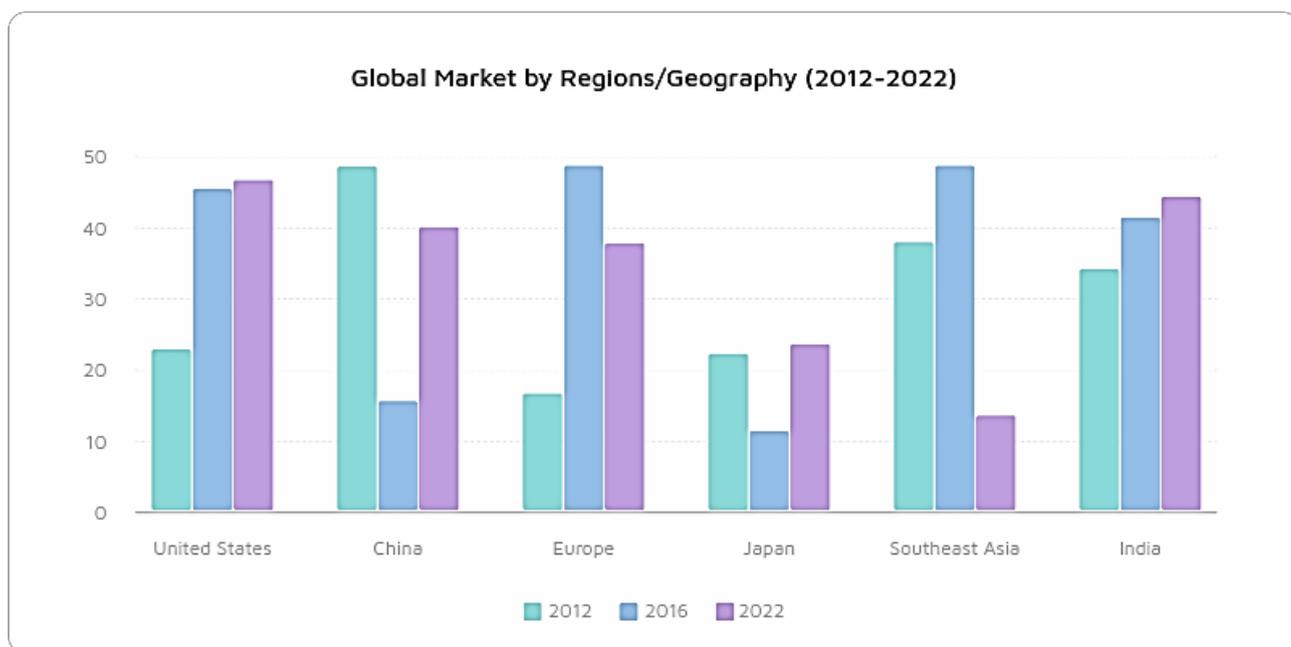


The sentiments **have been positive in most of the manufacturing sectors** with the recent impetus given to **“Make in India a manufacturing hub.”**

The Foreign Direct Investment (FDI) attraction into various manufacturing sectors following the **‘Make in India’ policy initiative** gives a fairly clear indication of an uptick in manufacturing going forward. Further adding the requirement of the various sectors, trend will move towards machine being built with automation systems and smart controls. Reduced manual intervention in process control using the machine tool control system and smart tooling will be the key to optimising costs, scrap reduction and improved machine utilisation. Globally, many advanced manufacturing markets have adopted these technologies and the trend is set for the Indian machine tool industry to address the technology-gap and drive innovation in this direction.

(2) Trends Impacting Global Machine Tool Market :



Source: Picture courtesy tokenfolks.com

Global machine tools market predicts to exceed USD 120 billion by 2020, growing at a CAGR of more than 6 per cent. According to Technavio’s report this emerging trend is as a factor that has the potential to significantly impact the market and contribute to its growth or decline.

Lead analyst at Technavio, Anju Ajay kumar says, “Industrial sectors where automation is employed on a wide scale such as automotive, aerospace and defence, electrical and electronics, medical devices, industrial machinery, and renewable energy are showing signs of positive growth which will augur well for the growth of the machine tools market during the forecast period.”

The top three emerging trends influencing the global machine tools market according to heavy industry research analysts are as follows:

- Integration of 3D printing technology with machine tools - the original application of 3D printers was to create small plastic models and prototypes. Currently, 3D printers are increasingly used to create prosthetics, full-scale clothing, and electronic products. These printers also have a tremendous potential in the industrial sector.

The dramatic changes that 3D printing technology has brought about are likely to have an impact on machine tools and plastic injection moulding. 3D printing technology reduces material usage by nearly 30 per cent to 70 per cent as compared to traditional techniques. This results in faster speed to market for new products and a reduction in development costs. Many machine tool manufacturers are incorporating this technology into their machine tools. For example, Japanese machine tool manufacturer has integrated metal 3D printing technology into its computer numerical control (CNC) product line.

- Technological advances - The machine tools industry has evolved with the development of both hardware technology and software applications. This has resulted in machines becoming faster, intelligent, and versatile. Machines have now become multifunctional and are capable of performing a broad range of tasks inside a single set up. Electrical discharge machines, ultrasonic and electronic beam technologies have revolutionized manufacturing technology.

Multiple software products can be standardized on one platform. Advanced CAM technology is being used for multi-axis, multi-spindle, and multi-turret machines. Software is increasingly being used in automation of manufacturing and engineering processes. Software applications provide an integrated view of operation through direct integration with product lifecycle management, manufacturing execution services, process planning, and enterprise resource planning systems.

- Surge in automation - The growing demand for superior-quality products has propelled companies to undertake automation in manufacturing. Investment in global process automation is continuing to grow at 6 per cent and is projected to reach USD 120 billion by 2019. This growth is focused on areas such as technology, hardware, software, services, and the communication protocol used for automation.

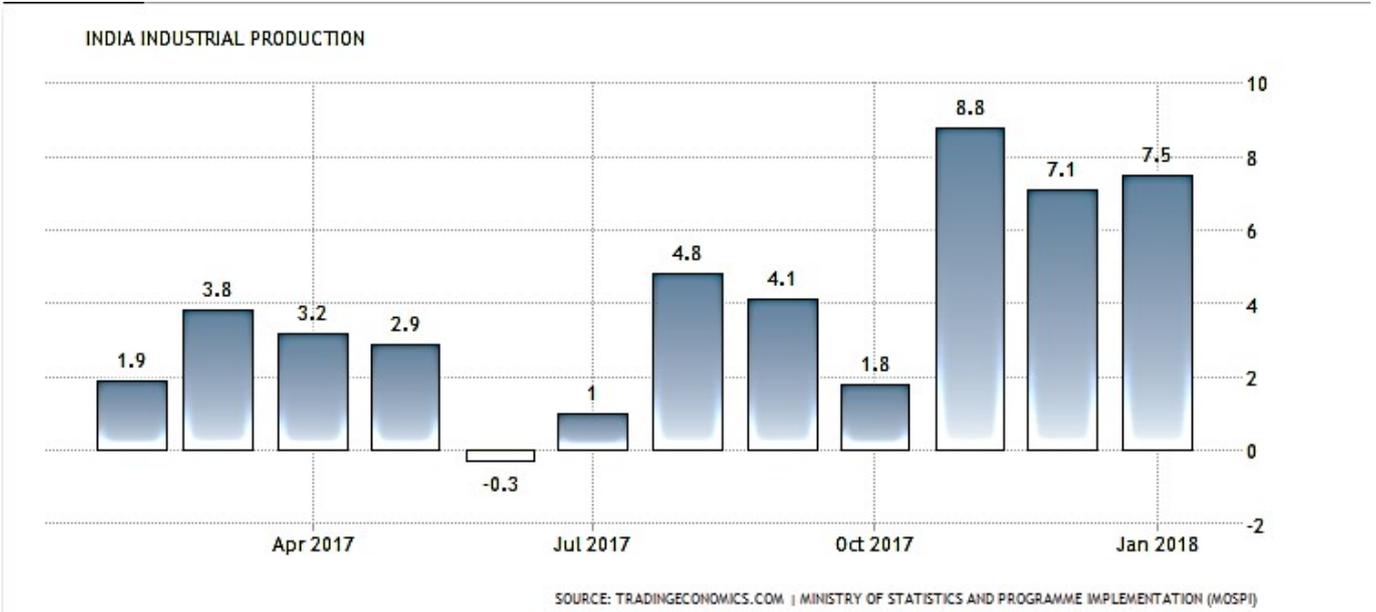
The machine tools sector in the developed and developing countries, especially those in mid and small-scale industries, are increasingly using NC and CNC machines rather than manually controlled conventional machines. The new and advanced machines operate using programmed commands and computers to enhance productivity.

Increased productivity is a major factor, which benefits companies that use process automation. Moreover, implementing process automation not only enhances profit margins but also has a positive impact on resource regulation and loss control.

Excerpts from article Source: OEMUPDATE, India & Technavio, USA

Indian Metal Cutting Machine Tool Industry – Demand Projection & Opportunity Analysis

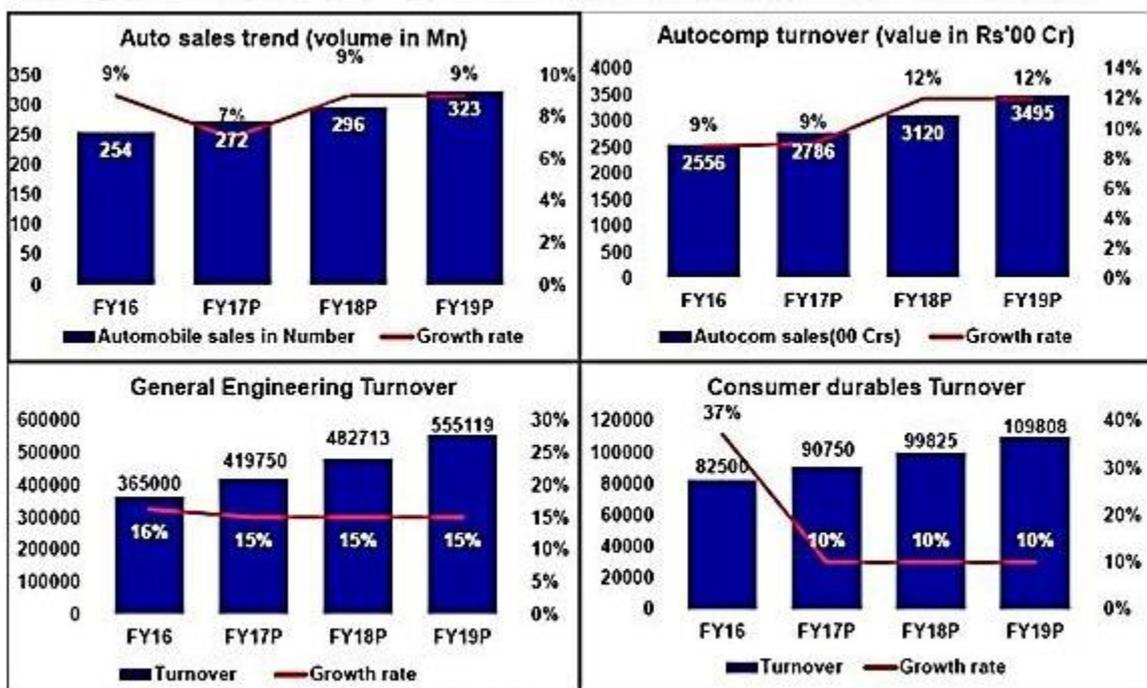
1. Projected growth for the Manufacturing sector



Source: Picture courtesy Tradingeconomics.com

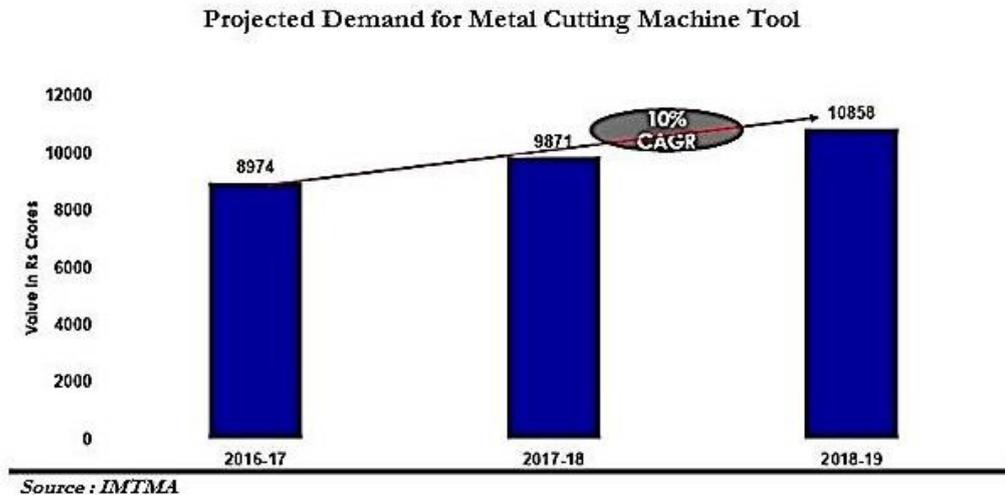
2. Projected growth for the User industry

PROJECTED GROWTH IN METAL CUTTING MACHINE TOOL USER



Source: ACMA, SIAM, IBEF, MOSPI, IMTMA

3. Projected Demand for Metal Cutting Machines



Opportunity Analysis

- Indian Economy is one of the fastest growing in the world with growth expected to be around 7% during the next 3 years
- The Indian automotive sector aims to grow to USD 300 billion by 2026 with 12% share in GDP and envisages to emerge third largest market in the world
- India is preferred by global manufacturing companies as an outsourcing destination, due to cost competitiveness, favourable investment conditions, better engineering and designing capabilities
- New emerging sectors like Defence, Aerospace, Railways, Shipbuilding, Consumer Durable, Medical Equipment & Instrumentation, Green investment in Auto Sectors are likely to enhance demand for metal cutting machines and tools.
- The Machine tool sector is also likely to be benefitted from the following budgetary allocation of Union Budget 2018-19, Govt. of India.
 - INR 1.2 billion For Scheme for “Enhancement of Competitiveness in the Indian Capital Goods Sector”.
 - Capital expenditure outlay of INR. 6.5 billion Towards ‘machinery & plant’ for Ministry of Railways.
 - Revenue expenditure outlay of INR 4.75 billion towards ‘renewal and replacement’ for Defence Ordnance Factories, Ministry of Defence.
 - Revenue expenditure outlay of INR 580 million towards ‘maintenance – machinery & equipment’ for Defence Ordnance Factories, Ministry of Defence
 - Capital expenditure outlay of INR 8.036 billion For Defence Ordnance Services, Ministry of Defence.

References & Acknowledgment

Ministry of Statistics and Programme Implementation (MoSPI), Govt. of India

India Brand Equity Foundation (IBEF)

The Automotive Component Manufacturers Association of India (ACMA)

Society of Indian Automobile Manufacturers (SIAM)

Indian Machine Tool Manufacturer's Association (IMTMA)

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