fears of a long-lasting industrial slowdown – reminiscent to early years of the millennium; decline in agricultural output; dip in exports and imports; rise in overall inflation; fall in employment opportunities. In short, the start was only worrisome in 2009-2010. Yet, as the country moved along the rest of the

year; there were dramatic improvements in the economic scenario. With considerable governmental and policy interventions, demand began to regenerate and the year closed with a 7.2 per cent GDP growth; a 10.4 per cent industrial growth; and a 10.9 per cent rise in manufacturing turnover. Indian capital good manufacturers stood out with an impressive 19.2 per cent growth in output.



FOREWORD

For the Indian machine tool industry, the closing months meant a return of the 'big-bang' of orders, which had virtually evaporated in the first quarter of 2009-2010 fiscal year. While indigenous machine tool turnover increased by 16 per cent, the market grew at a more frenetic pace – making it difficult as usual to meet the escalating demand. This is indeed a matter of concern and rather paradoxical – given that while India is now ranked eighth in the global machine tool consuming market; it has slid into the 19th position of the world's machine tool manufacturing nations. *Details of the global rankings of metalworking machine tools are given in the following sections of this Annual Report.*

India's global ranking is based on the machine tool data provided by the Association to the global compiling agency. Unless the membership comes out in full strength to share information about their individual organisation's turnover, we would not be in a position to showcase our 'real' potential. Certainly, had we put together a holistic data, our global ranking would have gone several notches higher.

Governmental Interface

Be that as it may, your Association has been proactive in its endeavour to highlight the key issues faced by the Indian machine tool industry in the current competitive environment. We feel rather assured of the government's special importance to this industry, through the setting up of the Reconstituted Development Council for Machine Tools, under the Union Ministry of Heavy Industries and Public Enterprises.

One of the immediate tasks by the Development Council has been to put together a draft report on various key issues and make a set of recommendations – for action by the industry as well as by the policy-makers. The end-objective – to enhance market share and upgrade the

technology levels of the industry to world-class standards. Some of the key aspects covered in the draft report include :

- ♦ Five-year development perspective on technology enhancement of machine tools and manufacturing solutions.
- ♦ Fiscal measures to reduce costs and price of machine tools.
- ♦ Machine tool parks.
- ♦ Common facility centres.
- ♦ Skill development initiatives.
- ♦ Corpus fund for the machine tool industry.
- ♦ Chinese strategy in machine tools.
- ♦ Policy initiatives on restriction of used machinery imports.

Besides, we are making concerted efforts to drive home the strategic importance of the machine tool industry amongst all levels of policy-making institutions. These also include interactions at the highest levels of National Manufacturing Competitiveness Council (NMCC) and the Planning Commission of India. We expect to see positive developments at various policy-level initiations over the next few years.

Association Initiatives

That apart, your Association has taken a lead in organising an array of programmes and events – designed to benefit the membership at large and in particular the customers of machine tool manufacturers. The last one year has been witness to large mega initiatives as the Machine Tool Industry Summit and the International Seminar on Forming Technologies. So also a large volume of technical training programmes on all aspects of technology, quality productivity, and reliability.

And we happened to close the year with the first forming technology exhibition from the IMTEX stable – IMTEX FORMING 2010 along with Tooltech 2010. The response to this focused

exhibition was truly gratifying and we expect to have a much larger participation in IMTEX FORMING 2012.

The other key endeavour was the revitalisation of the three Regional Councils of IMTMA – in the north, west and south. The Regional Councils, as we see it, would be the elementary drivers to the growth of the Association activities, and in particular the brand ambassadors for membership enhancement drive – which is one of the focal agendas in IMTMA.

The other forum of the Association – “UDAAN” has undertaken some initiatives including the 'JAGRUTI - IMTMA Youth Programme'. IMTMA and the Executive Committee in particular have lot of expectations from the “UDAAN” group.

BIEC

But, by far the biggest achievement of your Association in the year that went by was to position BIEC as one of the state-of-the-art venues for organising b2b trade fairs and international quality conventions and conferences. It is a matter of immense satisfaction that BIEC has been able to achieve over 80 days of exhibition hosting in 2009-2010 – even in a slowdown phase, which had a severe setback on entire exhibition-organising industry. BIEC is today an active member of several global exhibition-organising bodies – and clearly on the world map.

Future Thrust

While the Indian economy has bounced back – beating the global slowdown and manufacturing sector seemingly poised for high growth, there are causes of concern for the machine tool industry. We are still besieged by inability to expand capacities, unable to keep pace with rapidly-

changing technologies, lack of expansion opportunities, and beyond all, no pool to source manpower talent. It is these weaknesses that we need to convert into our strengths in the near future – if we have to realise our VISION of having a dominant domestic market presence, besides being customer-driven global player, through state-of-the-art manufacturing.

Towards this objective, your Association has partnered with United Nations Industrial Development Organization (UNIDO) to start a unique project – “Technology Upgrading and Productivity Enhancement of the Machine Tool Industry in India” (TUPE). This project is essentially aimed at enabling machine tool companies, especially in the small and medium enterprise units to be technologically competitive. We expect the membership and the industry to benefit from the TUPE project.

Felicitations

2009-2010, for me, was a year of reckoning as I took the office of Presidency. I share the achievements of our Association over the last one year with the entire membership, and in particular with my colleagues in the Executive Committee. I am certain to get the renewed support from all quarters in future as well, especially in carrying out the tasks outlined for the Association in the year ahead.

M. Lokeswara Rao
President

The 63rd Annual Session of Indian Machine Tool Manufacturers' Association (IMTMA) was held on 23 September 2009 for the first time at BIEC in Bangalore. A special highlight of the occasion was a thought-provoking special session.

Annual Session

President of the Association, Mr. N. K. Dhand, spoke about the current crisis facing the Indian machine tool industry, which included falling market-share, inability to tap new opportunities from emerging customer segments, shortcomings on delivery and reliability and loss of customer confidence.

The President asserted that market expectations were more about technologically-superior, highly-productive manufacturing solutions. Mr. Dhand called upon machine tool manufacturers to focus on reinforcing manufacturing capabilities and organisational strategies. He emphasised the need to move up the value chain and look towards a paradigm shift – in tune with the market realities.

The indigenous industry has come to a satisfactory level on manufacturing compact-sized machining solutions. The need is now to focus on the heavy machining segment – where demand exists today and

in vast volumes in real terms.

The other key emphasis by the industry needs to be on HR and skill development – an area where the industry has not been able to achieve much in spite of proactive measures by several machine tool companies. He called for a brainstorming session on this issue.

The President listed the numerous achievements of the Association in the last one year, including the successful culmination of IMTEX 2009 and Tooltech 2009. He highlighted the slew of new strategic initiatives that need attention, keeping in mind the future challenges facing the machine tool industry. These included –

- ▶ Advanced Machine Tool Testing Facility
- ▶ "Technology Upgrading and Productivity Enhancement of the Machine Tool Industry in India".
- ▶ Institution of "Business Development Cell, Export Development Cell".
- ▶ IMTMA Technology Centre.
- ▶ 'UDAAN' initiative.
- ▶ And IMTEX FORMING 2010.

The President called upon the members to focus its immediate attention on the need to enhance



membership of the Association. The industry has several new players as well as a large number of smaller machine tool builders who are still outside the fold of the IMTMA.



Speaking about BIEC and its initiatives, Mr. Dhand sought the help of the members to further nurture and promote this state-of-the-art and now truly green complex as India's formidable destination for b2b, b2c industrial trade fairs as well as international-level conventions and conferences.

Mr. Dhand thanked the members, the executive committee and the secretariat for providing invaluable assistance, guidance and support in all the major endeavours of the Association. He concluded the annual address by pledging his whole-hearted commitment to the industry, to the Association, to the

executive committee and to the new team of office-bearers of the Association.

Later the IMTMA President took up the statutory agenda of the 63rd business session of the Association, which was unanimously approved by a voice vote.

Special Session

The Annual Session was followed by a 'Special Session', which was addressed by two well-known dignitaries – Mr. V. K. Viswanathan, Managing Director of Bosch Limited and Dr. Shyamal Roy, Professor, Economics and Social Sciences in the Indian Institute of Management Bangalore.

Mr. Viswanathan mentioned that India is today being looked at as an export hub for small cars as also for global automotive components. He emphasised that the automotive sector would remain a mainstream customer for the machine tool industry.

Dr. Roy opined that the Indian economy and its industry can integrate itself with the world through trade, production and finance – all of which are currently promising for the country.

The 63rd annual session of IMTMA concluded with a vote of thanks to the current office bearers.





CALENDAR OF EVENTS

2009

JULY

- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Pune on 01](#).
- ▶ Interactive meeting and plant visit to Bharat Heavy Electricals Limited in [Hyderabad on 03](#).
- ▶ Interactive meeting and plant visit to Bharat Heavy Electricals Limited in [Hardwar on 10](#).
- ▶ Seminar on 'Business Opportunities in Aerospace Industry' at [BIEC on 21](#).
- ▶ Seminar on 'Die and Mould Manufacturing' in [Hyderabad on 28 and 29](#).
- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Chennai on 28 and 29](#).
- ▶ Interactive meeting and plant visit to Highway Industries in [Ludhiana on 29](#).

AUGUST

- ▶ Workshop on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurement' in [Gurgaon on 07 and 08](#).
- ▶ Seminar on 'Effective Finance Management in Difficult Economic Scenario' in [Pune on 12](#).
- ▶ Training programme on 'Right Selection and Application of Tooling for CNC Lathes' at [BIEC on 13 and 14](#).
- ▶ Seminar on 'Business Opportunities in Aerospace Industry' in [Gurgaon on 21](#).
- ▶ Workshop on 'Fundamentals of CNC Technology' in [Rajkot on 28 and 29](#).

SEPTEMBER

- ▶ Seminar on 'Die and Mould Manufacturing' in [Coimbatore on 08 and 09](#).
- ▶ Workshop on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurement' in [Pune on 08 and 09](#).
- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Gurgaon on 11 and 12](#).
- ▶ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' in [Pune from 14 to 16](#).
- ▶ Seminar on 'Geometrical Dimensioning and Tolerancing' at [BIEC from 16 to 18](#).
- ▶ Seminar on 'Automation in Manufacturing' in [Gurgaon on 17](#).
- ▶ 63rd Annual Session of IMTMA at [BIEC on 23](#).

OCTOBER

- ▶ Training course on 'Right Selection and Application of Tooling for CNC Machining Centres' at [BIEC from 06 to 08](#).
- ▶ Workshop on 'Process Capability – the Quality Route to Sustained Growth in Manufacturing' in [Gurgaon on 21](#).



CALENDAR OF EVENTS

2009

OCTOBER CONT.

- ▶ Primer Course on 'Sheet Metal Forming Technology' in [Gurgaon on 23](#).
- ▶ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' at [BIEC from 27 to 29](#).
- ▶ Workshop on 'Process Capability – the Quality Route to Sustained Growth in Manufacturing' in [Pune on 20](#).
- ▶ Interactive meeting members of the Programme Advisory Committee for R&D in machine tool industry in [Pune on 28](#).
- ▶ Programming for CNC Turning on Siemens Controller at [BIEC from 05 to 07](#).
- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Kolkata on 05](#).
- ▶ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' in [Jamshedpur on 07 and 08](#).

NOVEMBER

- ▶ Seminar on 'Geometrical Dimensioning and Tolerancing in Design through Manufacturing' in [Pune from 09 to 11](#).
- ▶ Workshop on 'Process Capability' at [BIEC on 17](#).
- ▶ Workshop on 'Productivity Measurement' at [BIEC on 18](#).
- ▶ Programme on 'Creativity, Innovation & Design' in [Pune on 20 and 21](#).
- ▶ Seminar on 'Geometrical Dimensioning and Tolerancing in Design through Manufacturing' in [Gurgaon on 26](#).

DECEMBER

- ▶ Workshop on 'Right Selection & Application of Tooling for CNC Machining Centres' in [Gurgaon from 01 to 03](#).
- ▶ Seminar on 'Geometrical Dimensioning & Tolerancing in Design through Manufacturing' at [BIEC from 08 to 10](#).
- ▶ Seminar on 'Die and Mould Manufacturing' in [Mumbai on 17 and 18](#).
- ▶ Seminar on 'Die and Mould Manufacturing' in [Gurgaon on 22 and 23](#).



2010

JANUARY

- ▶ Workshop on 'Right Selection & Application of Tooling for CNC Machining Centres' in [Pune from 04 to 06](#).
- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Coimbatore on 05 and 06](#).
- ▶ Seminar on 'Productive Utilisation of CNC Grinding Machines in Metalworking' in [Gurgaon on 05 and 06](#).
- ▶ Seminar on 'Right Selection & Application of Tooling for CNC Lathes' in [Gurgaon on 08 and 09](#).
- ▶ Press Conference on 'IMTEX FORMING 2010 and Tooltech 2010' in [Bangalore on 12](#).
- ▶ Seminar on 'Cost Reduction through Appropriate Automation' in [Pune on 13](#).
- ▶ International Seminar on 'Forming Technology' in [Bangalore on 20](#).
- ▶ International Forming Technology Exhibition – [IMTEX FORMING 2010](#); and 12th International Exhibition of Cutting Tools, Tooling Systems, Machine Tool Accessories, Metrology & CAD/CAM – [Tooltech 2010](#), at [BIEC from 21 to 26](#).
- ▶ Presentation of the First "IMTMA - Vinod Doshi Outstanding Entrepreneur Award in Machine Tools" at [BIEC on 21](#).
- ▶ Second "JAGRUTI - IMTMA Youth Programme" at [BIEC on 22 and 23](#).

FEBRUARY

- ▶ Workshop on 'Process Capability – the Quality Route to Sustained Growth in Manufacturing' in [Pune on 09](#).
- ▶ Workshop on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurements' at [BIEC on 10 and 11](#).
- ▶ Seminar on 'Cutting Fluids and Swarf Management' at [BIEC on 16 and 17](#).
- ▶ Training course on 'Improving Productivity of Tool Rooms' in [Pune on 23 and 24](#).
- ▶ Programme on 'Creativity, Innovation & Design' in [Gurgaon on 24 and 25](#).
- ▶ Interactive meeting and plant visit to Toyota Kirloskar Auto Parts Limited and Toyota Kirloskar Motors Limited in [Bangalore on 25](#).
- ▶ Seminar on 'Cost Reduction through Appropriate Automation' in [Chandigarh on 25](#).

MARCH

- ▶ Primer course on 'Sheet Metal-Forming Technology' in [Chennai on 05 and 06](#).
- ▶ Workshop on 'Process Capability – the Quality Route to Sustained Growth in Manufacturing' in [Pune on 05](#).
- ▶ Seminar on 'Geometrical Dimensioning and Tolerancing' in [Chennai from 08 to 10](#).
- ▶ Workshop on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines' in [Hyderabad on 11 and 12](#).
- ▶ Workshop on 'Process Capability – The Quality Route to Sustained Growth in Manufacturing' in [Gurgaon on 19](#).



2010

APRIL

- ▶ Training Programme on 'Improving Effectiveness of Tool Room Engineers' at [BIEC on 05 and 06](#).
- ▶ Workshop on 'Measurement System Analysis' at [BIEC on 07 and 08](#).
- ▶ Seminar on 'Systematic Approach to Machine Tool Ordering and Acceptance' in [Gurgaon on 07](#).
- ▶ Training Course on 'Single Minute Exchange of Dies' in [Gurgaon on 08](#).
- ▶ Training Programme on 'Right Selection and Application of Tooling for CNC Lathe' at [BIEC on 09 and 10](#).
- ▶ Seminar on 'Cutting Fluids and Swarf Management' in [Pune on 09 and 10](#).
- ▶ Interactive meeting and plant visit to G. S. Radiators Private Limited and G. S. Auto International Private Limited in [Ludhiana on 10](#).
- ▶ Training Programme on 'Single Minute Exchange of Dies' at [BIEC on 16](#).
- ▶ Seminar on 'Improving Effectiveness of Process Planning, Scheduling and Working System in Tool Rooms' in [Pune on 23](#).

MAY

- ▶ Training Programme on 'Right Selection & Application of Tooling for Machining Centres' at [BIEC from 03 to 05](#).
- ▶ Third 'Machine Tool Industry Summit' in [Goa from 06 to 08](#).
- ▶ Seminar on 'Measurement System Analysis' in [Pune on 12 and 13](#).
- ▶ Seminar on 'Robotics and Actuators' in [Gurgaon on 14](#).
- ▶ Seminar on 'Application of Sensors in Automation' at [BIEC on 18](#).
- ▶ Training Programme on 'Improving Effectiveness of Tool Room Engineers' in [Gurgaon on 21 and 22](#).
- ▶ Seminar on 'Systematic Approach to Machine Tool Ordering and Acceptance' in [Pune on 24](#).
- ▶ Seminar on 'Geometrical Dimensioning and Tolerancing' in [Pune from 26 to 28](#).
- ▶ Training Programme on 'Right Selection & Application of Tooling for CNC Lathes' in [Gurgaon on 28 and 29](#).

JUNE

- ▶ Seminar on 'Laser Plasma and Waterjet Machining' in [Pune on 11](#).
- ▶ Workshop on 'Right Selection & Application of Tooling for Machining Centres' in [Pune from 14 to 16](#).
- ▶ Workshop on 'Surface Finish & its Measurement' 14 June at [BIEC on 14](#).
- ▶ Workshop on 'Measurement Systems Analysis' in [New Delhi on 16 and 17](#).
- ▶ Workshop on 'Programming and Operation of CNC Turning Centres' at [BIEC from 15 to 19](#).
- ▶ Training Programme on 'Improving Effectiveness of Process Planning, Scheduling and Working System in Tool Rooms' at [BIEC on 16](#).
- ▶ Training Programme on 'Reducing Lead Time through "First Time Right" Design of Plastic Injection Moulds' in [Pune on 18 and 19](#).
- ▶ Workshop on 'Effective Maintenance of CNC Machines for Productivity Improvement' at [BIEC from 21 to 24](#).
- ▶ Training Programme on 'Right Selection & Application of Tooling for Machining Centres' in [New Delhi from 24 to 26](#).



The first-ever IMTEX fair on forming manufacturing technologies – IMTEX FORMING 2010, held from 21 - 26 January 2010 at BIEC, brought together latest innovations and new developments in this product segment from all over the world.

IMTEX FORMING featured, 'live', recent trends in all forming technologies – in metals, plastics and advanced materials, as well as comprised impressive technologies with high-quality aesthetics, design and other value-added features.

Almost synonymous with IMTEX – Tooltech 2010, 12th in the series, showcased contemporary developments in tooling technologies to enable precision finish in all metalworking operations, in particular for all forming applications.

The two fairs were spread across 25,000 square metres of gross area in the three large halls of BIEC and consisted of a participation of 417 exhibitors, representing 26 countries, including India.

The exhibition witnessed the largest overseas turnout – both, in terms of participation and exhibition space and set a new benchmark in the history of IMTEX fairs. 221 overseas companies took part, representing a share of 52 per cent of the total number of exhibitors. Key facet of the global presence was group participation from leading countries in metal-forming technologies – Belgium, China, Germany and Japan.

The exhibition was inaugurated on 21 January 2010

by four illustrious personalities : Dr. R. Chidambaram, Principal Scientific Advisor to the Government of India; Mr. Tarun Das, President, Aspen Institute India; Mr. Jayant Davar, President, Automotive Component Manufacturers Association of India; and Mr. Mitsuo Okamoto, President and Chief Executive Officer, Amada Company Limited, Japan.

The first IMTEX fair devoted to “forming” received an overwhelming response from the entire spectrum of the engineering industry. The exhibition was host to 44,000 business visitors from India and all across the world.

Key attraction of the turnout was visits by high-level delegations from user industries, manufacturing MNCs and several Indian and international business delegations.

With a wide canvas of business visitors interacting with exhibitors, the outcome was obvious. With confirmed business orders worth Rs. 2,552.30 million and generation of high-potential business enquiries to the tune of Rs. 12,201.40 million – a new bar was set for the forming segment of the machine tool industry and for IMTEX FORMING in particular.

Encouraging facet of IMTEX FORMING 2010 and Tooltech 2010 was about the opportunities for exhibitors and visitors to forge strategic alliances; enter into new partnerships; exchange technology know-how; and develop vendor bases.





MAJOR EVENTS

International Seminar on 'Forming Technology'

To bring to the fore emerging developments in forming manufacturing technologies, the Association organised an 'International Seminar' on the topic on 20 January 2010 in Bangalore. The international event comprised three concurrent sessions on metals, polymers and had presentations from 18 major companies in this industry segment.



The international seminar was focused towards enabling competitiveness in high-tech manufacturing industries such as automotive, consumer durable and strategic sectors. Deliberations at the event dwelt on new materials for latest processes to give shape to components in



metals, plastics, composites, ceramics, etc.

The daylong international seminar was attended by over 400 delegates representing a wide spectrum of the manufacturing industry. Highlight of the programme was b2b interactions on one-on-one basis between users and providers of technology, machinery and processes.

Machine Tool Industry Summit

In an effort to bring together the machine tool fraternity to discuss about the key issue facing the Indian machine tool industry – outpacing domestic production, the Association organised the third Machine Tool Industry Summit from 06 to 08 May 2010 in Goa.



The Summit focused on seven core areas concerning the industry and was structured in the form of highly-interactive panel discussions, which also comprised a keynote address by an industry expert. Industry leaders from auto & auto components, power, aerospace and IT sectors interacted with delegates and shared their concepts, best practices and expertise on how to effectively respond to challenges ahead.

The three-day Summit was inaugurated on 06 May 2010 by Mr. J. P. Nayak, Wholtime Director and President (Operations), Larsen and Toubro Limited, who made a thought-provoking presentation on



'India of my dreams'. Also addressing the gathering, Dr. Shyamal Roy, Professor, Economics and Social Sciences in the Indian Institute of Management Bangalore, spoke about the journey of relating India's GDP growth to the Indian machine tool industry.

SEMINARS / WORKSHOPS

Workholding & Fixturing Techniques

01 July 2009 : Pune
28 and 29 July 2009 : Chennai
11 and 12 September 2009 : Gurgaon
05 November 2009 : Kolkata
05 and 06 January 2010 : Coimbatore
11 and 12 March 2010 : Hyderabad

Workholding and fixturing plays a crucial role in enhancing productivity in competitive manufacturing. In view of its importance, the Association held six workshops on 'Workholding and Fixturing Techniques for Productivity Improvement on CNC Machines'. The workshops were scheduled on 01 July 2009 in Pune; 28 and 29 July 2009 in Chennai; 11 and 12 September 2009

in Gurgaon; 05 November 2009 in Kolkata; 05 and 06 January 2010 in Coimbatore; 11 and 12 March 2010 in Hyderabad.



The programmes focused on basics of fixture design; trends in fixturing; group discussions and exercises on fixture design, problem solving & trouble shooting; design of pneumatic / hydraulic fixtures for volume production; single minute exchange of die; and lead time reduction using standard / modular fixture elements.

Business Opportunities in Aerospace Industry

21 July 2009 : BIEC
21 August 2009 : Gurgaon

There is enormous business potential in the aerospace sector. Manufacturing of complex aerospace components are challenging not only for size, but also for accuracy, precision and contour generation. Keeping the importance of this sector in





ACTIVITIES DURING 2009 - 2010

view, the Association organised two seminars on 'Business Opportunities in Aerospace Industry' – on 21 July 2009 at BIEC and on 21 August 2009 in Gurgaon.

Addressed by a panel of industry experts from various companies involved in the aerospace industry, the seminars dwelt on various requirements of machined parts, components, machines, materials, quality requirements, process requirements for the aerospace industry.

Calibration of Dimensional Measuring Equipment

07 and 08 August 2009 : Gurgaon
08 and 09 September 2009 : Pune
10 and 11 February 2010 : BIEC

Obtaining accurate, reliable and traceable measurements is an elementary requirement to achieve required levels of product quality, in any manufacturing activity. Keeping this in view, the Association scheduled three workshops on 'Calibration of Dimensional Measuring Equipment and Evaluation of Uncertainty in Measurements' –



on 07 and 08 August 2009 in Gurgaon, on 08 and 09 September 2009 in Pune; 10 and 11 February 2010 at BIEC. The two programmes focused on the importance of calibration, its needs and

methodologies in diverse range of manufacturing activities.

Effective Finance Management

Financial management is the ability to understand the financial implication of every action on the organisation's bottom-line and to ensure that only those actions are taken that strengthens profitability. In order to better emphasis this aspect, the



Association organised a unique seminar on 'Effective Finance Management in Difficult Economic Scenario' on 12 August 2009 in Pune. The seminar dwelt on various key aspects relating to sound financial management.

Right Selection & Application of Tooling for CNC Lathes

13 and 14 August 2009 : BIEC
08 and 09 January 2010 : Gurgaon
09 and 10 April 2010 : BIEC
28 and 29 May 2010 : Gurgaon

Appropriate selection and application of tooling can reduce a component cost by as much as 20 per cent. It can also enable effective utilisation of CNC machines. To emphasise this key aspect of manufacturing, the Association scheduled four training programmes on 'Right Selection and Application of Tooling for CNC Lathes'. The

ACTIVITIES DURING 2009 - 2010



programmes were held on 13 and 14 August 2009 at BIEC; 08 and 09 January 2010 in Gurgaon; 09 and 10 April 2010 at BIEC; 28 and 29 May 2010 in Gurgaon. The programmes were supported by real-time machining demonstrations on CNC turning centres.

Right Selection & Application of Tooling for Machining Centres

06 to 08 October 2009 : BIEC
01 to 03 December 2009 : Gurgaon
04 to 06 January 2010 : Pune
03 to 05 May 2010 : BIEC
14 to 16 June 2010 : Pune
24 to 26 June 2010 : Gurgaon

The Association also scheduled six programmes on 'Right Selection and Application of Tooling for CNC Machining Centres'. These were organised from 06 to 08 October 2009 at BIEC; 01 to 03 December 2009 in Gurgaon; 04 to 06 January 2010 in Pune;



03 to 05 May 2010 at BIEC; 14 to 16 June 2010 in Pune; 24 to 26 June 2010 in Gurgaon. The programmes focused on selection of tools and tool holders for machining centres and their optimum usage along with latest developments in tooling.

Fundamentals of CNC Technology

Effective usage of CNC machines is the key to achieve anticipated results. And with rapid changes in hi-precision manufacturing processes, there is a need to continuously update the knowledge and skills of the man-behind-the-machine so as to



precisely use them for maximum benefit. Recognising this need, the Association organised a two-day Workshop on 'Fundamentals of CNC Technology including CNC Programming' with a view to its cost effective utilisation on 28 and 29 August 2009 in Rajkot.

Effective Maintenance of CNC Machines

14 to 16 September 2009 : Pune
27 to 29 October 2009 : BIEC
07 and 08 November 2009 : Jamshedpur
21 to 24 June 2010 : BIEC

In order to expose the production and maintenance personnel to various aspects as well as sub-systems of CNC machines, the Association organised four



ACTIVITIES DURING 2009 - 2010

workshops on 'Effective Maintenance of CNC machines for Productivity Improvement'. The workshops were held from 14 to 16 September 2009 in Pune; 27 to 29 October 2009 at BIEC; 07 and 08 November 2009 in Jamshedpur; 21 to 24 June 2010 at BIEC. A team of industry experts



facilitated the programmes at all the four venues and addressed various aspects on 'why' and 'how' of preventive and breakdown maintenance.

Die and Mould Manufacturing

28 and 29 July 2010 : Hyderabad
08 and 09 September 2009 : Coimbatore
17 and 18 December 2009 : Mumbai
22 and 23 September 2009 : Gurgaon

Increasing customer expectations and rapid model changes require a fast turnaround in manufacture of dies and moulds. To meet these challenges a host of new technologies have evolved over the years in this



segment of manufacturing. To facilitate introduction of the new technological developments, the Association scheduled four seminars on 'Die and Mould Manufacturing'. The programmes were held 28 and 29 July 2010 in Hyderabad; 08 and 09 September 2009 in Coimbatore; 17 and 18 December 2009 in Mumbai; 22 and 23 September 2009 in Gurgaon.

The programmes dwelled upon latest trends and technological advancements taking place in this field of manufacturing. Interactive sessions were held to cover topics on advanced materials, 3D measurements, software solutions and the like.

Geometrical Dimensioning and Tolerancing in Design

16 to 18 September 2009 : BIEC
09 to 11 November 2009 : Pune
26 November 2009 : Gurgaon
08 to 10 December 2009 : BIEC
08 to 10 March 2010 : Chennai
26 to 28 May 2010 : Pune

GD&T system ensures seamless communication between design, engineering, manufacturing and quality teams across the entire organisation. Proper application of GD&T system also helps



organisations to reduce manufacturing and inspection costs. To bring these are other key aspects to the fore, the Association organised six seminars

ACTIVITIES DURING 2009 - 2010



on 'Geometrical Dimensioning and Tolerancing'. The events were held from 16 to 18 September 2009 at BIEC; 09 to 11 November 2009 in Pune; 26 November 2009 in Gurgaon; 08 to 10 December 2009 at BIEC; 08 to 10 March 2010 in Chennai; 26 to 28 May 2010 in Pune. The seminars focused on understanding of GD&T and methods of applying it in real-time designs.

Automation in Manufacturing

A seminar on 'Automation in Manufacturing' was held on 17 September 2009 in Gurgaon. The seminar emphasised on key elements of automation



as applied to manufacturing processes such as selection, system integration and appropriate organisational environment.

Process Capability

20 October 200 : Pune
21 October 2009 : Gurgaon
17 November 2009 : BIEC
09 February 2010 : Pune
05 March 2010 : Pune
19 March 2010 : Gurgaon

Many leading companies, in their quest for achieving 'Zero Defect' are taking several proactive measures in controlling and maintaining their processes. It also requires a clear understanding of all factors and variables which affect quality. To



facilitate this, the Association held six workshops on 'Process Capability – The Quality Route to Sustained Growth in Manufacturing'. The programmes were organised on 20 October 200 in Pune; 21 October 2009 in Gurgaon; 17 November 2009 at BIEC; 09 February 2010 in Pune; 05 March 2010 in Pune; 19 March 2010 in Gurgaon. The programmes focused on ways and means to achieve a high degree of process capability with consistency in precision and accuracy.

Primer Courses on 'Sheet Metal Forming Technology'

23 October 2009 : Gurgaon
05 and 06 March 2010 : Chennai

The Association held two primer courses on 'Sheet Metal-Forming Technology' – on 23 October 2009 in Gurgaon and on 05 and 06 March 2010 in Chennai. The programmes dwelt on basics as well as on latest advances in materials and technologies for sheet metal-forming. Highlight of the events were





ACTIVITIES DURING 2009 - 2010

panel discussions where key issues relating to the metal-forming industry were discussed.

Programming for CNC Turning on Siemens Controller

Thorough understanding of programming of CNC machines and various controller features is a must in order to realise the potential benefits and to improve return on investment. In order to drive home this significance, the Association held a training course that covered 'Programming of CNC Turning Centres using Siemens Controller Systems' from 05 to 07 November 2009 at BIEC. The programme was conducted by a team of industry experts from Siemens Limited.

The Association also scheduled a workshop on



'Programming and Operation of CNC Turning Centres' from 15 to 19 June 2010 at BIEC. The workshop addressed in detail the programming and operation aspects of CNC turning centres including finer aspects like control of dimensions, surface finish and optimisation of machining parameters.

Productive Utilisation of CNC Grinding Machines

A seminar on 'Productive Utilisation of CNC Grinding Machines in Metalworking' was held on 05 and 06 January 2010 in Gurgaon. The event

provided an ideal platform for users and machine manufacturers to interact with the experts on a host



of technology related issues in grinding centres.

Cost Reduction through Appropriate Automation

13 January 2010 : Pune

25 February 2010 : Chandigarh

The Association organised two seminars on 'Cost Reduction through Appropriate Automation'. The first one was held on 13 January 2010 in Pune and the second one on 25 February 2010 in Chandigarh. The programmes focused on elements



of automation and economic benefits derived from automation application in manufacturing processes. Several key elements which underline the success of an automation system were also discussed.

Cutting Fluids and Swarf Management

ACTIVITIES DURING 2009 - 2010



16 and 17 February 2010 : BIEC
09 and 10 April 2010 : Pune

Using proper cutting fluids improves productivity, reduces cost and makes manufacturing process more competitive. To greater focus on the significance of these vital manufacturing inputs, the Association held two seminars on 'Cutting Fluids and Swarf Management' – on 16 and 17 February



2010 at BIEC as well as on 09 and 10 April 2010 in Pune. The programmes were conducted by specialists from the field of cutting fluids and manufacturers of chip conveyors and filtration systems.

Productivity of Tool Rooms

23 and 24 February 2010 : Pune

05 and 06 April 2010 : BIEC

21 and 22 May 2010 : Gurgaon

16 June 2010 : BIEC

Optimum utilisation of CAD / CAM systems and CNC machines depend largely on the knowledge and skill levels of the tool room engineers. In view of this significance, the Association organised four training courses on improving productivity and effectiveness of tool rooms as well as tool room engineers. The programmes were held on 23 and 24 February 2010 in Pune; 05 and 06 April 2010 at



BIEC; 21 and 22 May 2010 in Gurgaon; 16 June 2010 at BIEC. The programmes addressed the present issues and provided vital inputs for improving the effectiveness of the tool room as well as the personnel involved in these units.

Creativity, Innovation & Design

20 and 21 November 2009 : Pune

24 and 25 February 2010 : Gurgaon

Two programmes on 'Creativity, Innovation & Design' were held on 20 and 21 November 2009 in Pune as well as on 24 and 25 February 2010 in Gurgaon. The two-day modules intended for R&D and design professionals focused on nine different tools of creativity, which included well known techniques like "brainstorming" (in its latest variation) to more



structured tools like TRIZ, Contrathink amongst others.



Measurement System Analysis

07 and 08 April 2010 : BIEC

12 and 13 May 2010 : Pune

16 and 17 June 2010 : New Delhi

MSA is a holistic approach to ensure integrity of data used for analysis and evaluates the entire process of obtaining measurements. To drive home its significance, the Association held three workshops



on 'Measurement System Analysis' – on 07 and 08 April 2010 at BIEC; on 12 and 13 May 2010 in Pune; as well as on 16 and 17 June 2010 in New Delhi. Objective of the workshops was to address and highlight importance of implementing MSA in manufacturing industries.

Machine Tool Ordering and Acceptance

07 April 2010 : Gurgaon

24 May 2010 : Pune

Considering the need to have a structured interaction between buyer and supplier during the process of machine tool ordering and acceptance, the Association organised two seminars on 'Systematic Approach to Machine Tool Ordering and Acceptance' on 07 April 2010 in Gurgaon as well as on 24 May 2010 in Pune. The workshops



were focused on concepts of enquiry generation, machine tool ordering, machine acceptance based on process capability, etc.

Single Minute Exchange of Dies

08 April 2010 : Gurgaon

16 April 2010 : BIEC

SMED is a powerful technique used to reduce the amount of time required for equipment or machine setup, or line changeover. In order to emphasise the importance of SMED in manufacturing applications, the Association organised a series of training



programmes on subject. The programmes were held on 08 April 2010 in Gurgaon and on 16 April 2010 at BIEC, and helped participants in better understanding of the concepts of SMED and its multifarious benefits.

Improving Effectiveness of Process

Planning, Scheduling and Work System in Toolrooms

23 April 2010 : Pune

16 June 2010 : BIEC

Process planning and scheduling plays a major role in ensuring that total lead time of tool development is kept to a minimum. Optimum utilisation of all resources depends largely on the knowledge and skill level of planning engineers. Keeping this in view, the Association organised two training programmes on 'Improving Effectiveness of Process



Planning, Scheduling and Working Systems in Toolrooms'. The first was held on 23 April 2010 in Pune, while the second was on 16 June 2010 at BIEC.

Robotics & Actuators

In order to introduce the different types and facets of actuators available, the Association held a workshop on 'Robotics and Actuators' on 14 May 2010 in Gurgaon. The workshop identified ways and means to select the correct actuator, robot as well as the gripper for holding the component or work-piece.



Laser, Plasma and Waterjet Machining

Waterjet, plasma and laser machining are fast gaining popularity as 'net shape' products. These processes can compete both technically and economically with conventional and non-conventional machining processes. To update the manufacturing industry on key aspects of these processes, the Association held a seminar on 'Laser,



Plasma and Waterjet Machining' on 11 June 2010 in Pune. The seminar was conducted by industry experts and renowned specialists from industry.

Surface Finish and Measurement

The Association scheduled a workshop on 'Surface Finish & its Measurement' on 14 June 2010 at BIEC to address its importance and methodologies of evaluation in diverse range of manufacturing



ACTIVITIES DURING 2009 - 2010



activities. The programme dwelt on importance of surface finish and discussed ways and means of its

presentation on PAC and lean manufacturing techniques was made at the meeting. Information on 'lean manufacturing scheme' was shared by senior officials from the Ministry of Small and Medium Enterprises, Government of India.

Toyota Kirloskar Auto Parts & Toyota Kirloskar Motors

IMTMA Regional Council (South) took a delegation of its members to Toyota Kirloskar Auto Parts Limited (TKAP) & Toyota Kirloskar Motors Limited (TKM) on 25 February 2010 in Bangalore. The delegation was led by Mr. N. Umesh, Chairman, Regional Council (South) - IMTMA.

Objective of the visits was to learn from best practices followed by these world-class companies on TPM, TQM, lean manufacturing and other quality techniques. At TKAP, the delegation was briefed by Mr. Hisashi Suzuki, Managing Director on their initiatives and multifarious achievements. At TKM, the delegation was briefed by Mr. Parameswaran Balakrishnan, General Manager (Human Resources) and thereafter taken around the plant.

G. S. Auto and G. S. Radiators

IMTMA Regional Council (North) organised an interactive meeting and plant visit to G. S. Radiators Limited (GSR) and G. S. Auto international Limited (GSA) on 10 April 2010 in Ludhiana. At GSA, a presentation was made about the company – leading manufacturers of radiators, heaters and other auto component. At GSA, a presentation was



ACTIVITIES DURING 2009 - 2010



given on the success story of making the company one of the leading manufacturers of automotive and suspension components.



Mr. Vinod L. Doshi was among the founding pioneers of the Indian Machine Tool Manufacturers' Association and was a key facilitator in the growth



SPECIAL PROGRAMMES

Press Conference on IMTEX FORMING 2010

To widely disseminate information amongst the media about the exhibition, the Association held a 'Press Conference' on IMTEX FORMING 2010 and Tooltech 2010 on 12 January 2010 in Bangalore.

Mr. C. P. Rangachar, Past President of IMTMA addressed the media and shared with them details about the exhibition and its prospects together with an insight about the current status of the metal-forming industry.

"IMTMA - Vinod Doshi Outstanding Entrepreneur Award"

and development of the industry. As recognition of his enormous contribution, the Association instituted an 'IMTMA - Vinod Doshi Outstanding Entrepreneur Award in Machine Tools', along with Premier Limited – as the sponsoring organisation.

The first 'IMTMA - Vinod Doshi Outstanding Entrepreneur Award in Machine Tools' was bestowed on Mr. Antony Rasquinha, Chairman and Managing Director, Electropneumatics & Hydraulics (India) Private Limited. The award was given away at the 'Inauguration Ceremony' of IMTEX FORMING 2010 and Tooltech 2010 on 21 January 2010 at BIEC.

Mr. Rasquinha was recognised for his entrepreneurial achievements and for his immense



contribution towards enhancing competitiveness of the metal-forming industry in India. 7

"JAGRUTI - IMTMA Youth Programme"

To familiarise engineering students with the machine tool industry and the technological happenings in this industry segment, the Association organised the Second "JAGRUTI – IMTMA Youth Programme", with support from "UDAAN" members. This unique initiative was organised during IMTEX FORMING on 22 and 23 January 2010 at BIEC.

The programme was attended by 31 mechanical engineering students representing 15 engineering institutions, from all across India. It comprised a comprehensive guided tour of IMTEX FORMING 2010 and Tooltech 2010. Unique aspect about the programme was an exposure to actual shop-floor

operations in a manufacturing set-up, through 'live' demos in two key machine tool manufacturing companies.



76th UFI Congress, Zagreb, Croatia



BIEC participated at the 76th UFI Congress held from 28 to 30 October 2009 in Zagreb, Croatia. The Congress was attended by over 400 delegates from all over the world –mainly members of UFI, representing trade fair / exhibition organisers, exhibition centres, associations and service providers related to exhibition industry. BIEC sponsored the main UFI dinner, which was attended, among others, by President of Croatia HE Mr. Stjepan Mesic.

IAEE Expo Expo, Atlanta



BIEC, for the first time, participated in the IAEE Expo Expo – Annual Meeting & Exhibition from 08 to 10 December 2009 in Atlanta.

The event had participation from exhibition and event managers from around the world with their peers and suppliers in the exhibition industry. The participation had some enriching experience in terms of getting educated on new and innovative exhibition services, tools, best practices and building strategic business partnerships with key decision makers.



UFI CEO Forum

BIEC was also represented at the UFI Global CEO forum (UCF) held from 03 to 05 February 2010 in Geneva, Switzerland.

Membership



Apart from being member of UFI & IAEE BIEC is now member of AFECA (Asian Federation of Exhibition & Convention Associations) & IEIA (Indian Exhibition Industries Association).

Events at BIEC

BIEC was host to several high-profile exhibitions and b2b trade fairs, including EXCON 2009, Electronica India 2009, Cyclotho 2010, Indiawood 2010, Mind Tree 2010, Stona 2010 and VIV 2010.

The world work up to a new awakening! China – for several years in a row as the world's largest machine tool consuming country, triumphed to also become the global leader in production turnover for the calendar year 2009. It was 'just China'...all the way.

The irony, on the other hand, was that in 2009, output from other major manufacturing countries fell by double digits. Total world output declined one-third – to 55 billion US Dollars during January - December 2009. That amounted to 32 % decline from the 81.3 billion US Dollars achieved by all the machine tool manufacturing countries in 2008.

On the consumption side, while all other nations reduced their volume, China continued to dominate and hold on to its growth, with an intake of 19.4 billion US Dollars.

Global Production

Japan had been the world's leading manufacturer of machine tools for 22 out of the last 25 years. But, suffered a decline of 59 % – and fell into the third place in 2009. The total yield from the island nation – 7.1 billion US Dollars – was the lowest since 1994 (with exception of 2002). Japanese machines intended for export markets were hit only slightly less hard than the equipment destined for local factories.

Germany, which has been neck-and-neck with Japan as the global production leader, experienced a 30 % decline in output; but managed to hold on to its second position. Italy and South Korea, also in the top five among manufacturing nations, experienced similar percentage drops in their shipments.

United States of America remained in the seventh place – and was tied with Taiwan and Switzerland in terms of output. United States had a 41 % drop from the previous year. In fact, virtually all countries experienced declines in machine tool shipments with one glaring exception – China.

Asian countries dominated the share of the total turnover during 2009. Asian tigers now account for half of the total worldwide production of metalworking machine tools.

World Trade

The year that went by had a damning effect on the worldwide machine tool exports, which fell to 38 %. The 28 machine tool manufacturing countries posted an export turnover of 27.77 billion US Dollars in 2009. The fall was predominant all across the key players, with Japan being hit the most with a huge 50 % fall in exports. Germany continued to lead the global machine tool export pack, followed distantly by Japan and Italy.

The sluggish trend remained on the import front too. The global machine tool industry recorded a 42 % decline on a total of 22.89 billion US Dollars worth of metalworking machine tool imports in the year 2009. China continued to seek the largest volume of machine tools from other nations – in keeping with its enormous home demand. United States and Germany followed distantly. All the three countries, however, registered a substantial fall in 2009.

Global Consumption

The world's largest population and a dizzying pace of industrialisation, China led the world in the consumption of new machine tools. In 2009, Chinese installations of new machines fell less than one per cent from 2008 – in a year that saw every other consuming nation cut its acquisitions dramatically. China had a share of 35 % of the global machine tool consumption in 2009.

Germany was the second-most consuming nation with 5.5 billion US Dollars worth of metalworking machine tools, followed by United States with 3.4 billion US Dollars – edging ahead of Japan, which now stands forth.



Global Machine Tool Production

Rank	Country	2009 (Value in US \$ million)			2008 (Value in US \$ million)	Change in US Dollars
		Total	% Cutting	% Forming		
1	China, Peoples Rep.	15,000.00	73 %	27%	13,960.00	7 %
2	Germany	10,428.80	75 %	25 %	15,680.20	-33 %
3	Japan	7,095.10	83 %	17 %	15,566.50	-54 %
4	Italy	5,239.40	49 %	51 %	7,831.30	-33 %
5	Korea, Rep. of	2,665.00	64 %	36 %	4,372.00	-39 %
6	Taiwan	2,419.40	80 %	20 %	4,807.10	-50 %
7	United States	2,324.40	73 %	27 %	3,938.50	-41 %
8	Switzerland	2,118.40	81 %	19 %	4,013.40	-47 %
9	Spain	1,060.30	66 %	34 %	1,544.80	-31 %
10	Brazil	1,030.90	81 %	19 %	1,288.70	-20 %
11	Austria	857.30	50 %	50 %	1,227.30	-30 %
12	France	764.80	73 %	27 %	1,276.00	-40 %
13	Czech Republic	589.5	87 %	13 %	963.60	-39 %
14	United Kingdom	499.10	75 %	25 %	760.30	-34 %
15	Turkey	454.70	29 %	71 %	614.60	-26 %
16	Canada	434.00	62 %	38 %	645.90	-33 %
17	Belgium	369.90	10 %	90 %	499.00	-26 %
18	Netherlands	340.70	20 %	80 %	512.10	-33 %
19	India	268.20	80 %	20 %	403.60	-34 %
20	Russia	230.10	59 %	41 %	420.50	-45 %
21	Finland	180.80	10 %	90 %	300.00	-40 %
22	Sweden	147.40	35 %	65 %	248.80	-41 %
23	Australia	135.00	81 %	19 %	133.00	2 %
24	Mexico	132.50	52 %	48 %	164.60	-20 %
25	Denmark	112.60	40 %	60 %	168.30	-33 %
26	Portugal	80.60	05 %	95 %	81.90	-2 %
27	Romania	36.40	71 %	29 %	54.80	-33 %
28	Argentina	29.30	44 %	56 %	36.70	-20 %
Total		55,044.60			81,513.50	

Credit & Source : Gardner Publications, Inc.

* European Union countries.



Global Machine Tool Consumption

Rank	Country	2009 \$-million (est.)	2008 \$-million (Rev.)	Change in US Dollars
1	China, Peoples Rep.	19,400.00	19,441.00	-0.2%
2	Germany	5,450.80	9,755.50	-51.3%
3	United States	3,369.50	6,919.70	-44.1%
4	Japan	3,318.90	7,792.90	-54.4%
5	Italy	2,740.60	5,291.10	-31.9%
6	Korea, Rep. of	2,586.00	3,796.00	-39.4%
7	Brazil	2,160.90	2,547.20	-35.0%
8	India	1,156.60	1,954.60	-40.8%
9	France	1,133.30	1,871.60	-48.2%
10	Mexico	1,005.70	1,546.30	-12.6%
11	Switzerland	865.70	1,566.80	-44.7%
12	Taiwan	846.80	2,637.80	-43.6%
13	Canada	720.10	1,156.10	-45.3%
14	Russia	692.00	1,264.40	-37.7%
15	Turkey	625.80	1,109.60	-49.2%
16	Austria	622.50	904.30	-31.2%
17	Spain	559.60	1,160.40	-57.4%
18	Belgium	464.50	531.20	-67.9%
19	United Kingdom	397.70	782.50	-40.7%
20	Netherlands	347.70	525.30	-51.8%
21	Czech Republic	338.10	881.50	-61.6%
22	Sweden	311.50	525.40	-33.5%
23	Romania	239.10	359.60	-33.8%
24	Australia	234.00	400.00	-41.5%
25	Finland	152.90	386.30	-45.2%
26	Argentina	149.60	272.80	-18.7%
27	Portugal	140.40	172.60	-60.4%
28	Denmark	136.20	343.90	-60.4%
Total		50,166.50	75,896.40	

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

Credit & Source : Gardner Publications, Inc.



Production of Metalworking Machine Tools

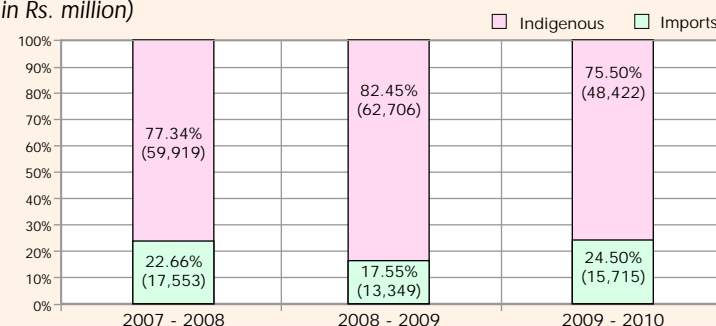
Machine Tools	2007-2008		2008-2009		2009-2010	
	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)
Metal-Forming						
CNC	304	525.64	201	358.00	208	386.55
Conventional	272	1,801.73	273	1,878.00	378	2,247.35
Total Metal-Forming	576	2,327.37	474	2,236.00	586	2,633.90
Metal-Cutting						
CNC	5,181	12,253.80	3,437	8,242.00	4,460	10,843.27
Conventional	2,673	4,438.80	1,910	3,766.00	2,586	3,084.68
Total Metal-Cutting	7,854	16,692.60	5,347	12,008.00	7,046	13,927.95
Total Metalworking	8,430	19,019.97	5,821	14,244.00	7,632	16,561.85
of which :						
CNC is	5,485	12,779.44	3,638	8,600.00	4,668	11,229.82
Conventional is	2,945	6,240.53	2,183	5,644.00	2,964	5,332.03
Members reporting data	74		66		79	

Export of Metalworking Machine Tools

Machine Tools	2007-2008		2008-2009		2009-2010	
	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)	Qty.	Value (in Rs. million)
Metal-Forming						
CNC	1	1.37	5	11.00	0	0.00
Conventional	26	467.83	20	324.00	10	249.83
Total Metal-Forming	27	469.20	25	335.00	10	249.83
Metal-Cutting						
CNC	229	463.20	187	465.00	92	524.31
Conventional	101	534.27	47	95.00	39	35.87
Total Metal-Cutting	330	997.47	234	560.00	131	560.18
Total Metalworking	357	1,466.67	259	895.00	141	810.01
of which :						
CNC is	230	464.57	192	476.00	92	524.31
Conventional is	127	1,002.10	67	419.00	49	285.70

Consumption of Metalworking Machine Tools

(Figures in bar indicate value in Rs. million)



ACE DESIGNERS LIMITED

1. CNC turning machine [Model Vantage LM (500)].
 2. CNC turning machine [Model Jobber Junior Special].
- Amount spent on R&D : Rs. 29.9 million.

ACE MANUFACTURING SYSTEMS LIMITED

1. Vertical machining centre [Model MCV 350 / 20].
2. Vertical machining centre with LHS – APC [Model MCV 300].
3. Twin-spindle vertical machining centre [Model GEMINI XL].
4. Moving-column machining centre with HSK A100 spindle [Model LEADER 500].
5. Vertical machining centre [Model MCV 800].
6. Moving-column horizontal machining centre [Model CMH 500 / 50].
7. Moving-column horizontal machining centre with HSK A 63 spindle and 10 K spindle [Model CMH 500].
8. Horizontal machining centre BT 30 and 20 tools [Model PROTON].

Amount spent on R&D : Rs. 36.0 million.

AIRTECH PRIVATE LIMITED

1. Pull grip PG chucks.
2. Power chucks up to 1,500 diameter.
3. Power chucks with manual adjustment up to 1,500 dia.
4. Light weight / high-speed chucking cylinders.

Amount spent on R&D : Rs. 1.3 million.

ALEX MACHINE TOOLS

1. Horizontal spindle reciprocating surface grinder with table size 800 mm x 400 mm [Model ALEX NH-8040].
2. Vertical spindle rotary surface grinder with table dia 1,000 mm with sliding table [Model ALEX R-40 SLD].
3. Horizontal spindle reciprocating surface grinder with table size 750 mm x 300 mm with programmable logic control [Model ALEX NH-750 PLC].

Amount spent on R&D : Rs. 2.7 million.

APEX INDUSTRIES

1. Extra grip machine vice swivel base of size 4 - 6 inches.
2. Hi grip machine vice swivel base of size 4 - 6 inches.
3. 'Preci' self centering vice of size 4 - 6 inches.

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

ASHOK MANUFACTURING COMPANY PRIVATE LIMITED

1. CNC fibre laser cutting machine for sheet metal.
- Amount spent on R&D : Rs. 2.4 million.

BATLIBOI LIMITED

1. Milling machine - size 1 [Models BF3 H, BF3 U and BF3 V].
2. Knee-type CNC milling machine - size 3 [Model BF 15 CNC - 802C].
3. Travelling column radial drilling machine - 60 mm [Model BMCR 618].
4. CNC turning machine with linear tooling [Model Sprint 16 TC].
5. Vertical machining centre with 40 mt rapid [Model Chetak 45 MC].
6. Vertical turret lathe - turning dia 800 mm, swing-over bed 1,000 mm [Model VTL 630].
7. Quick-drill bridge-type CNC double-column drill centre [Models QDB 1,200 x 1,200, QDB 3,000 x 3,000].

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

BEMCO HYDRAULICS LIMITED

1. Hydraulic re-railing equipment for railways.
2. Hydraulic wheel press for railways.
3. CNC SMC moulding presses, in collaboration with Pinette Emidecau Industries, France.
4. CNC metal-forming press, in collaboration with Dunkes GmbH Maschinenfabrik, Germany.

5. Straightening presses.

6. General engineering presses.

Amount spent on R&D : Rs. 5.0 million.

BHAGWANSONS

1. Auto loading and unloading system for centreless grinding machine.

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

BHARAT MACHINE TOOLS

1. Radial drilling machine [Models RD - 50/1500; 50/1900 and 50/2300].
2. Horizontal boring machine [Models BMT - 100 and BMT - 110].

**BRITEX INDUSTRIES**

1. Aluminium die cast worm gear boxes.
2. Inline helical geared brake motors.
3. Cable-drag chain for CNC / NC machines.
4. High precision universal joints spline design.

Amount spent on R&D : Rs. 1.5 million.

CHUCKMATIC PRIVATE LIMITED

1. Automatic tool changers.

Amount spent on R&D : Rs. 1.0 million.

ETA TECHNOLOGY PRIVATE LIMITED

1. Friction welder for welding job of endless length.
2. Linear friction welding.
3. D. C. up-setter using three phase transformer.

Amount spent on R&D : Rs. 13.3 million.

ELECTRONICA MACHINE TOOLS LIMITED

1. State-of-the-art 5-axis CNC electro-discharge compact wire EDM machine [Model series – ULTIMA 'O' F (flush type) and 'O' S (submerged)].
2. Automatic wire threading for ULTIMA – all models.
3. Smart CNC – compact version of CNC electro discharge EDM machine.

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

ELECTROPNEUMATICS & HYDRAULICS (INDIA) PRIVATE LIMITED

1. 5,000 T four-column hydroforming press.
2. CNC three-axis orbital tube bender - 18CNC3X-O.
3. Multi-section punching machine – MSP-20-80-15 m.
4. 315 T servo-mechanical press with cushion.

Amount spent on R&D : Rs. 89.9 million.

HMT MACHINE TOOLS LIMITED

1. CNC surface grinding machine [Model SFW CNC].
2. CNC cylindrical grinding machine [Model G20 CNC].
3. Horizontal machining centre with extended traverse and special strain gauge probe [Model HMC 630].
4. PILGER mill.
5. Six-axes CNC filament winding machine.
6. Billet automation.

Amount spent on R&D : Rs. 16.3 million.

HI-LIFE MACHINE TOOLS PRIVATE LIMITED

1. CNC cylindrical grinding machine with 160 mm grinding wheel width and heavy duty cartridge-type spindle [Model SWIFT].

Amount spent on R&D : Rs. 1.0 million.

JYOTI CNC AUTOMATION PRIVATE LIMITED

1. Pallet handling system for horizontal machining centres.
2. Twin-spindle turning centre with automatic gantry loader (TS120).
3. Double-column vertical machining centres (NX series).
4. Moving-column machining centre (EXF series).

KAWA PRESS SYSTEMS PRIVATE LIMITED

1. CNC press brake having capacity 160 tonne, length 3,000 mm.
2. High-speed 160 tonne straight-sided press SPM 200.

Amount spent on R&D : Rs. 2.9 million.

KHUSHBU ENGINEERS

1. CNC single-spindle vertical honing machine with servo-expansion, servo-stroking and servo-rotation.

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

KIRPEKAR ENGINEERING PRIVATE LIMITED

1. Transformer radiator manufacturing machines.

Amount spent on R&D : Rs. 1.5 million.

MICROMATIC GRINDING TECHNOLOGIES LIMITED

1. Heavy-duty external CNC grinding machine [Model Stallion SH - 40].
2. Medium-duty external CNC grinding machine [Model Stallion SM - 63].
3. Internal CNC grinding machine [Model IG - 50].

Amount spent on R&D : Rs. 12.0 million.

NEW UNITED ENGINEERING WORKS

1. CNC turning lathe of three meter admit between centre suitable for turning a job of three metre length having turning dia meter of up to 750 mm.

**PINNACLE ENGINEERING ENTERPRISE**

1. Fully-automatic horizontal spindle reciprocating table-type surface grinding machine [Model FASGM - 15060] (table size 1,500 x 600 mm) with auto down feed with auto dressing and compensation for dressing amount.

Amount spent on R&D : Rs. 3.0 million.

PREMIER LIMITED

1. CNC gear hobbing machine with EGB – 630 mm diameter.
2. CNC single column, double ram, vertical turning centre – 2,300 mm diameter.
3. CNC single column, vertical turning centre with live tool – 1,250 mm diameter.
4. CNC double column, vertical turning centre – 1,600 mm diameter.
5. CNC double column, with double ram and live tool vertical turning centre – 6,000 mm diameter.
6. CNC horizontal machining centre, fixed table – 2.0 m x 4.5 m.
7. CNC horizontal machining centre, rotary table – 1.5 m x 1.5 m.

Amount spent on R&D : Rs. 39.2 million.

PROTECK MACHINERY PRIVATE LIMITED

1. CNC laser cutting machines [Models CL 2025 and CL 2030].

Amount spent on R&D : Rs. 20.0 million.

SRB MACHINES PRIVATE LIMITED

1. Fully-automatic three-axes CNC valve seat grinding machine, with auto loading / unloading system.

Amount spent on R&D : Rs. 2.5 million.

SHANTARAM MACHINERIES PRIVATE LIMITED

1. CNC heavy roll turning lathe machine [Model MEGATURN - 6500].

Amount spent on R&D : Rs. 2.1 million.

SPEEDFAM (INDIA) PRIVATE LIMITED

1. Single-side CBN fine grinding machine.
2. Double-side CBN fine grinding machine.
3. Single-side diamond pelleted fine grinding machine.

4. Double-side diamond pelleted fine grinding machine.
5. Single-side lapping machine SSM 1800/3.
6. Single-side sweeper arm lapping machine [Model Table Top].
7. Single-side sweeper arm lapping machine [Model Pedestal].

Amount spent on R&D : Rs. 4.0 million.

SOLITAIRE MACHINE TOOLS LIMITED

1. Five-axis CNC centerless grinder with linear bearings for high-precision plunge grinding.

Amount spent on R&D : Rs. 1.5 million.

STATE ENGINEERING CORPORATION

1. Large bore self-centering chucks of dia 630 mm - 1,000 mm for oil country lathes.
2. Hollow rotary cylinders for power chucks.
3. Grip test metre for measuring gripping force of power chucks.

Amount spent on R&D : Rs. 1.0 million.

TUSSOR MACHINE TOOLS INDIA PRIVATE LIMITED

1. CNC lathes Pinacho brand [Models Smart Turn 260 x 1000; Smart Turn 260 x 1500; Smart Turn 260 x 2000].
2. CNC machines with FAGOR controller.
3. Taper turning attachment.
4. Precision centre lathes Pinacho brand [Model Rocio 285 x 1000; Rocio 285 x 1500; Rocio 285 x 2000].

Amount spent on R&D : Rs. 38.4 million.

YUKEN INDIA LIMITED

1. Cartridge valves [Models Y-OD-16; Y-OB-16; Y-OD-25].
2. Direction control valves [DSHG-04-3C40-E-D24-N1-51H01; DSHG-06-N1-51H01].
3. Fixed displacement high pressure vane pumps [Models HPV2; HPV3; HPV32].
4. Variable displacement vane pump [Model RV20-SF-17].
5. Kiriko, the chip compactor machine [Model YK-40V-10].

Amount spent on R&D : Rs. 10.0 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)



ISO CERTIFIED IMTMA MEMBERS

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



NEW MEMBERS ENROLLED DURING 2009 - 2010

Members Enrolled from April 2009 to March 2010

ACE AUTOMATION CONTROL EQUIPMENT PRIVATE LIMITED

“ Kaydon House ”
No. 2 / 396 A
Mookambigai Nagar
Kattupakkam
Iyyapanthangal
Chennai - 60 0056
Tamil Nadu
[Manufacturer : Accessories for machine tools] .

AGIE CHARMILLES (SOUTH EAST ASIA) PRIVATE LIMITED

Seetharama Palaya
Mahadevapura Post
Bangalore - 560 048
Karnataka
[Distributor : Metal-cutting machine tools] .

APM TECHNOLOGIES

305 Ashok Bhawan
93 Nehru Place
New Delhi - 110 019
National Capital Territory of Delhi
[Distributor : Measuring and checking instruments] .

CARMET TOOLS & INSERTS

102 A ' Wing
Parmar Trade Centre
Sadhu Vaswani Circle
Pune - 411 001
Maharashtra
[Manufacturer : Cutting tools and tooling systems] .

CUSTOMISED TECHNOLOGIES (PRIVATE) LIMITED

82 B Electronic City
First Phase
Bangalore - 560 100
Karnataka
[Distributor : Measuring and checking instruments] .

DELCAM SOFTWARE INDIA PRIVATE LIMITED

Vishal Complex
Opposite Atlas Copco Limited
Dapodi
Pune - 411 012
Maharashtra
[Distributor : CAD/CAM Software] .

DIVINE MACHINES PRIVATE LIMITED

7/8 Century Center
Kanta Vikas Gruh Road
Rajkot - 360 002
Gujarat
[Manufacturer : Metal-forming machine tools] .

GH INDUCTION INDIA PRIVATE LIMITED

No. 36 & 37
SIDCO Industrial Estate
Thirumudivakkam
Chennai - 600 044
Tamil Nadu
[Manufacturer : Heat treatment equipment] .

HEXAGON METROLOGY (INDIA) PRIVATE LIMITED

A - 5
Sector - 4
NOIDA - 201 301
Uttar Pradesh
[Manufacturer : Measuring and checking instruments] .

LMT FETTE (INDIA) PRIVATE LIMITED

Old No. 14
New No. 29
2nd Main Road
Gandhinagar Adyar
Chennai - 600 020
Tamil Nadu
[Distributor : Accessories for machine tools] .

NEW MEMBERS ENROLLED DURING 2009 - 2010



MC CRAFTSMAN MACHINERY PRIVATE LIMITED

No. 124
Sangothipalayam Road
Arasur
Coimbatore - 641 407
Tamil Nadu
[Distributor : Metal-cutting machine tools] .

MUVTONS CASTORS PRIVATE LIMITED

E - 59
Sector - 7
NOIDA - 201 301
Uttar Pradesh
[Manufacturer : Material handling system] .

NOVELTY IMPEX

“ Novelty House ”
8th B . Road
Sardarpura
Jodhpur - 342 003
Rajasthan
[Manufacturer : Accessories for machine tools] .

PILOT MACHINERY CORPORATION

No. 37
Narasimharaja Road
Bangalore - 560 002
Karnataka
[Distributor : Metalworking machine tools] .

PRAKASH MECHANIC WORKS

Muni Shed No. 4
Vitthalwadi Main Road
Opposite Bajrangdas Petrol Pump
Bhavnagar - 364 001
Gujarat
[Manufacturer : Metal-cutting machine tools] .

PRAMET TOOLS INDIA PRIVATE LIMITED

B 64 - 65
Sushant Lok Phase - I
Opposite Vipul Square Orchid
Gurgaon - 122 001
Haryana
[Distributor : Cutting tools and tooling systems] .

PRASAD NC MACHINE SYSTEMS PRIVATE LIMITED

15/1 Mel Ayanambakkam Road
Off. Ambatturvaragaram Road
Ayanambakkam
Chennai - 600 095
Tamil Nadu
[Manufacturer : Metal-cutting machine tools] .

SCHUNK INTEC INDIA PRIVATE LIMITED

80 - B
Yeshwanthpur Industrial Suburbs
Bangalore - 560 022
Karnataka
[Distributor : Accessories for machine tools] .

SOVEREIGN TECH ENGINEERING SERVICES (PRIVATE) LIMITED

14 Mahinder Chambers
W. T. Patil Road
Chembur
Mumbai - 400 071
Maharashtra
[Manufacturer : Accessories for machine tools] .

YAMAZEN MACHINERY & TOOLS INDIA PRIVATE LIMITED

Flat 8 - A, Eighth Floor
“ Hansalaya ”
15 Barakhamba Road
New Delhi - 110 001
National Capital Territory of Delhi
[Distributor : Metal-cutting machine tools] .

Total Membership of IMTMA as of 31 March 2010 : 445 members

