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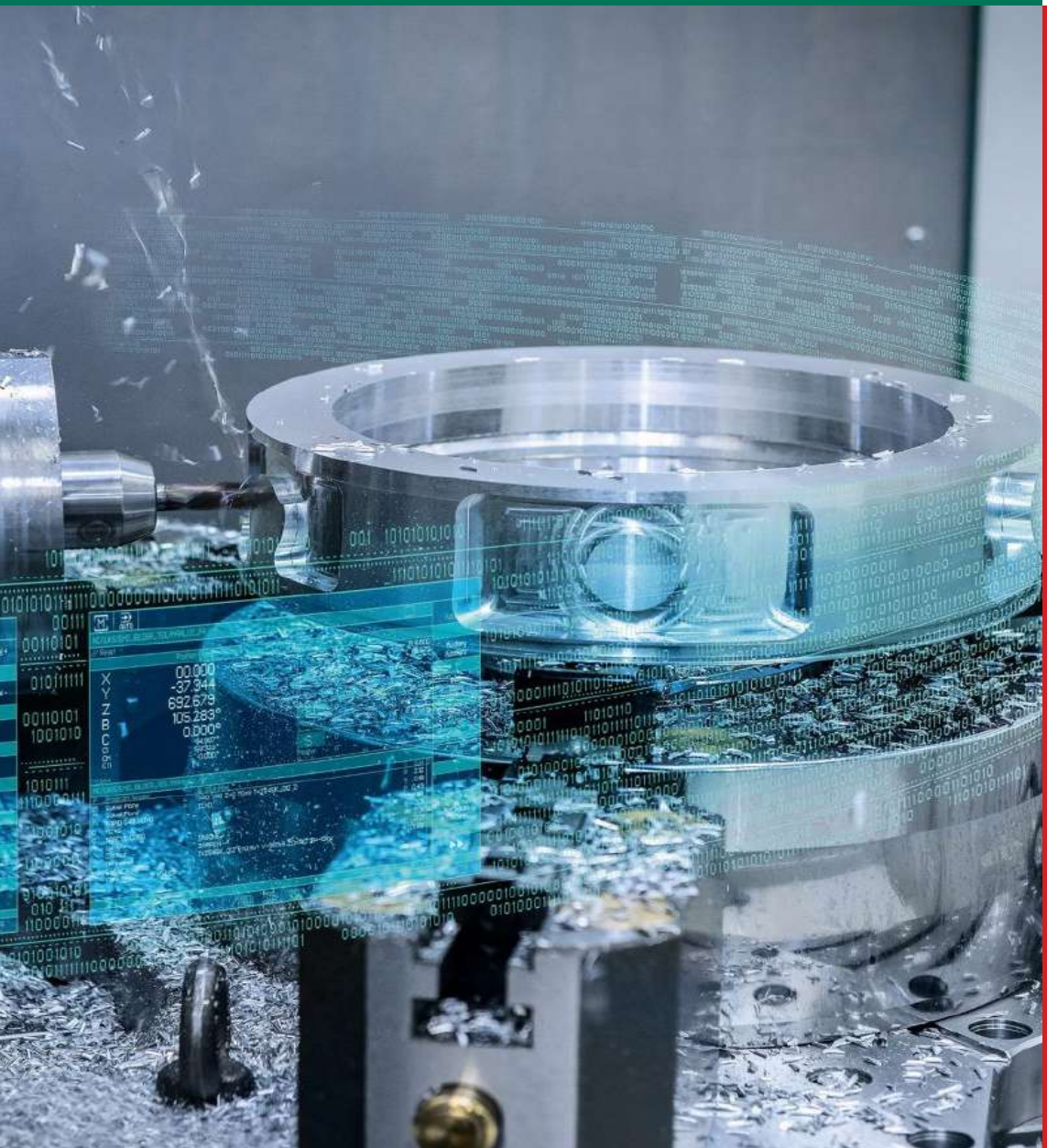
MARKET BRIEF
INDIAN MACHINE TOOLS INDUSTRY AND SUB-SECTORS

ITALIAN TRADE COMMISSION
NEW DELHI



2019

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Snapshot of Machine Tools Industry in India

Market Overview

India stands 10th in terms of production and 8th in consumption of machine tools in the world. The machine tools industry in India grew from €1.5 Bn (INR 11,616 Cr) in FY 2016-17 to €1.9 Bn[1] (INR 14,690 Cr) in FY 2017-18 at the rate of 26.5% year-on-year (Y-o-Y). The market is likely to reach €2.2-2.6 Bn[2] (INR 17,344-20,813 Cr) by 2020. The government's initiatives such as 'Make in India,' coupled with the growth in manufacturing, are the key drivers of the growing demand in the machine tools sector. With interest rates forecasted to be lower in the medium term, increasing domestic consumption, and the government capital spending expected to increase, the market is likely to accelerate in the next 4-5 years.

The auto component market is the key driving sector, accounting for about 40% of the machine tools industry.[3] India is an automotive export hub in the South Asian market for companies such as Ford, Isuzu, Suzuki, Honda, BMW, Mercedes-Benz and Fiat. The defence and aerospace sectors are also expected to drive the demand for machine tools.

Machine tools production in India was estimated at €0.9 Bn[1] (INR 7,300 Cr) for FY 2017-18, and had grown at 26% Y-o-Y. The production is expected to reach €1.1 Bn[1] (INR 9,000 Cr) in FY 2018-19. The domestic production accounts for about 50% of the total consumption.

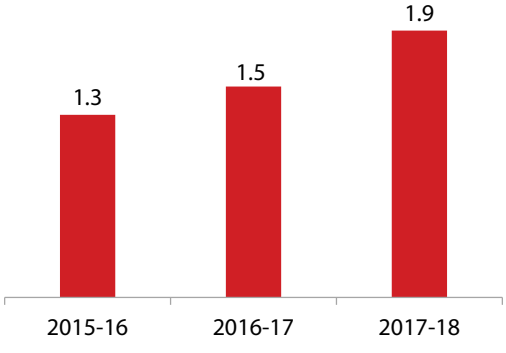
Various states in India are looking for investments in this industry. States such as Tamil Nadu, Maharashtra, Gujarat, Andhra Pradesh, Karnataka, Haryana and Punjab, have attracted significant investments.

Government initiatives are providing strength to the industry in India. The 'Make in India' initiative is expected to change the manufacturing landscape in the country. The government has also extended concessional custom duty on imports to all categories of Computer Numerical Control (CNC) metalworking machine tools.

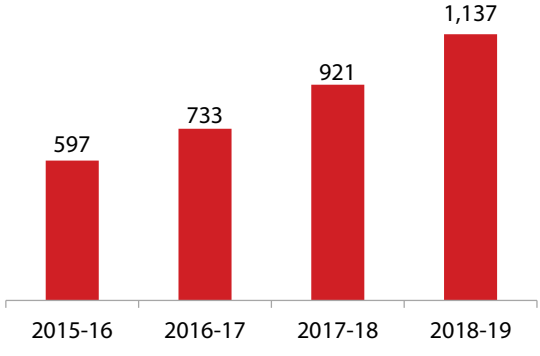
India is emerging as a major destination for manufacturing in Asia. The machine tools industry is expected to become competitive. Technology tie-ups with global machine tool players are likely to create opportunities for Indian companies to expand in the overseas market.

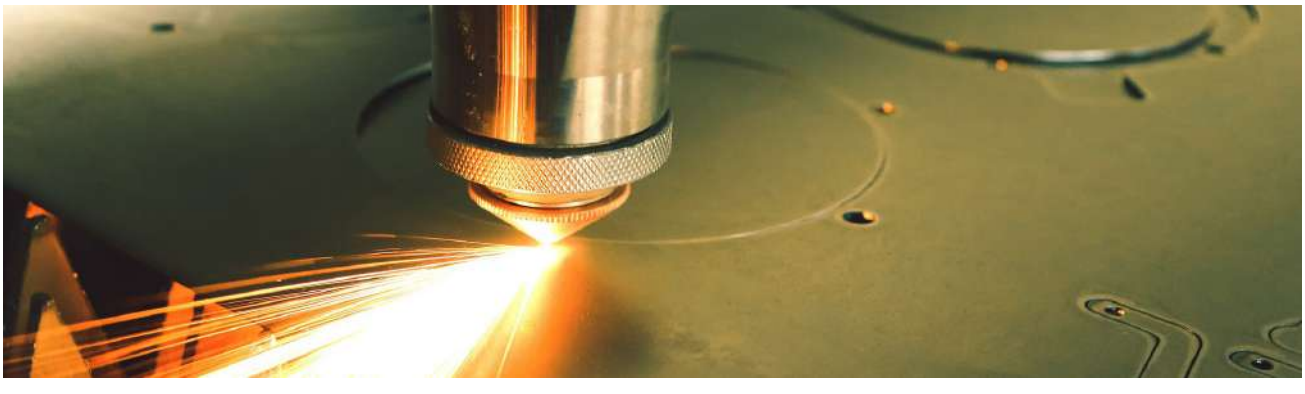
Process automation, additive manufacturing and the rise of electric vehicles are the three core trends that are likely to change the dynamics of the machine tools industry.

Machine Tools Market in India – by Value (€ Bn)[1]



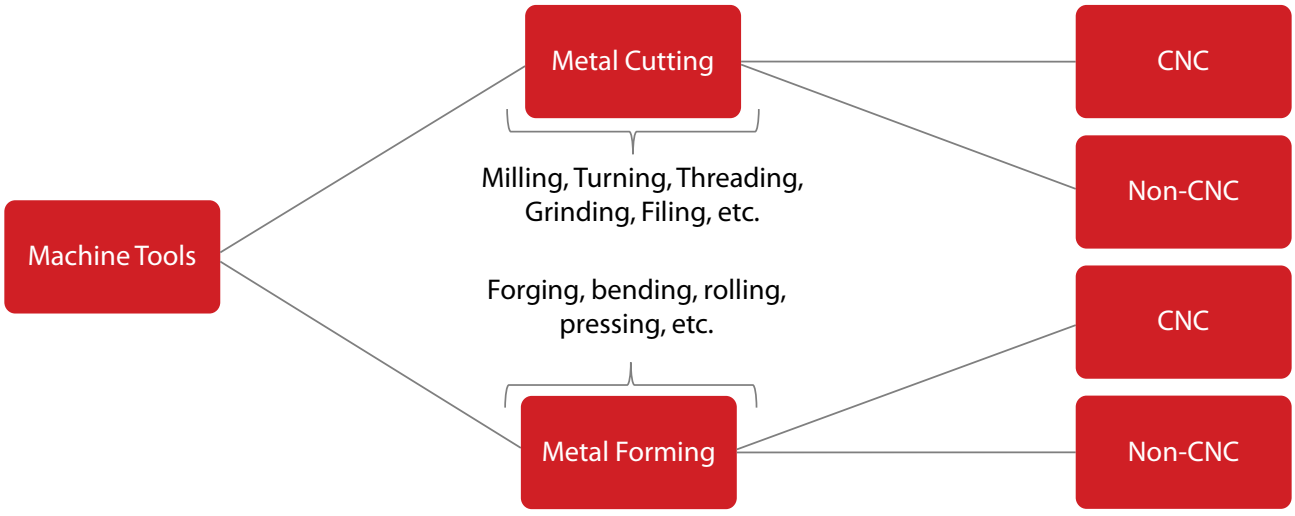
Machine Tools Production in India – by Value (€ Mn)[1]





[1]Indian Machine Tool Manufacturers' Association
[2]OEM Update
[3]Wisconsin Economic Development Corporation

Industry Composition



The Indian machine tools industry comprises about 200 machine tool manufacturers in the organised sector and about 400 in the small ancillary sector. Large players comprise about 25%, and 75% is dominated by small manufacturers.[4]

The Indian Machine tools Industry has about 1,000 units involved in the production of machine tools, accessories, sub-systems and parts. 25 of these in the large-scale sector account for about 70% of the turnover.[5] Rest of them are in the Micro, Small and Medium Enterprises (MSME) sector of the industry.

Approximately 75% of the Indian machine tool producers are ISO certified[5]. Various machine tool manufacturers have obtained CE Marking certification, to match with the requirements of European markets.

Market Share

Source: Indian Machine Tool Manufacturers' Association

The machine tools market in India is highly fragmented with the presence of various small, medium, and large suppliers, which include international and regional players. The intense competition among the vendors has led to increased investments in R&D and implementation of high-technology solutions in machine tools.

Hindustan Machine Tools Limited (HMT Ltd.), Lakshmi Machine Works Ltd., Premier Ltd., and IFB Industries Ltd. are the leading players that dominate the Indian machine tools sector. Other prominent vendors include Heavy Engineering Corporation, ITL Industries, LMW, Macpower CNC Machines, Makino India, Miven Machine Tools, Nagel Special Machines, Okuma, PMT Machines, Precision Automation & Robotics India, and Premier.

Machine tools industry can be classified into the types of machines used for metal cutting and metal forming. Both the types of machines can be further classified into manually operated machines and numerically controlled. As awareness about new technology is increasing, the demand for advanced CNC machines is rising.

[4]*Wisconsin Economic Development Corporation*
[5]*Indian Machine Tool Manufacturers' Association*

The increasingly sophisticated CNC machine manufacturing in India is driven by demand from key user segments, such as automobiles, consumer durables and aerospace.

Metal Cutting Machine Tools

Metal cutting tools market has grown at a CAGR of 22.5% during 2015-16 to 2017-18. CNC metal cutting machines have a greater demand, owing to their ability to bring precision and accuracy. The production of metal cutting machines was estimated at €828.8 Mn[6] (INR 6,562 Cr) during 2017-18 as compared to €656 Mn (INR 5,194 Cr) during 2016-17 registering Y-o-Y growth of 25.7%.

Metal cutting constitutes a major part of the machine tools market in India. However, the industry has yet to meet the demand for higher technology machines. As a result, the market share for Indian machines is low and imports meet a large part of the demand for metal cutting machine tools. About 90% of total production of metal cutting machines comes from cities such as Bengaluru, Pune, Mumbai, Ahmedabad and Chennai.

The industry holds a share of about 80% of the total machines tool market by value. About 55% of metal cutting machines in India are imported, of which about 45% are from Japan and Germany. Taiwan, Italy, Korea and China are the other major countries from where metal cutting machine tools are imported.

User sections, such as auto industry and auto component industry, have led to the growth of metal cutting machine tools demand during the past few years.

Ace, BFW, Batliboi, HMT, Jyoti CNC, Lakshmi Machine Works, Lokesh Machines and TAL manufacturing solutions are some of the key OEMs in this industry.

Metal Forming Machine Tools

Metal forming market contributed about 15% of the total machine tools demand in India during 2016-17 and has grown at a CAGR of 15.5%[7], during 2015-16 to 2017-18. The production of metal forming machines was estimated at €92.3 Mn (INR 731 Cr) during 2017-18 as compared with €76.9 Mn (INR 609 Cr) during 2016-17, registering a Y-o-Y growth of 20%.

The market is expected to grow at a CAGR of around 15%[8] by 2020-21, considering the growing demand in the consumer durables, electronics and automobile industries. Metal forming industry serves as the core manufacturing machinery provider for these industries. Other sectors propelling the demand for metal forming machinery include aerospace, power, construction, railways, heavy transportation, office furniture, instrumentation industry, steel industry, forging, and structural engineering.

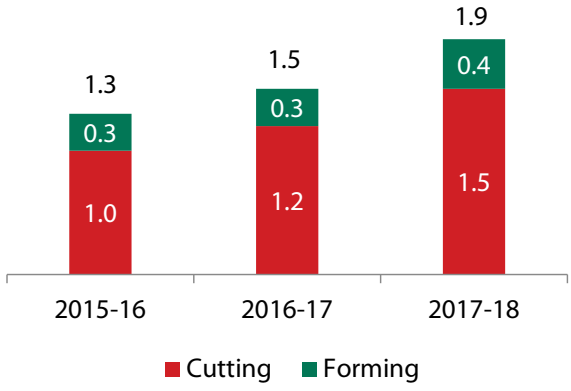
Many manufacturing firms are coming up with innovations for the development of the metal forming segment. Presses for metal forming are available with a variety of features for applications such as deep drawing, stamping, trimming, and cold extrusion. The industry is continuously researching and developing hydro forming to produce better dies and parts, reduce cycle times, and improve process controls and repeatability.

Almost 90% of total production of metal forming machines is in Baroda, Coimbatore, Batala, Jalandhar, Pune and Ludhiana.

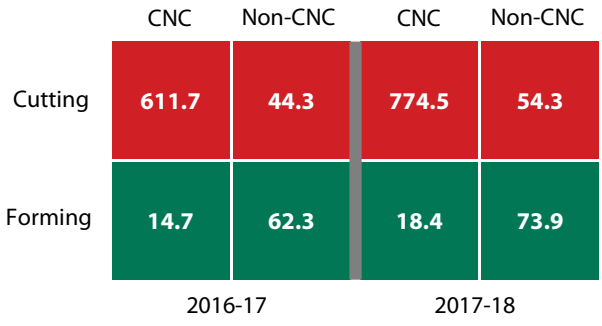
In metal forming machine tools segment, no large OEMs are present. However, there are about 60 small and medium OEMs such as Premier Machine Tools. The majority of the medium players manufacture press fit machines. The automobile sector is the largest consumer of metal forming industry followed by electronics, packaging, white goods, power, etc. The parts from defence and aerospace sectors are increasingly demanding new kinds of metal forming processes, such as hydroforming and flow forming.

[6] *Indian Machine Tool Manufacturers' Association*
[7] *Modern Manufacturing India*
[8] *The Hindu Business Line*

Machine Tools Market in India – by Value (€ Bn)[9]



Machine Tools Production in India – by Value (€ Mn)[9]



Government policies and procedures affecting the Indian Machine Tools Industry

The Government of India is constantly supporting the manufacturing sector in the country and that is benefitting the machine tools industry as well. The Government has instituted a series of comprehensive policies and procedures to attract investments and enable growth; some of the key highlights are as listed:

- 100% foreign direct investment (FDI) is allowed
- Machine tools manufacturers are exempt from obtaining an industrial licence for developing tools
- Import duties have been consistently reduced to promote increased import and usage of machine tools
- Exports are being recognised as a national priority by all union and state government agencies

Import Duties and Tariffs

IMPORT DUTY STRUCTURE

Product Description	Machine Tools	Total
Duty Description (%)	Duty Rate (%)	
Assessable Value		100 (A)
Basic Customs Duty	7.5% on (A)	7.5 (B)
Social Welfare Surcharge	10% on (B)	.75 (C)
IGST Levy (Integrated Goods & Services Tax)	18% on (A+B+C)	19.485 (D)
Total (A+B+C+D)		127.735
Effective Import Duties		27.735

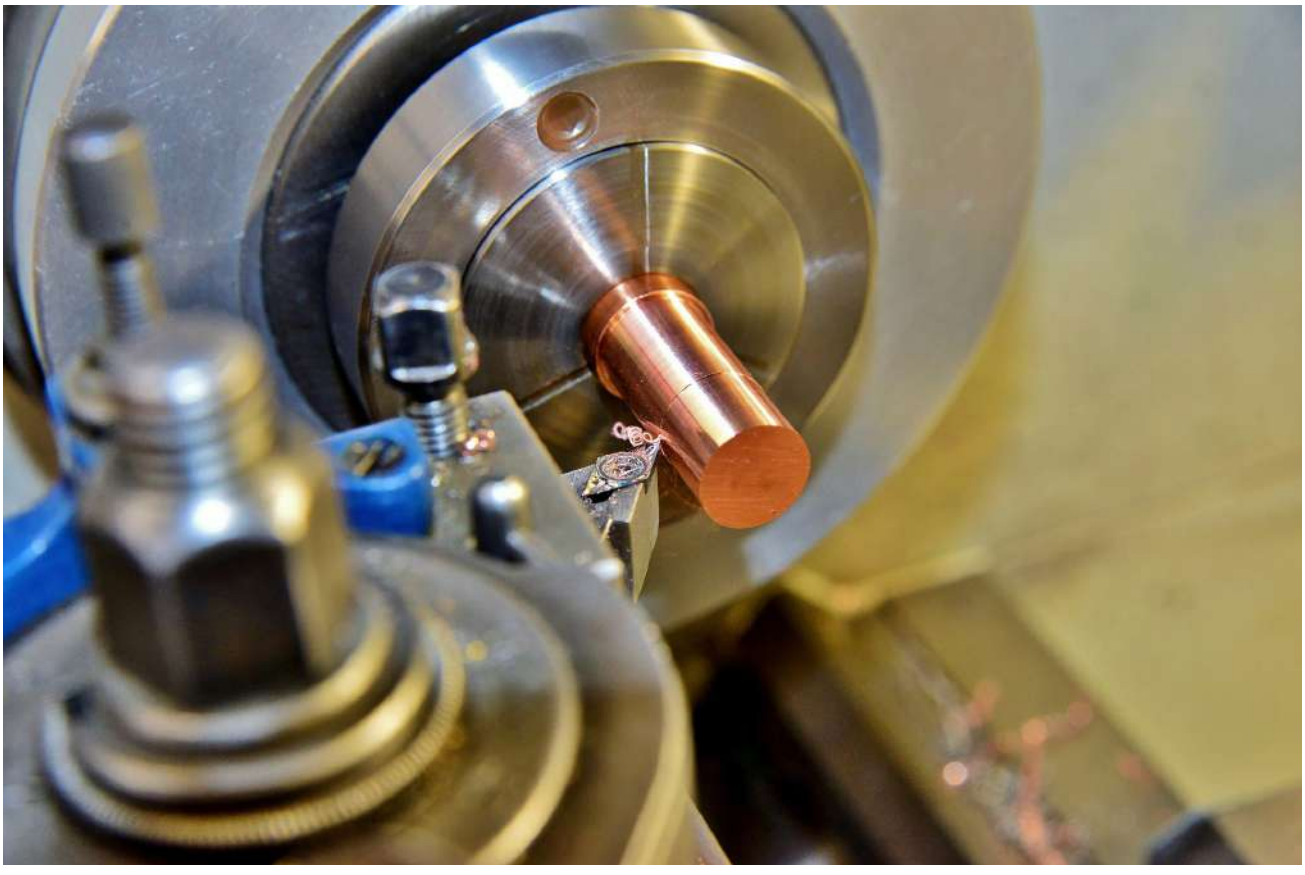
Source: Ministry of Finance, Department of Revenue

HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462, 8463

For four-digit HS codes 8456, 8457, 8458, 8459, 8460, 8461, 8462 and 8463, 27.735% is the most frequently levied rate of effective import duty across products; though, at a six-digit HS codes level, effective import duty rates of 18% are also applicable for a few products.

[9]Indian Machine Tool Manufacturers' Association

Manufacturing Clusters in India



Machine tools industry in India is scattered all over the country. The hubs of manufacturing activities, however are concentrated in Maharashtra, Gujarat, Karnataka, Andhra Pradesh, Tamil Nadu, Haryana and Punjab. These states have attracted sizable investments and are the key industrial hubs. Uttarakhand is also seeking to attract investments and is emerging as an important location for machine tools manufacturing.

Karnataka

Karnataka is the leader among machine tools manufacturing clusters in India, with Bangalore alone producing about 60% of the machine tools of India in terms of value, which is estimated at €291.5 Mn ($332 Mn)[10]. Bangalore is predominantly a metal cutting cluster. The machine tools manufacturing units are located in Bangalore (Peenya Industrial Estate, Abbigere Industrial Estate and Bommasandra Industrial Estate). The cluster not only engages in the manufacturing of components, machine accessories, but also specializes in manufacturing high-value machinery, including special purpose machinery and CNC machines. The state has a congenial ecosystem for manufacturing including public sector units (PSUs), multinational corporations (MNCs) and MSMEs. The government announced the setting up of Tumakuru Machine Tool Park cluster in 2018 to cater to machine tool builders, makers of accessories, components and sub-systems. The government has further identified nine districts to establish industrial clusters to foster innovation and product diversification.

Gujarat

Gujarat is a leading industrial state in India with Rajkot as an important cluster in machine tools manufacturing. Rajkot is the leader in the production of conventional machine tools, followed by Ludhiana and Batala in Punjab. Other clusters in Gujarat are located in Ahmedabad (foundry, forging, auto components, sheet metal packaging and food machinery), Jamnagar (brass parts), Vadodara and Surendranagar. Some of the larger geographical concentrations of machine tool manufacturing units within Rajkot include Shapar, Aji, Bamanbore, Kothariya, Samrat, Atika, and Metoda. Rajkot cluster hosts CNC/vertical machining centre, lathe, hydraulic and mechanical press, drilling machine, slotting machine, special purpose machines, and accessory manufacturers. Leading machine tool manufacturers in the cluster include Jyoti CNC, Singhal Power press, Macpower CNC machines, Weldor Engineering, Kawa Machine Tools, and Gujarat Lathe Manufacturing.

[10]*Karnataka Industrial Area Development Board*

Maharashtra

Engineering, automobiles and textiles are among the key industries in the state. Maharashtra is also among the key clusters for machine tools, especially the Mumbai and Pune areas. Pune houses the world's leading automobile, engineering and electronics companies. The Chakan industrial belt includes Germany-based Volkswagen and Daimler and Indian auto majors, such as Mahindra & Mahindra and Bajaj Auto. Business-friendly industrial policies, infrastructure facilities, proximity to the coast and the availability of large talent pool have made Pune one of the country's manufacturing hubs.

Andhra Pradesh

The automobile and auto components industries have a strong presence in Andhra Pradesh, owing to the presence of large number of automotive component manufacturers. Global car makers are also eyeing Andhra Pradesh for establishing their manufacturing bases. For instance, Kia Motors, the South Korean automobile manufacturer, has invested €1.8 Bn ($2 Bn)[11] for setting up its manufacturing facility in Andhra Pradesh. The state has a major port (Visakhapatnam) and about 14 minor ports, that provide enough opportunities of exports to the established industries. Andhra Pradesh also has high-quality manpower and high literacy rates.

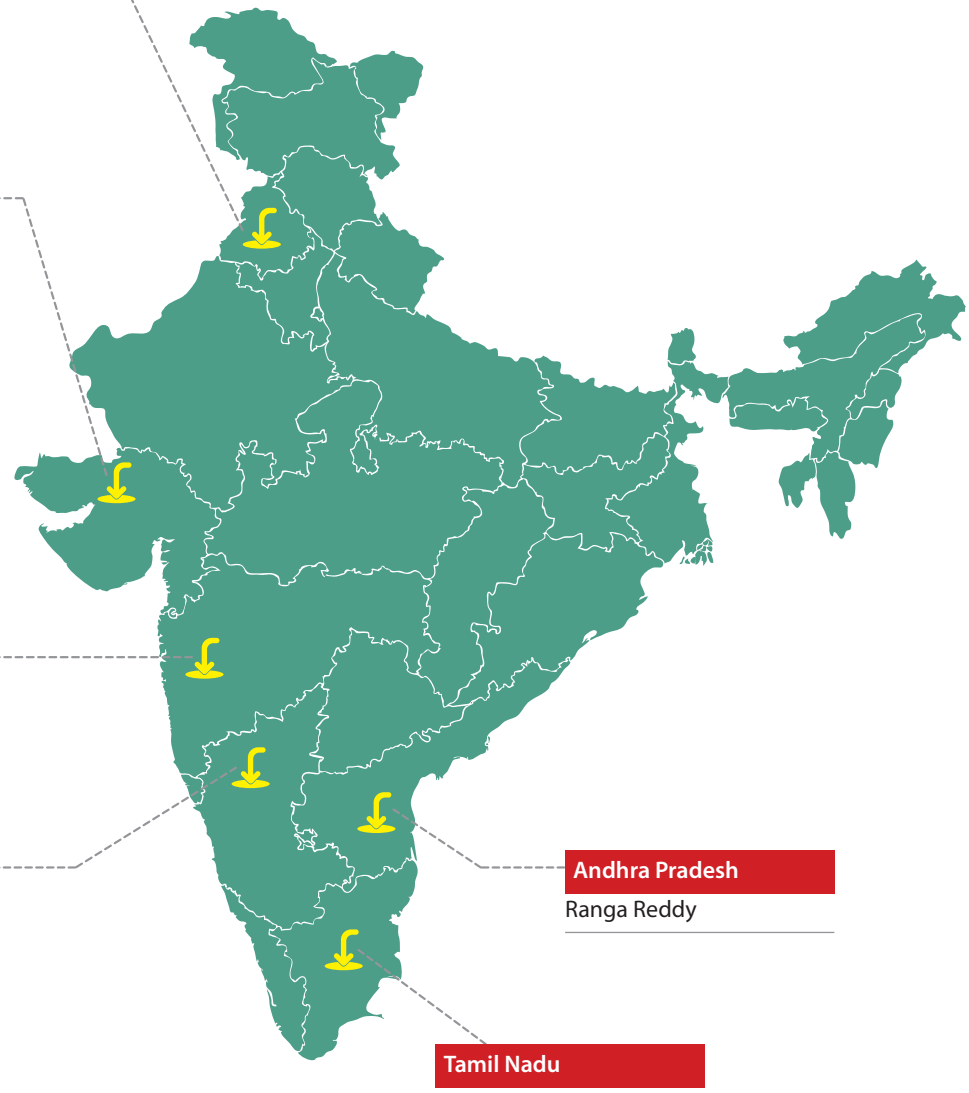
Punjab

Important machine tools manufacturing clusters within Punjab are in Ludhiana (specialising in forging) and Batala (specialising in foundries). The state is a strong base for textile, light engineering goods, including bicycles and their parts, tractors, auto components and hand tool industries. The exports from the state largely include yarn and textiles, engineering goods, bicycles and their parts. The manufacturing sector is receiving significant investments.

[11] *Business Line*

Snapshot of Machine Tools Industry in India

Manufacturing Clusters in India (MAP)



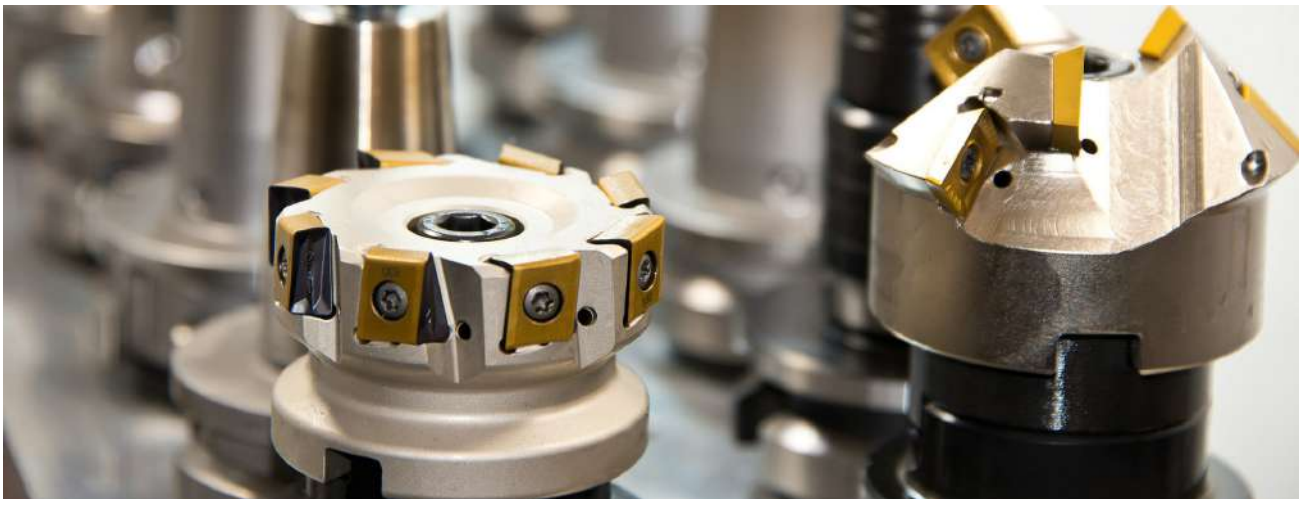
Cluster Name	State	Industry
Bangalore	Karnataka	Cutting
Ahmedabad	Gujarat	Cutting
Baroda	Gujarat	Forming
Rajkot	Gujarat	Cutting/Forming
Jamnagar	Gujarat	Cutting/Forming
Surendranagar	Gujarat	Cutting/Forming
Batala	Punjab	Forming
Jalandhar	Punjab	Forming
Patiala	Punjab	Cutting

Cluster Name	State	Industry
Ludhiana	Punjab	Forming
Mumbai	Maharashtra	Cutting
Pune	Maharashtra	Cutting/Forming
Coimbatore	Tamil Nadu	Forming
Chennai	Tamil Nadu	Cutting
Ranga Reddy	Andhra Pradesh (Located in Telangana)	Cutting/Forming
Bhavnagar	Gujarat	Cutting/Forming

Source: India Brand Equity Foundation

INDIA'S TRADE IN THE MACHINE TOOLS INDUSTRY WITH THE REST OF THE WORLD

Imports into India



COMPLETE SECTOR OF MACHINE TOOLS INDUSTRY

Rank	Partner Country	Calendar Year				Year to Date		
		2016	2017	2018	% Share 2018	6/2018	6/2019	% Change
	World	1,182.8	1,257.0	1,787.0	100	802.9	1,029.8	28.25
1	Japan	319.4	267.1	457.6	25.61	240.0	305.6	27.30
2	China	203.2	224.8	300.1	16.79	135.0	184.1	36.42
3	South Korea	65.8	78.2	245.9	13.76	52.1	84.1	61.45
4	Germany	144.3	199.6	181.9	10.18	90.6	118.4	30.63
5	Taiwan	93.4	111.1	134.9	7.55	63.8	78.6	23.26
6	US	57.5	68.1	89.9	5.03	42.3	42.6	0.63
7	Italy	80.1	86.9	82.6	4.62	43.1	67.0	55.48
8	Switzerland	39.1	42.5	39.6	2.22	25.2	7.3	-70.93
9	Singapore	19.2	23.3	35.7	2	14.3	24.2	69.20
10	UK	20.7	18.9	25.7	1.44	11.1	8.6	-22.39

Source: Ministry of Commerce & Industry of India

€ Million

HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462,8463

Import Statistics

- India's total machine tools imports from the world stood at €1,787 Mn in the calendar year 2018; it ranked 10th among the global importers of machine tools, with 2.6% share in the imports of machine tools
- Japan and China, traditionally the largest exporters of machine tools to the world and India, accounted for ~42% share of India's machine tools imports in the calendar year 2018
- India exhibited an increase of 28.25% in machine tools imports in Jan-Jun 2019, as compared with Jan-Jun 2018

Exports from India

COMPLETE SECTOR OF MACHINE TOOLS INDUSTRY

Rank	Partner Country	Calendar Year 2016	2017	2018	% Share 2018	Year to Date 6/2018	6/2019	% Change
	World	164.7	168.9	143.2	100	70.6	76.3	7.96
1	China	13.1	18.1	15.0	10.48	9.4	5.8	-38.45
2	US	11.6	15.6	14.5	10.13	6.7	9.0	34.74
3	Germany	8.8	8.4	8.5	5.93	3.9	5.0	30.24
4	Bangladesh	10.4	10.0	7.1	4.97	4.5	4.5	0.05
5	Nepal	4.4	6.3	6.4	4.49	2.4	3.7	52.71
6	Spain	5.0	6.1	6.4	4.44	3.3	3.1	-5.69
7	Thailand	1.1	2.2	6.0	4.21	2.5	1.7	-29.63
8	UAE	5.8	7.9	5.8	4.01	2.6	6.9	165.15
9	Malaysia	0.7	0.7	4.5	3.11	0.3	0.2	-42.55
10	France	1.8	1.7	4.0	2.80	1.2	0.7	-37.54
13	Italy	3.4	3.7	3.2	2.23	0.7	2.3	245

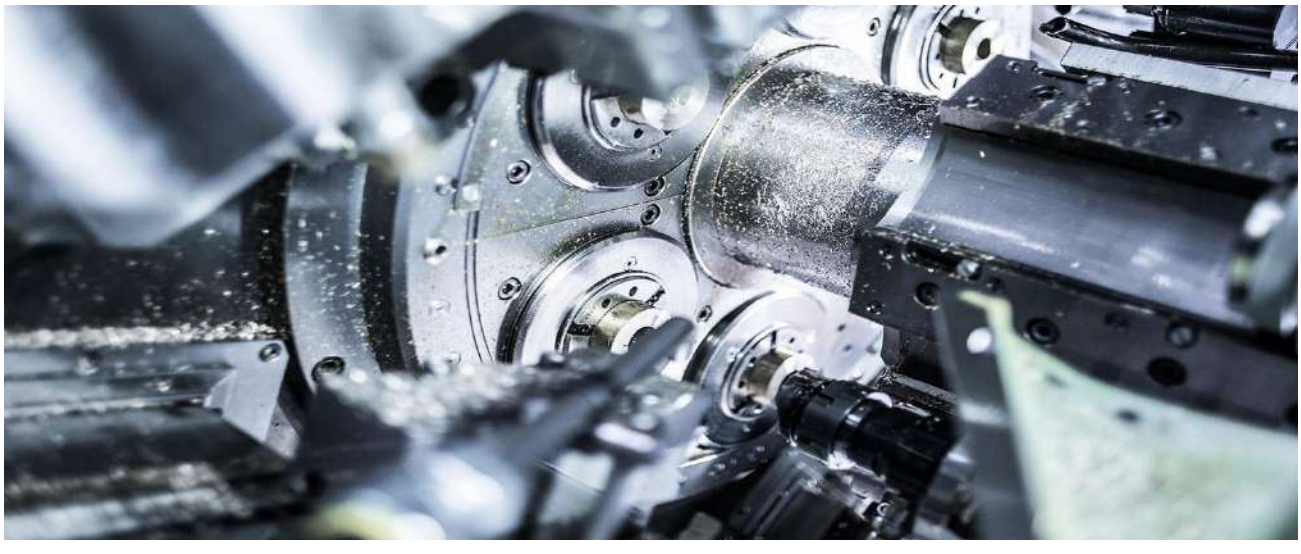
Source: Ministry of Commerce & Industry of India

€ Million

HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462,8463

Export Statistics

- India's exports to the world stood at €143 Mn in the calendar year 2018 and at €76.3 Mn during Jan-Jun 2019; the country was the 18th largest global exporter of machine tools, accounting for 1.7% share in the calendar year 2018
- China has been the largest importer of machine tools products from India since 2016, comprising 10.5% of India's export share in the calendar year 2018
- Italy ranked 13th among the importers of machine tools products from India in the calendar year 2018, comprising 2.2% share of India's total machine tools exports



ITALY'S TRADE IN THE MACHINE TOOLS INDUSTRY WITH THE REST OF THE WORLD

Italy's Machine Tools Exports to the World

COMPLETE SECTOR OF MACHINE TOOLS INDUSTRY

Rank	Partner Country	Calendar Year 2016	2017	2018	% Share 2018	Year to Date 6/2018	6/2019	% Change
	World	3,056.3	3,179.5	3,431.0	100	1,604.8	1,652.1	2.95
1	Germany	376.8	344.6	394.5	11.50	196.3	184.8	-5.87
2	US	351.4	322.9	358.8	10.46	148.6	187.0	25.84
3	China	315.9	345.1	340.6	9.93	168.5	166.8	-0.96
4	Poland	137.4	162.5	229.4	6.69	102.8	87.5	-14.92
5	France	219.9	214.6	227.2	6.62	101.5	119.3	17.49
6	Spain	116.1	134.0	144.4	4.21	81.8	67.8	-17.07
7	Russia	75.2	88.3	99.6	2.90	36.6	56.2	53.36
8	Turkey	87.3	87.4	89.9	2.62	54.0	40.9	-24.32
9	Mexico	99.4	121.7	89.1	2.60	35.3	35.7	1.23
10	India	70.0	53.9	84.1	2.45	44.0	52.7	19.62

Source: The Italian National Institute of Statistics (ISTAT)

€ Million

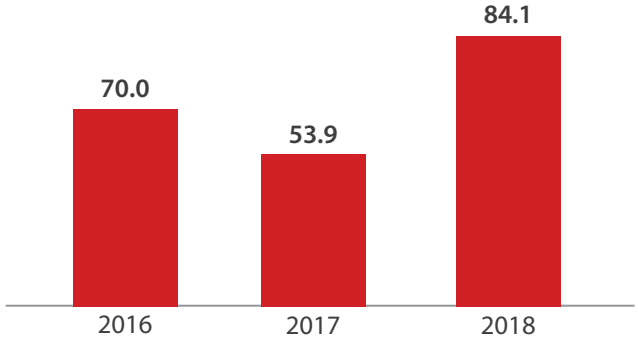
HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462,8463

Market Share

Italian Trade Statistics

- Italy is the 9th largest exporter of machine tools in the world, with an export size of €3,431 Mn or nearly 2.8% share in the global exports in the calendar year 2018
- Germany was Italy's largest trade partner for import of machine tools from Italy in the calendar year 2018, accounting for 11.5% share; it was followed by the US, China and Poland, together accounting for ~28% share of Italy's machine tools export in that year
- India's share in the overall machine tools exports from Italy was 2.5% in the calendar year 2018 (at 10th rank overall)

Italy's Export in the Complete Machine Tools Sector to India (€ Mn)



BILATERAL TRADE IN MACHINE TOOLS INDUSTRY BETWEEN INDIA-ITALY

India's Imports from Italy

	2016	2017	2018	6/2018	6/2019
Values in € Million	80.1	86.9	82.6	43.1	67.0
% Growth (2017/2018)			-5.0%		55.5%
Total Import of Commodity	1,182.8	1,257.0	1,787.0	802.9	1,029.8
% Growth (2017/2018)			42.2%		28.3%
% Share of country (1 of 3)	6.8%	6.9%	4.6%	5.4%	6.5%
Total Import from Italy to Country	3,483.5	3,921.0	4,519.7	2,054.2	2,175.6
% Growth (2017/2018)			15.3%		5.9%
% Share of commodity (1 of 6)	2.3%	2.2%	1.8%	2.1%	3.1%

€ Million

HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462,8463

India's Exports to Italy

	2016	2017	2018	6/2018	6/2019
Values in € Million	3.4	3.7	3.2	0.7	2.3
% Growth (2017/2018)			-14.3%		245.0%
Total Export of Commodity	164.7	168.9	143.2	70.6	76.3
% Growth (2017/2018)			-15.2%		8.0%
% Share of country (1 of 3)	2.1%	2.2%	2.2%	0.9%	3.0%
Total Export from Country to Italy	4,090.0	5,093.5	4,701.4	2,405.7	2,432.3
% Growth (2017/2018)			-7.7%		1.1%
% Share of commodity (1 of 6)	0.08%	0.07%	0.07%	0.03%	0.09%

€ Million

HS Code: 8456, 8457, 8458, 8459, 8460, 8461, 8462,8463

CUTTING TOOLS

Imports into India

CUTTING TOOLS

Rank	Partner Country	Calendar Year 2016	2017	2018	% Share 2018	Year to Date 6/2018	6/2019	% Change
	World	486.5	460.4	613.9	100	278.7	387.5	39.04
1	Japan	115.7	74.1	135.9	22.14	69.7	104.2	49.45
2	China	67.2	84.8	111.4	18.14	50.3	63.6	26.31
3	Germany	78.1	98.9	102.3	16.67	49.1	63.7	29.66
4	South Korea	8.4	10.8	49.5	8.07	9.2	21.9	138.77
5	Taiwan	29.6	26.2	35.0	5.69	15.8	22.4	41.19
6	US	31.9	26.8	31.8	5.17	15.7	15.8	0.80
7	Italy	32.0	31.6	28.7	4.68	13.0	33.3	157.16
8	Switzerland	28.8	30.6	20.8	3.39	11.7	5.4	-53.71
9	UK	16.2	12.2	12.2	2	4.1	4.5	9.04
10	Belgium	2.9	1.5	10.5	1.72	3.5	9.0	160.95

Source: Ministry of Commerce & Industry of India

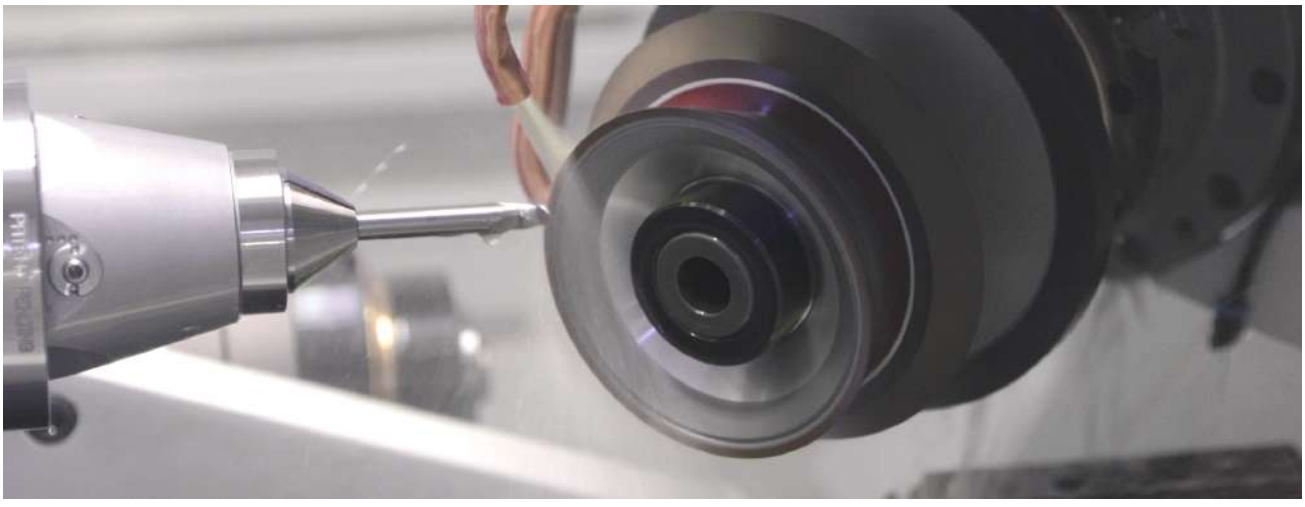
€ Million
HS Code: 8456, 8459, 8460, 8461

Import Statistics

- India's imports from the world stood at €614 Mn in the calendar year 2018; at a global level, India was the 10th largest importer of cutting tools and accounted for 2.6% of the global import share for the product category
- Italy was the 7th largest exporter of cutting tools to India in 2018, accounting for 4.7% of India's import share in the calendar year 2018
- India's net import of cutting tools increased by 39% during Jan-Jun 2019, as against Jan-Jun 2018; the country's imports from Italy increased by 157% during this period

Trade in Sub-sectors

Exports from India



CUTTING TOOLS

Rank	Partner Country	Calendar Year				Year to Date		
		2016	2017	2018	% Share 2018	6/2018	6/2019	% Change
	World	45.3	52.0	57.5	100	27.9	29.2	4.50
1	China	8.3	10.8	8.7	15.10	4.1	3.2	-22.07
2	US	8.1	10.0	8.5	14.81	3.5	4.6	29.63
3	Thailand	0.3	0.7	3.4	5.98	1.5	0.5	-67.72
4	Germany	3.2	2.4	3.2	5.51	1.1	1.2	2.66
5	France	0.1	0.2	2.1	3.69	0.3	0.0	-90.98
6	Mexico	0.5	0.6	2.0	3.44	0.9	0.4	-53.49
7	UAE	2.6	1.8	1.8	3.16	0.6	2.4	271.12
8	Nepal	1.2	2.1	1.6	2.78	0.7	1.0	46.69
9	Bangladesh	1.5	1.7	1.6	2.72	1.1	1.1	-6.86
10	Vietnam	0.3	1.3	1.4	2.36	1.2	0.1	-93.93
14	Italy	1.0	1.4	1.0	1.72	0.4	1.0	148.83

Source: Ministry of Commerce & Industry of India

€ Million
HS Code: 8456, 8459, 8460, 8461

Export Statistics

- India's exports to the world stood at €57.5 Mn in the calendar year 2018 and at €29.2 Mn during Jan-Jun 2019; among the global exporters of cutting tools, it stood at 18th position in the calendar year 2018 with 1.7% share in the global exports
- China has been the largest importer of cutting tools from India since 2016, comprising 15.1% of India's export share in the calendar year 2018; it has been followed by the US with a share of 14.8% that year

Exports from Italy

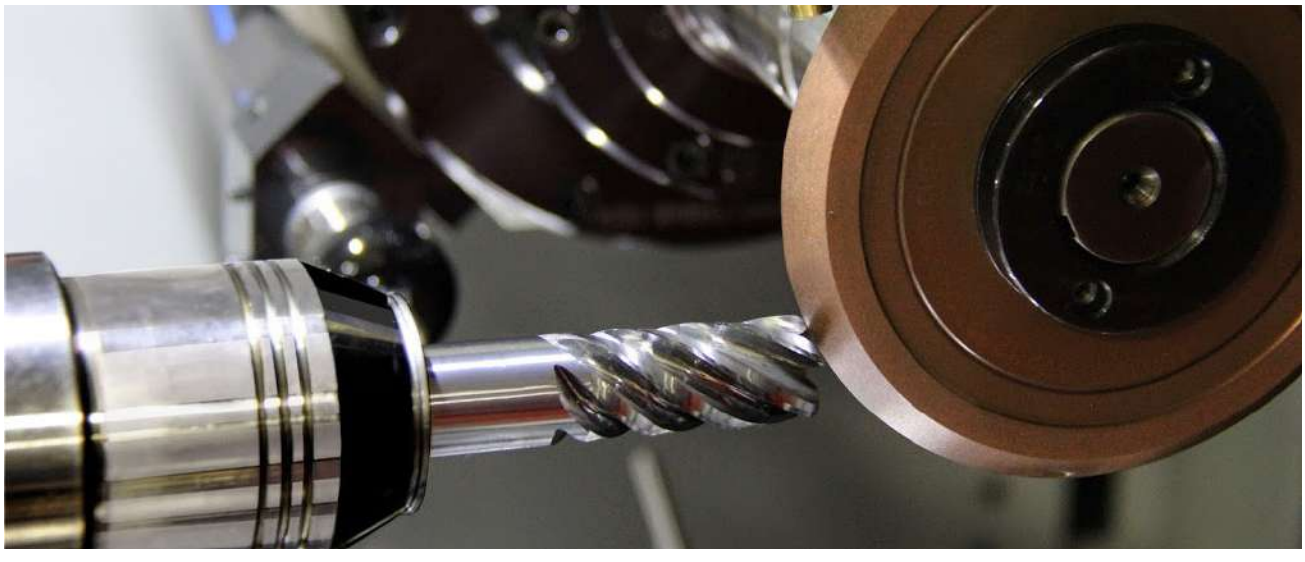
CUTTING TOOLS								
		Calendar Year				Year to Date		
Rank	Partner Country	2016	2017	2018	% Share 2018	6/2018	6/2019	% Change
	World	1,027.4	1,047.5	1,107.9	100	519.3	529.6	1.98
1	China	149.3	148.1	126.4	11.41	52.2	56.3	7.72
2	Germany	98.5	103.8	119.8	10.81	60.2	42.1	-30.02
3	US	119.1	101.5	114.5	10.33	49.5	53.3	7.79
4	France	72.3	75.2	62.5	5.65	25.3	39.8	57.59
5	Poland	36.4	49.6	60.4	5.45	28.1	29.4	4.52
6	Spain	43.1	51.7	49.0	4.43	24.8	23.9	-3.66
7	Mexico	31.0	37.5	41.2	3.72	13.7	10.6	-22.30
8	Russia	26.1	31.1	30.6	2.76	15.2	13.4	-12.39
9	India	31.4	21.5	28.4	2.56	15.1	32.0	112.50
10	Turkey	29.6	27.8	25.9	2.33	16.5	9.5	-42.22

Source: The Italian National Institute of Statistics (ISTAT)

€ Million
HS Code: 8456, 8459, 8460, 8461

Export Statistics

- Italy is the 9th largest exporter of cutting tools in the world, with an export size of €1,108 Mn or about 2.8% share in the global exports in the calendar year 2018
- China was Italy's largest trade partner for import of cutting tools in the calendar year 2018, with an 11.4% share; China was followed by Germany and the US, with a combined share of 21% of Italy's export of cutting tools in that year
- India's share in the overall cutting tools exports from Italy was 2.6% in the calendar year 2018



FORMING TOOLS

Imports into India

FORMING TOOLS

Rank	Partner Country	Calendar Year 2016	2017	2018	% Share 2018	Year to Date 6/2018	6/2019	% Change
	World	696.2	796.6	1,173.1	100	524.3	642.3	22.51
1	Japan	203.7	193.0	321.7	27.42	170.3	201.4	18.24
2	South Korea	57.4	67.3	196.4	16.75	42.9	62.2	44.95
3	China	136.0	140.0	188.7	16.09	84.6	120.5	42.44
4	Taiwan	63.8	84.9	99.9	8.52	48.0	56.3	17.33
5	Germany	66.2	100.7	79.6	6.79	41.5	54.6	31.77
6	US	25.6	41.3	58.2	4.96	26.6	26.8	0.53
7	Italy	48.1	55.3	53.9	4.59	30.1	33.7	11.78
8	Singapore	13.3	17.0	28.1	2.40	10.4	16.6	60.70
9	Switzerland	10.3	11.9	18.8	1.60	13.5	1.9	-85.91
10	Belgium	4.7	9.3	13.5	1.15	8.2	8.4	2.63

Source: Ministry of Commerce & Industry of India

€ Million
HS Code: 8457, 8458, 8462, 8463

Import Statistics

- India's imports of forming tools from the world stood at €1,173 Mn in the calendar year 2018 and at €642.3 Mn during Jan-Jun 2019, registering a 22.5% growth during Jan-Jun 2019, as against Jan-Jun 2018
- Japan has been the largest exporter of forming tools to India since 2016, with 27.4% export share in the the calendar year 2018
- Italy, the seventh-largest exporting country to India for forming tools, accounted for 4.6% share of the imported forming tools into India in 2018. The value of imports has seen an increase of 11.8% during Jan-Jun 2019 as compared with Jan-Jun 2018

Exports from India

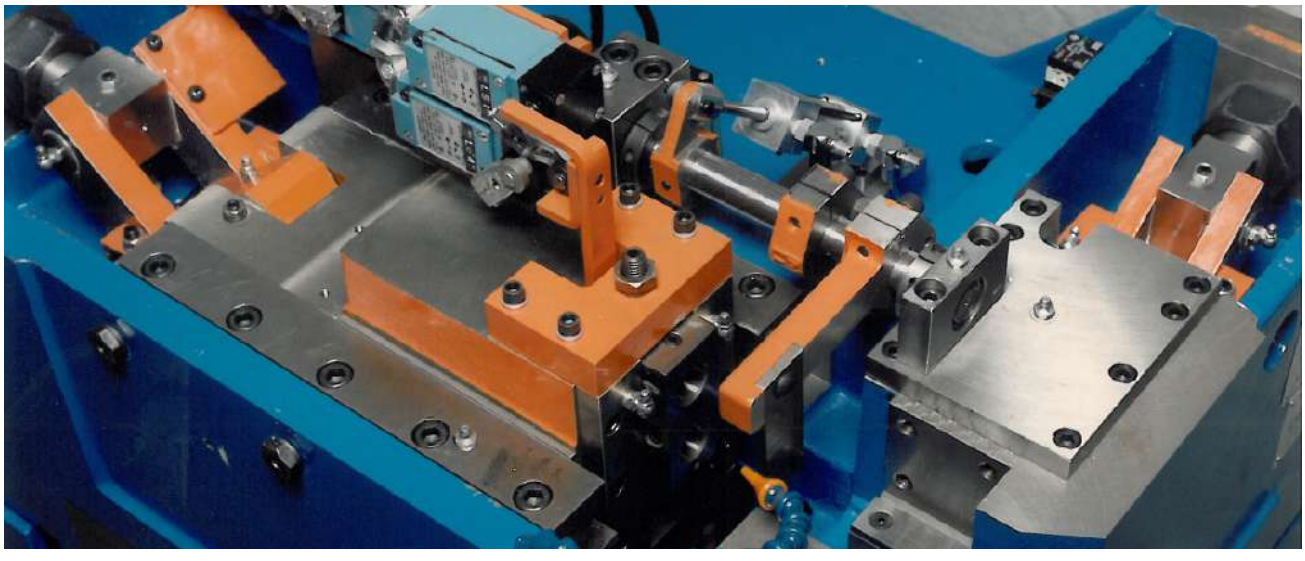
FORMING TOOLS								
		Calendar Year				Year to Date		
Rank	Partner Country	2016	2017	2018	% Share 2018	6/2018	6/2019	% Change
	World	119.4	116.9	85.7	100	42.7	47.1	10.22
1	China	4.9	7.3	6.3	7.39	5.3	2.6	-51.15
2	US	3.5	5.7	6.0	6.99	3.2	4.4	40.43
3	Bangladesh	8.9	8.3	5.6	6.48	3.4	3.5	2.36
4	Spain	3.8	6.0	5.5	6.37	2.9	2.5	-11.82
5	Germany	5.6	6.0	5.3	6.20	2.7	3.9	41.65
6	Nepal	3.2	4.1	4.8	5.63	1.7	2.6	55.22
7	Malaysia	0.4	0.4	4.1	4.81	0.0	0.0	4935.86
8	UAE	3.2	6.1	3.9	4.59	1.9	4.5	130.26
9	Turkey	1.9	1.9	3.2	3.74	1.6	0.4	-77.65
10	Thailand	0.8	1.5	2.6	3.01	1.0	1.3	30.51
13	Italy	2.4	2.4	2.2	2.57	0.2	1.2	415.50

Source: Ministry of Commerce & Industry of India

€ Million
HS Code: 8457, 8458, 8462, 8463

Export Statistics

- India stood at 18th position in terms of exports of forming tools to the world, with the export value amounting to €85.7 Mn in the calendar year 2018, and €47.1 Mn during Jan-Jun 2019
- China was the largest importer of forming tools from India during 2016-2018, accounting for 7.4% export share of Indian forming tools in the calendar year 2018; it was followed by the US with a 7% share that year
- Italy – occupying 13th spot among the largest importers of Indian forming tools – was also a significant recipient of Indian forming tools in the calendar year 2018



Exports from Italy

FORMING TOOLS

Rank	Partner Country	Calendar Year 2016	2017	2018	% Share 2018	Year to Date 6/2018	6/2019	% Change
	World	2,028.9	2,132.0	2,323.2	100.00	1,085.5	1,122.5	3.41
1	Germany	278.2	240.8	274.8	11.83	136.1	142.7	4.81
2	US	232.3	221.4	244.3	10.52	99.2	133.7	34.84
3	China	166.6	197.1	214.2	9.22	116.2	110.6	-4.86
4	Poland	101.0	112.9	169.0	7.28	74.7	58.1	-22.23
5	France	147.6	139.5	164.6	7.09	76.3	79.5	4.19
6	Spain	73.0	82.4	95.4	4.11	57.0	44.0	-22.89
7	Russia	49.1	57.1	69.0	2.97	21.4	42.8	100.21
8	Turkey	57.7	59.6	64.1	2.76	37.5	31.4	-16.44
9	Romania	24.5	25.4	62.9	2.71	24.4	21.2	-13.42
10	UK	52.9	52.9	57.1	2.46	30.9	26.1	-15.58
11	India	38.7	32.4	55.7	2.40	29.0	20.7	-28.69

Source: The Italian National Institute of Statistics (ISTAT)

€ Million
HS Code: 8457, 8458, 8462, 8463

Export Statistics

- Italy's exports to the world stood at €2,323 Mn in the calendar year 2018 and at €1122.5 Mn during Jan-Jun 2019
- Germany has been the largest importer of forming tools from Italy since 2016, accounting for 11.8% of Italy's export share in the calendar year 2018
- India's share in the overall export of forming tools from Italy has been fairly significant

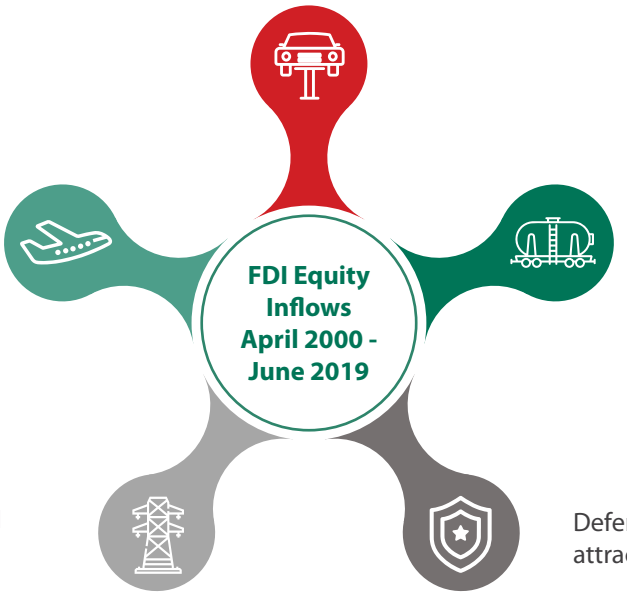
FDI Scenario in the Indian Machine Tools Industry

- As per India's FDI policy, 100% Foreign Direct Investment (FDI) is permitted in the machine tools industry in India
- The government has exempted machine tools manufacturers from obtaining an industrial licence for developing tools, which is driving demand for this industry
- Cumulative FDI flows into India accounted for €552 Bn[12] ($628.8 Bn) from April 2000-June 2019
- India's manufacturing sector attracted total FDI of €6,953 Mn[13] ($7,919 Mn) during 2018-19
- The Indian machine tools sector offers several opportunities for investment, as the industry is moving towards increasingly sophisticated CNC machines, driven by demand from key user segments, such as automobiles and consumer durables

FDI inflow in Key Sub-sectors[14]

Automotive industry witnessed FDI inflow of €19.7 Bn

The air transport sector (including air freight) attracted FDI equity inflows worth €1.7 Bn



Railways-related components industry witnessed FDI inflow of €0.9 Bn

The power sector attracted FDI equity inflow of €12.7 Bn

Defence-related industries attracted FDI worth €6.4 Mn

[12,14] *Department for Promotion of Industry and Internal Trade*
[13] *Reserve Bank of India – Annual Report 2019*

Italian Companies with Active Presence in India

Prima Industrie is a leading group in developing, manufacturing and marketing of laser systems for industrial applications, sheet metal processing machinery, industrial electronics, laser sources and additive manufacturing solutions.

Prima Power opened its new subsidiary in India, Prima Machines Services India Pvt. Ltd. The main office of the subsidiary is based in Pune and supports sales and service activities in this market.

Established in 1958, Biglia is a leading Italian manufacturer of CNC lathes and turning centres.

In 2015, a joint venture was formed between Galaxy Machinery and Biglia, wherein Galaxy Machinery started the manufacturing of Biglia CNC Machines in India.

Founded in 1926, Pama develops and manufactures boring machines, milling machines and machining centres, and is one of the global leaders in the production of large machine tools.

The company has a subsidiary in India - Pama India Pvt. Ltd., which is involved in the manufacturing of special purpose machinery.

Breton S.p.A. is one of the global leaders in the production of machines to process natural stone, metals and compound stone processing plants.

Breton has an authorised workshop in Bangalore, India. Registered in 2008, Breton India Services Pvt. Ltd. specializes in offering CNC machine, metal machining, processing natural marble, granite, Bretonstone and Breton Cemstone.

Rosa Ermando S.p.A. is engaged in the design and manufacture of grinding machines.

In 2013, Rosa Ermando entered into a joint venture with UCAM of Bangalore to set up manufacturing facility in India. UCAM held 51% in the joint venture company and the rest was held by Rosa Ermando, in order to manufacture surface grinding machines.

MAUS S.p.A. is a leading company in automatic grinding and vertical turning for various application fields such as automotive, aerospace, bearings and energy and off-shore equipment.

MAUS (Italy) formed a joint venture with TAL Manufacturing Solutions, which was announced during IMTEX (2007), in order to gain an edge in terms of technology and superior quality machines.

Founded in 1926, Tacchi Giacomo e Figli S.p.A. engages in the production of medium and heavy CNC lathes, turning/ milling centres and deep hole boring machines, customized according to the user's requirements.

The company has a service centre through its agents in India - Tacchi Service Centre, located in Hyderabad.

Duplomatic Automation S.r.l. develops sophisticated models for different machine tool applications. It started with the production of automatic hydraulic copying devices and continued through the introduction of the first tool turrets and B-Axis units.

Duplomatic has a service centre in Bengaluru, India.

Italian Companies Present in India Through Local Partner(s)

Melchiorre S.r.l. is a manufacturer of high precision machine tools. Potential applications cover almost every industrial sector, such as automotive, hydraulic, electronic, optic, ceramics, etc.

The company has its presence in India through local distributor - SpeedFam Co. Ltd, Mumbai.

R.M.T.T. deals in the trading of used machine tools (conventional and CNC machines) for use in metalworking and manufacturing industries and supply machineries for industries such as automobiles, gas turbines, nuclear energy, aeronautics, railways, precision manufacture and construction and advanced production.

In 2015, a joint venture was formed between Galaxy Machinery and Biglia, wherein Galaxy Machinery started the manufacturing of Biglia CNC Machines in India.

Founded in 1922, Pietro Carnaghi specialises in the manufacturing of machine tools. It is one of the global leaders in the production of large vertical lathes and provides advanced machining technology.

The company currently caters to customers in India through various distributors such as Orient Enterprise (Mumbai) and Heatly & Gresham (India) Pvt. Ltd (New Delhi, Kolkata, Bengaluru).

Established in 1969, CMS S.p.A. manufactures machinery and systems for the machining of composite materials, carbon fibre, aluminium, light alloys, plastic, glass, stone and metals.

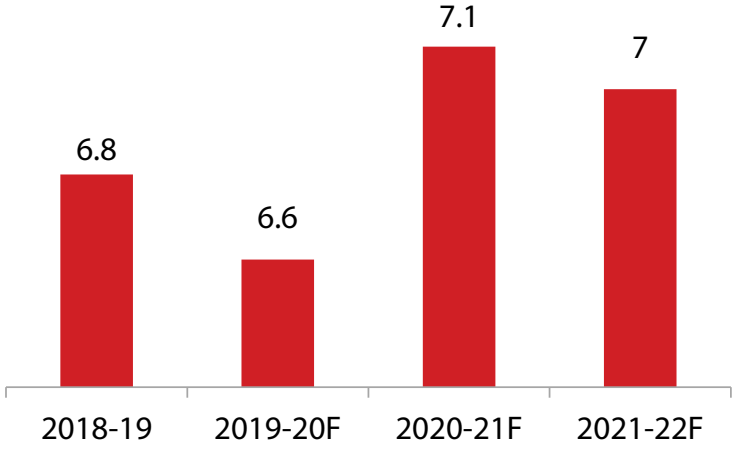
Since 2002, CMS is a company of the SCM Group which operates in India through a dealer, Caple Industrial Solutions having its centres in Bengaluru, Kolkata, New Delhi and Mumbai.

Improving Economic and Business Environment[15]

India has emerged as the fastest growing major economy in the world. The current state of India's economy is as follows:

- India's gross domestic product (GDP) is expected to reach €5.3 Tn[16] ($6 Tn by 2027) and achieve upper-middle income status on the back of digitisation, globalisation, favourable demographics, and reforms
- GDP growth is forecasted at 6.6% for FY 2019-20; however, GDP growth forecast for FY 2020-21 and 2021-22 are 7.1% and 7%, respectively
- The per capita income has increased from €1,000 (INR 79,118) in 2014 to €1,583.7 (INR 125,397) in 2019, growing at 9.6% CAGR during 2014-2019
- FDI inflows have increased from €31.6 Bn ($36 Bn) in 2014 to €54.4 Bn ($62 Bn) in 2019, growing at a CAGR of 11.5% during 2014-2019
- India is expected to be the third-largest consumer economy and its consumption is expected to increase to €3.5 Tn ($4 Tn) by 2025

India's GDP Growth (%)



Source: PHD Research Bureau compiled from Fitch Ratings

Government Programmes and Initiatives

Some of the major projects supported by the Government of India, to create investment opportunities in Indian machine tools sector are as follows:

Make in India

'Make in India' is a programme designed by the Government of India to facilitate investment, foster innovation, enhance skill development, protect intellectual property and improve the manufacturing infrastructure in the country. One of the primary objectives of this initiative is to attract investments from around the world and strengthen India's manufacturing sector. It will directly impact the machine tools industry as the industry is at the core of manufacturing. India's vision to emerge as a global manufacturing hub is closely linked to its capability in machine tools. The industry will play a significant role in making the 'Make in India' initiative successful. The government is also planning large projects to enhance the infrastructure in tier 2 cities, that will directly involve the metal forming segment of the machine tool industry.

Under the 'Make in India' initiative, the Government of India aims to increase the share of manufacturing sector in the GDP from 16% in 2018-19 to 25% by 2022 and create 100 Mn new jobs by 2022.[17]

[15,16,17] *India Brand Equity Foundation*

Implementation of Goods and Services Tax (GST)

GST has unified tax rates across the country and has simplified the complex tax structure. By rectifying breaks in the supply chain and allowing easier flow of input tax credits, GST will substantially eliminate the cascading effect of taxes. The players expect a reduction in the overall indirect tax cost, leading to reduced cost of production.

18%[18] is the GST rate for machine tools, covering HS codes 8456, 8457, 8458, 8459, 8460, 8461, 8462 and 8463.

National Capital Goods Policy

The machine tools sector is included in the National Capital Goods Policy that aims at making the Indian capital goods sector competitive globally. The policy will consider the major capital goods sub-sectors such as machine tools, textile machinery, earthmoving and mining machinery, heavy electrical equipment, plastic machinery, process plant equipment, dies, moulds and press tools, printing and packaging machinery and food processing machinery as priority sectors to be developed under the 'Make in India' initiative.

Zero Defect Zero Effect (ZED) Certification Scheme

The objectives of the ZED Certification Scheme include inculcating 'Zero Defect and Zero Effect' practices in manufacturing processes, ensuring high production of high-quality products. The ZED Certification scheme is an extensive drive to create appropriate awareness in Micro, Small & Medium Enterprises (MSMEs) about ZED manufacturing and motivate and support them for assessment of their enterprise for ZED manufacturing. After ZED assessment, MSMEs can reduce wastes substantially, increase productivity, become vendors to Central Public Sector Undertaking (CPSUs), have more Intellectual Property Rights (IPRs) and develop new products and processes.

Mini Tool Room and Training Centre Scheme

Government of India has planned to assist the state governments to set up 'Mini Tool Room' and training centres to meet the growing demand of machine tools and dies in the country, especially in the MSME sector. The objectives of the 'Mini Tool Room' and training centres are as follows:

- To manufacture jigs, fixtures, cutting tools, gauges, press tools, plastic moulds, forging dies, pressure casting dies and other tools for small scale industries, by adopting advanced tool-making processes using Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) techniques
- To provide training for tool manufacturing and tool design, with an aim to increase the skilled work force, supervisors and engineers/designers
- To provide consultancy, information service and documentation for solving problems related to tools
- To act as a common facility centre for small scale industries and to assist them in product and prototype development

Some of the fiscal incentives being offered by the Government of India to promote the machine tools sector are as follows:

- The Central Board of Direct Taxes (CBDT) has entered into 34 Advance Pricing Agreements (APA) in the manufacturing sector, avoiding transfer pricing disputes and providing certainty to the taxpayers by reducing compliance costs
- The Government of India provides sector-specific subsidies for promoting manufacturing; for instance, to boost manufacturing of electronics, the government provides capital subsidy of up to 25%[19] for 10 years
- Incentives are provided for units in Special Economic Zones (SEZ) and National Investment and Manufacturing Zones (NIMZ), as specified in respective acts, or for setting up projects in special areas such as North East Region, Jammu & Kashmir, Himachal Pradesh and Uttarakhand

[18] *Tax2Win*
[19] *Deloitte Report*

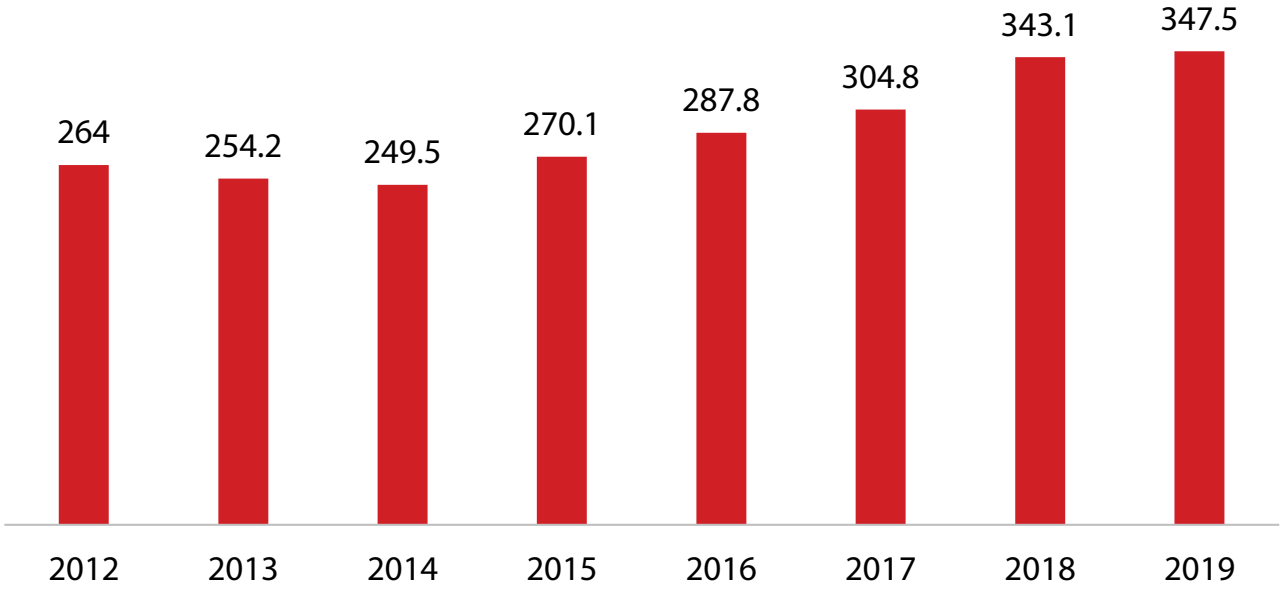
Growth of Manufacturing Sector in India

The manufacturing sector in India has the potential to reach €0.87 Tn[20] ($1 Tn) by 2025, growing from €350.6 Bn ($396 Bn) in 2019. India is expected to rank among the top three growth economies and manufacturing destinations of the world by 2020. According to National Manufacturing Competitiveness Council (NMCC), the Indian manufacturing sector will contribute 25% to the country's GDP by 2025.

Leveraging the 'Make in India' initiative, India is on the path of becoming a hub for hi-tech manufacturing. Global giants such as GE, Siemens, HTC, Toshiba, and Boeing have either set up or are in process of setting up manufacturing plants in India. Foreign investors are attracted by India's market of about a billion consumers and increasing purchasing power.

Foreign Direct Investment (FDI) inflows in India's manufacturing sector accounted for €6953 Mn[21] ($7919 Mn) during 2018-19.

Gross Value Added (GVA) of Manufacturing Sector (€Bn)[6]



Major Investments

India has become one of the most attractive destinations for investments in the manufacturing sector. Some of the major investments and developments in this sector are:

- Smartphone maker OnePlus anticipates that India will become its largest research and development base within the next three years
- Filatex India, a polymer manufacturer, is planning to undertake forward integration by setting up a fabric manufacturing and processing unit
- Indian Institute of Science's (IISc) Society of Innovation and Development (SID) and WIPRO 3D are collaborating to produce India's first industrial-scale 3D printing machine
- Ashok Leyland is utilising machine learning algorithms and telematics units to improve the performance of the vehicles and drivers for its commercial vehicles

[20] *Business Today*
[21] *Reserve Bank of India – Annual Report 2019*

Key Projects

- Lodhika GIDC in Rajkot district is an indicative location for establishment of a machine tools manufacturing plant. It has presence of various machine tools companies and of other sectors such as packaging, food-processing, building material and pharmaceuticals. The site is owned and managed by Gujarat Industrial Development Corporation (GIDC) and falls under Rajkot district, which is among one of the largest machine tools manufacturing clusters in Gujarat.
- Bharat Fritz Werner Ltd. (BFW), one of India's leading solution providers for machine tools, has announced the incorporation of a wholly owned subsidiary 'm2nxt Solutions'. The new entity will provide offerings for 'smart manufacturing,' using both the cyber and physical automation solutions. The company will be a knowledge-based solution provider for advanced manufacturing processes including jigs and fixtures, Industrial Internet of Things (IIoT), robotics and data analytics. The vision of the company will be to enhance profitability through increased productivity of manufacturing companies. BFW inaugurated its first digital factory in Hosur, Tamil Nadu, in August 2018.
- As a joint initiative of the state and central governments, the Tumakuru Machine Tool Park will be set up in about 500 acres of land at Vasantha Narasapura industrial area in Karnataka. The Karnataka government began identifying farmlands in rural areas to set up industrial units to be a premier investment destination. The park is expected to trigger the production of hi-tech machine tools and attract investments.
- CERATIZIT Group, a manufacturer of metal cutting products, launched a new cutting tool competence unified brand structure for the Indian market, that covers all machining applications and offers tailor-made solution packages for industries such as automotive, aerospace and heavy metal cutting. With a production site in Kolkata and two plants in Bengaluru, the group is now able to produce the entire range of cutting tool solutions in India.

Growing Demand for Machine Tools

Growth in the manufacturing sector across emerging markets, coupled with growing demand for machining tools in automotive, defence, and aerospace, will elevate the industry. Rising automation and use of advanced technology in manufacturing and construction industry will also increase demand for machine tools among consumers and end-use industries.

Several companies are using technologically advanced CNC machining with pre-programmed computer software, required for dictating the movement of machinery and tools in manufacturing units and development of highly intricate models and components. This has subsequently led to a rise in implementation of machine tool technology in lathe, milling, laser, grinding, and welding machines. CNC machining has been a key propeller of the industry, owing to increased efficiency and reduced cycle time and material wastage.

Growth Opportunities Across Key End-Use Sectors

Automobile, auto component and capital goods industries form a major market for machine tools in India. The automobile industry accounts for about 40% of the machine tools industry and is likely to grow at a healthy rate. Machine tools also find their usage in the engineering, steel, glass, ceramics and refractory segments, owing to the government's focus on construction, infrastructure and low-cost housing.

Other focus industries for machine tools are railways, aerospace and defence. Aerospace sector is the fastest-growing application due to growing use of multi-tasking machines in the aerospace industry. As all these industries require high-end sophisticated and precision machines, the machine tools market will move towards innovation and will graduate to the next level.

Automotive Industry

Overview

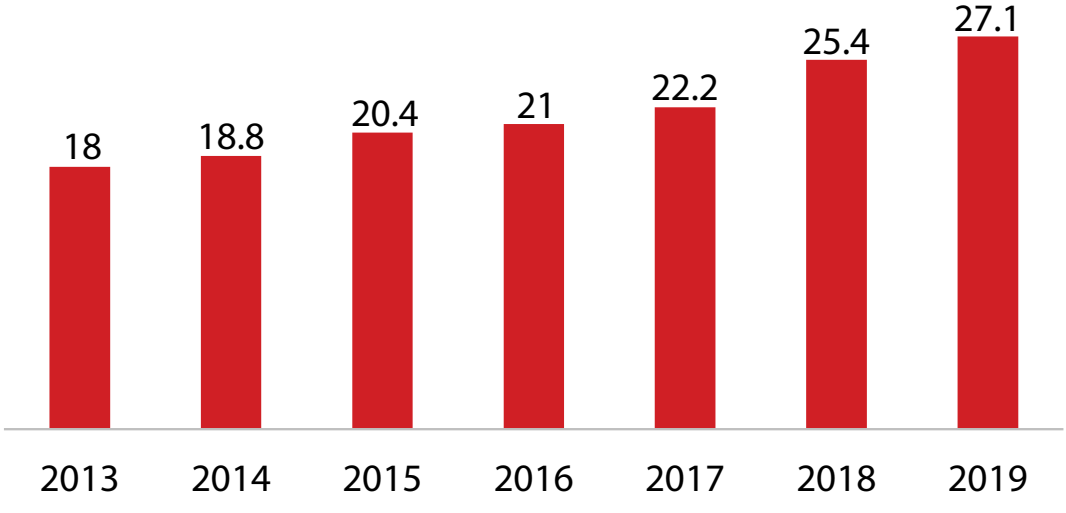
The automotive industry is a key driver of macroeconomic growth and technological advancement in India. The automotive industry contributes about 7%[22] to the total GDP and provides employment to about 32 Mn people. The strong domestic demand for automobiles and supportive government policies have been among the key propellers of the industry.

India is expected to be the world's third-largest automotive market in terms of volume by 2026. India also holds a strong position in the international heavy vehicles' arena, and it is the largest tractor manufacturer, second-largest bus manufacturer and third-largest heavy trucks manufacturer in the world.

The Indian automotive aftermarket is estimated to reach €14.4 Bn[23] ($16.5 Bn) by 2021. The sector has attracted FDI worth €19.7 Bn ($22.4 Bn) during April 2000-June 2019, accounting for 5.1% of the total FDI inflows.

The Indian auto-components industry has grown by 18.3% Y-o-Y to reach €45.3 Bn[24] ($51.2 Bn) in 2017-18. The total value of India's automotive exports stood at €11.9 Bn[25] ($13.5 Bn) in 2017-18 as compared with $10.9 Bn in 2016-17.

Number of Automobiles Sold in India (Mn)[26]



[22]Seconded European Standardisation Expert in India
[23,26]India Brand Equity Foundation
[24,25]Economic Times

Government Schemes

National Auto Policy 2018

National Auto Policy aims to:

- Increase contribution to GDP to support the growth of the automotive industry in India
- Increase exports to 30%-40% of the overall output over the next decade and improve brand recognition, competitiveness and technological advancements
- Drive employment generation and skill development to create jobs in the automotive sector, and become a major driver of the 'Skill India' programme
- Increase local R&D investments to drive the R&D efforts in the automotive sector towards indigenous research, design and engineering in both automotive vehicles and components

Automotive Mission Plan (AMP) 2016-26

AMP 2026 is the collective vision of the Government of India and the automotive industry. It aims to achieve the following:

- Grow Indian automotive industry up to 3.5 to 4 times of the current value of €64.9 Bn[27] ($74 Bn)
- Lead India to be among the top three automotive industries in the world
- Contribute over 12% to India's GDP
- Generate 65 Mn more jobs
- Increase exports multi-fold to reach 35%-40% of overall output

Major Investments

Leading global players such as ISUZU Motors, FORD Motor, Tata Motors, and Suzuki Motor have invested heavily in the manufacturing sector resulting in the setup of new assembly lines, manufacturing and greenfield units, thus boosting the manufacturing ecosystem in India.

- ISUZU Motors inaugurated its Greenfield manufacturing unit with an investment of €390.7 Mn[28] ($445 Mn) in SriCity, Andhra Pradesh
- Tata Motors and Fiat Ltd have set up a joint assembly line to manufacture Sports Utility Vehicles (SUVs) at the Ranjangaon unit (Pune), with an investment of €245.8 Mn[29] ($280 Mn)

[27] *McKinsey Report*
[28] *India Infoline*
[29] *Tata Motors*

Aerospace

Overview

The Aerospace and Defence market in India is estimated to reach about €61.4 Bn[30] ($70 Bn) by 2030, aided by improved infrastructure and government policies. The airline passenger traffic in India has been increasing swiftly at about 15% per year and has increased from about 70 Mn to 200 Mn passengers in the past 10 years in domestic and international air travel. India is expected to become the third-largest aviation market globally by 2025, after China and the US, surpassing countries such as the UK, Japan, Spain and Germany.

India has the world's third-largest armed forces and the country's defence spending is estimated to reach €544.3 Bn ($620 Bn) by 2022, with the current Capital Expenditure (CAPEX) amounting to 48% of the budget. India's Maintenance, Repair and Overhaul (MRO) segment is estimated to reach €2.2 Bn ($2.6 Bn)[31] by 2020, rising from €1 Bn ($1.2 Bn) in 2010.

The Indian government encourages private investment in both civil and defence aerospace sectors, with 100% FDI allowed under the automatic route for most activities. The air transport sector (including air freight) has attracted FDI worth €1.67 Bn ($1.9 Bn) during April 2000-June 2019.

Government Schemes

National Civil Aviation Policy

The key objective of National Civil Aviation Policy (NCAP) is to enhance regional connectivity through fiscal support and infrastructure development. It will lead to significant growth of the civil aviation sector and help to promote tourism, employment and balanced regional growth.

Growth Prospects

- India has been upgrading its airports to international standards, catering to heavier cargo and passenger traffic
- Private airlines account for about 75% of domestic aerospace market
- Growth in air traffic is expected to outperform the global average by 2025
- In military aviation, India is expected to spend about €30.7 Bn ($35 bn) over the next 20 years, as it will replace its existing fleet
- The MRO segment in India is estimated to reach €164 Mn[32] (INR 1,300 crore) by 2020, owing to outsourcing of heavy maintenance work to India by international airlines, OEMs and MRO companies

[30]India Brand Equity Foundation
[31,32]PwC Report

Major Investments

- Investments of €5.3-5.6 Bn[33] ($6.0-6.4 Bn) are expected in India's airport infrastructure between 2018-2023
- Lockheed Martin, a global security and aerospace company, has signed a landmark agreement with Tata Advanced Systems Ltd (TASL) to produce single-engine fighter jet F-16 Block 70 in India
  - The move will lead to the development of India's private aerospace and defence manufacturing capacity
- Mahindra Defence and Airbus Helicopters have formed a joint venture to produce military helicopters in India
- Boeing and Tata Advanced Systems have formed a joint venture to co-produce Boeing AH-64 Apache helicopter fuselages and other aerostructures as well as to pursue integrated systems in aerospace. The joint venture between Tata and Boeing is a significant step in developing India's capabilities for aerospace and defence manufacturing and becoming a global exporter
- Companies such as Fokker and Airborne have entered into joint ventures with various Indian companies to scale up local manufacturing capabilities
- Hindustan Aeronautics Limited's (HAL's) proposal to set up a €264 Mn[34] (INR 2,095 Cr) unit in Devanahalli to manufacture aero-engines and provide MRO facilities were approved by the State Level Single Window Clearance Committee (SLSWCC)

[33]CRISIL
[34]Economic Times

Defence

Overview

The allocation towards defence in the budget 2017-18 stood at €36 Bn ($41 Bn), of which about 1/3rd was allocated for capital expenditure. The total budget sanctioned for the Indian military for the FY 2018-19 is €55.1 Bn ($62.8 Bn), accounting for 12.1% of the total Union Government expenditure for 2018-19. It is estimated that India will spend over €220 Bn[35] ($250 Bn) on defence in the next decade. Defence production by Ordnance Factory Board (OFBs) and Defence Public Sector Undertakings (DPSUs) increased to €8 Bn ($9.12 Bn) in 2017-18. Defence industries attracted FDI equity inflows worth €6.42 Mn ($7.32 Mn) during April 2000-June 2019.

Government Schemes and Policies

In order to increase private sector participation in the Defence Industry sector, and to simplify the procedures, following measures have been taken:

Defence Procurement Procedure (DPP)

To realize the vision of 'Make in India' initiative in the defence sector, Defence Procurement Procedure (DPP) came into effect on April 2016, that focuses on stimulating growth of the domestic defence industry. In order to promote indigenous design and development of defence equipment, DPP 2016 introduced the 'Buy-IDDM' category of procurement and accorded it the top most priority for procurement of capital equipment. DPP 2016 also provides greater impetus to the MSMEs, with certain category of 'Make' projects reserved exclusively for them.

Revised FDI Policy

As per the revised FDI policy, foreign investment in defence industry up to 49% is permitted under the automatic route. Foreign investments beyond 49% and up to 100% is permitted through the government approval.

Major Investments

- During 2016-2019, 149 contracts have been signed with Indian vendors (91) and foreign vendors (58), for capital procurement of defence equipment for armed forces
- The Government of India plans to spend €114 Bn[36] ($130 Bn) on military modernization in the next 5 years to achieve self- reliance in defence production
- The government started its defence technology fund scheme - a cornerstone of the Make in India initiative, that will fund research by MSMEs on urgent military technology projects, up to a value of €1.3 Mn[37] (INR 10 Cr)
- The Government of India has decided to set up two defence production corridors, one each in Uttar Pradesh (UP) and Tamil Nadu
- Indigenous defence products launched - Akash Surface to Air Missile System, Dhanush Artillery Gun system and Light Combat Aircraft; indigenous development of Akash system has given impetus to the defence industrial base of the country and generated business of more than €2.5 Bn (INR 20,000 Cr)

[35] *India Brand Equity Foundation*
[36] *Invest India*
[37] *Economic Times*

Railways

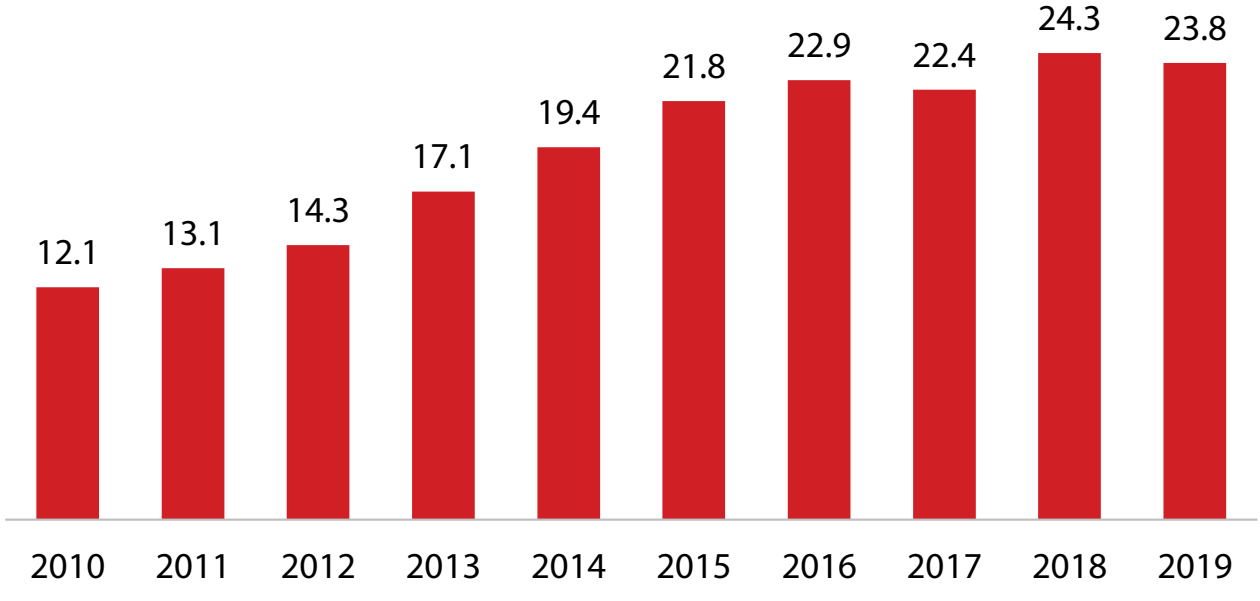
Overview

The Indian Railways has the world's third-largest rail network. The railways route length network in India is spread over 115,000 km, with 12,617 passenger trains and 7,421 freight trains travelling every day from 7,349 stations. They carry 23 Mn travellers and 3 Mn tonnes (MT) of freight, respectively, daily.

The sector's revenues grew at a rate of 6.2% CAGR during 2007-2018. Railways infrastructure investment is expected to grow from €51.7 Mn[38] ($59 Mn) during 2013-17 to €108.9 Mn ($124 Mn) during 2018-22.

FDI equity inflows into railway-related components from April 2000-June 2019 stood at €858 Mn ($977.24 Mn).

Indian Railways' Revenue - by Value (€Bn)



Source: India Brand Equity Foundation

[38] *India Brand Equity Foundation*

Government Schemes

National Rail Plan

The Government of India has come up with a National Rail Plan that will enable the country to integrate its rail network with other modes of transport and develop a multi-modal transportation network. National Rail Plan 2030 will take care of existing corridors and will identify and develop new corridors and connections. This will facilitate smooth movement of freight and passengers, better access to resources and services with reliability, safety and convenience to secure an environmentally efficient and long-term sustainable rail transport system.

Public-Private Partnership (PPP) Model

Ministry of railways has formulated PPP investment models for its existing shelf of projects and new projects, to attract private capital for accelerated construction of fixed rail infrastructure.

In the Union Budget 2019, finance minister Nirmala Sitharaman mentioned the need for massive investments in Indian railways and stated how the private sector can play a key role in the same. The railway infrastructure will need a total investment of €631.5 Bn[39] (INR 50 lakh Cr) between 2018 and 2030. The PPP model is being proposed to unleash faster development of Indian railways in the form of better rolling stock, railway tracks and passenger and freight services. An amount of INR €3.5 Bn[40] (28,100 Cr) is expected to arise during the year 2019 from PPP initiatives.

Major Investments

- Alstom has announced the completion of its first all-electric locomotive at its facility at Madhepura, Bihar. These new locomotives will reduce operating costs for the Railways and will significantly cut down greenhouse gas emissions. This agreement is one of the largest Foreign Direct Investment in the railways sector.
- CIDB Holding (Malaysia) invested €680 Mn[41] ($774.5 Mn) in the re-development of Udaipur, Howrah, Indore, Secunderabad, Pune and Faridabad railway stations
- Indian Railways is planning to award 6 tenders worth €1.05 Bn ($1.2 Bn) for setting up a countrywide electricity transmission network, as part of its electricity bills reduction strategy

Growth Prospects

- Indian Railways are targeting to triple their freight traffic from 1.1 Bn tonnes in 2017 to 3.3 Bn tonnes by 2030
- The sector has planned completion of electrification of more than 10,000 km by 2019

[39] *Financial Express*
[40] *Business Standard*
[41] *Economic Times*

Energy

Overview

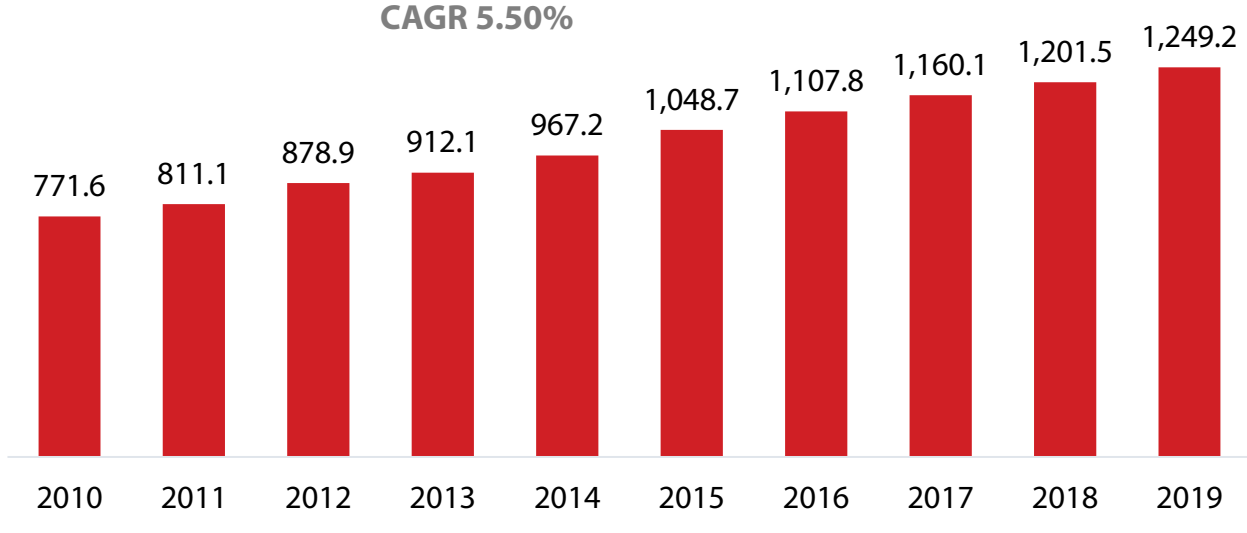
The Indian power sector is undergoing a significant change. The Government of India is focussing on accelerating power capacity addition in the country. Also, the competitive intensity is increasing on both market and supply sides. Total installed capacity of power stations in India stood at 350.2 Gigawatt (GW) as of February 2019. India's energy consumption is expected to grow 4.2% Y-o-Y for the next two decades, overtaking China as the world's largest energy growth market by 2030.

Ministry of Petroleum and Natural Gas estimates about €119.4 Bn[42] ($136 Bn) investments in the Indian gas sector by 2025.

The Indian renewable energy sector is the fourth most attractive renewable energy market in the world. The Installed renewable power generation capacity has increased at a CAGR of 19.8% during 2014–2018. The total FDI equity inflows from April 2000-June 2019 for non-conventional energy stood at €7079.5 Mn ($8,063.1 Mn).

India has an indigenous nuclear power programme. At present, nuclear power in India delivers a total capacity of 6.7 GW, contributing to about 2% of the country's electricity supply. The Indian government is committed to growing its nuclear power capacity as part of its infrastructure development programme and expects to have 20,000 MW nuclear capacity by 2020. It aims to supply 25% of electricity from nuclear power by 2050.

Electricity Production in India (in Bn units)



Source: India Brand Equity Foundation

[42] *India Brand Equity Foundation*

Government Schemes

National Electric Mobility Mission Plan (NEMMP)

NEMMP involves development of mission plan and roadmap for promoting electric mobility solutions in India, with an aim to deploy 6-7 Mn electric vehicles by 2020.

24 X 7 Power for All

It is a joint initiative by the Government of India and the state governments aiming to achieve 24X7 availability of reliable power to all households, industrial, commercial and all other electricity consuming entities by the end of 2019.

Deen Dayal Upadhyay Gram Jyoti Yojna (DDUGJY)

It is an integrated scheme covering all aspects of power distribution in rural India including the following:

- Electrification of all villages
- Feeder separation to ensure enough power to farmers and regular supply to other consumers
- Improvement of sub-transmission and distribution network to improve the quality and reliability of supply and metering to reduce the losses

The Scheme has an outlay of €9.5 Bn[43] (INR 76,000 crore) for implementation of the projects under which Government of India shall provide a grant of €8 Bn (INR 63,000 crore).

Major Investments

- Indian entities have invested in several global upstream assets under partnership with local companies; for instance, ONGC Videsh has invested €1.9 Bn[44] ($2.2 bn) in Russian Vankor cluster of oil fields
- Renascent Power Ventures Pte Ltd acquired 75% stake in Prayagraj Power Generation Company Limited (PPGCL) for €750.6 Mn[45] ($854.9 Mn)
- Kohlberg Kravis Roberts & Co (KKR) acquired Ramky Enviro Engineers Limited for €465.3 Mn[46] ($530 Mn)
- ReNew Power made the largest M&A deal by acquiring Ostro Energy for €1.5 Bn ($1.7 Bn)

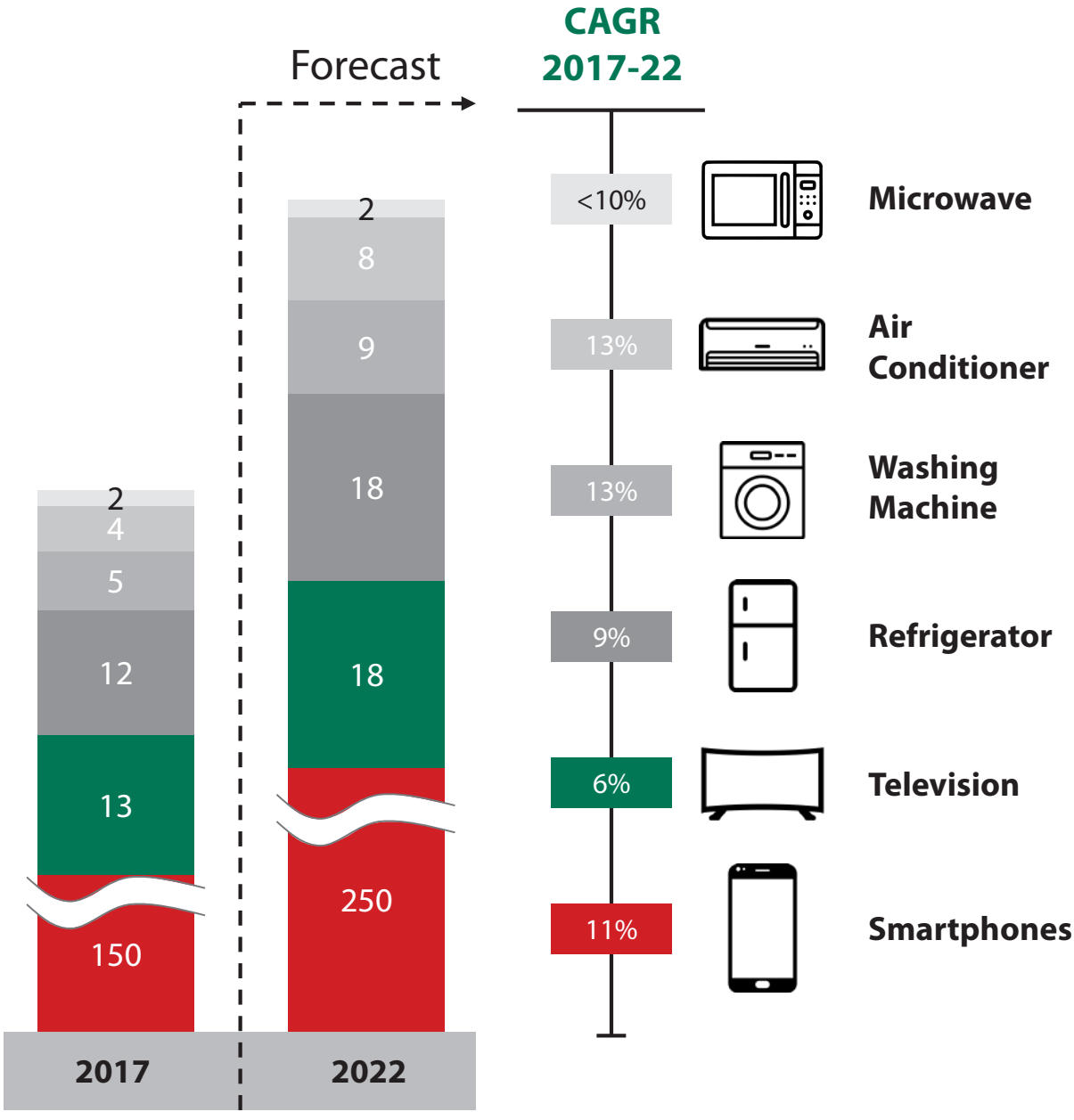
[43] *Deloitte Report*
[44] *Business Standard*
[45] *The Hindu Business Line*
[46] *Economic Times*

Home Electronic Appliances/ Consumer Electronics

Overview

Indian appliance and consumer electronics market was worth €27.6 Bn[47] ($31.4 Bn) in 2017. It is expected to increase at 9% CAGR to reach €42.4 Bn ($48.4 Bn) by 2022. Electronics hardware production in the country has grown at a CAGR of 26.7% between 2014-2018. Demand for electronics hardware in India is expected to reach €351.2 Bn ($400 Bn) by 2024. Revenue in the Household Appliances segment amounts to €1.5 Bn ($1.7 Bn) at present. The electronics sector attracted FDI equity inflows of €2,153.6 Mn ($ 2,452.9 Mn) from April 2000-June 2019.

Forecasted Growth in Consumer Durables and Electronics Product Categories



[47] *India Brand Equity Foundation*

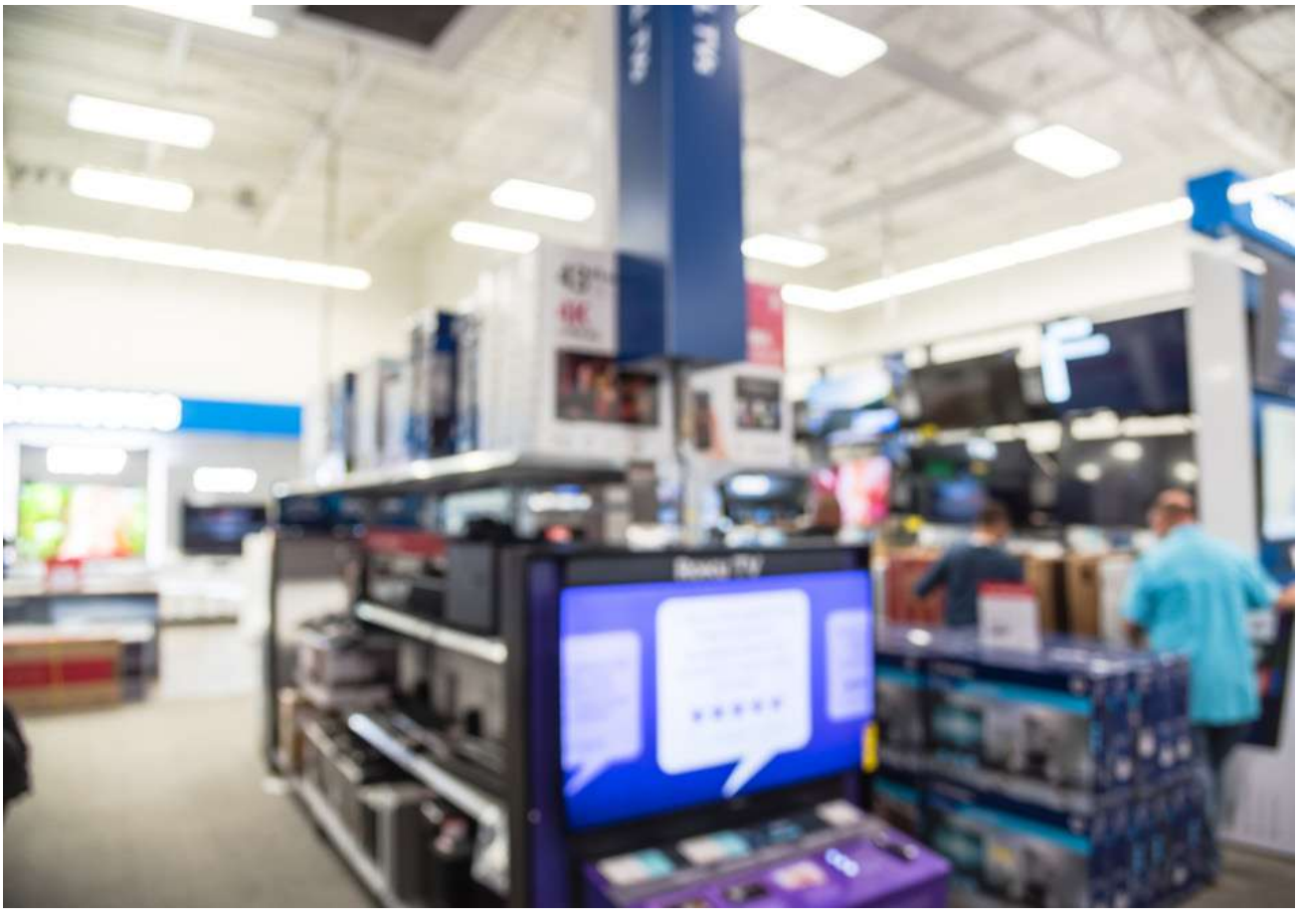
Government Schemes

Modified Special Incentive Package Scheme (M-SIPS)

The Government has approved a special incentive package to promote large-scale manufacturing in the Electronic System Design and Manufacturing (ESDM) sector. Under M-SIPS, the government will provide a subsidy of 20% on capital investments in special economic zones (SEZs) and 25% on capital investments in non-SEZs for individual companies.

Major Investments

- Samsung announced an investment of €654.8 Mn[48] ($745.82 Mn) for expansion of manufacturing capacity to 120 Mn from 68 Mn devices at its Noida plant in India
- Intex Technologies has invested around €8.1 Mn ($9.2 Mn) in 2018 in technology software and Internet of Things (IoT) start-ups in India to create an ecosystem for its consumer appliances and mobile devices
- Micromax plans to invest €78.3 Mn ($89.2 Mn) by 2020 for transforming itself into a consumer electronics company
- Haier India aims to become a billion-dollar company and be among the top three brands in the home appliances segment by 2020. Haier India is setting up its second industrial park at Greater Noida with an investment of about €387 Mn[49] (INR 3,070 crore)



[48] *Economic Times*
[49] *Livemint*

Capital Goods

Overview

The capital goods sector is the base of many industries in India and is an essential component of manufacturing. It has a total market size of €37.9 Bn[50] ($43.2Bn) and production is valued at €28 Bn ($32 Bn). The capital goods sector contributes to 12% of India's manufacturing output and 1.8% to the GDP. The industry employs around 2.8 Mn people. 100% FDI is allowed under the automatic route. Also, the government has eliminated tariff protection on capital goods.

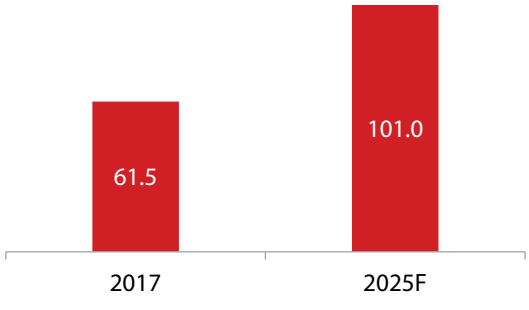
The industry is divided into 10 sub-sectors where electrical equipment is the largest sub-sector, followed by plant equipment, and earthmoving/ mining machinery. Among these sub-sectors, the market size of machine tools industry is €1.2 Bn ($1.4 Bn).

In order to enhance the productivity and competitiveness of the capital goods sector, the Government of India has come up with measures such as National Manufacturing Plan (2012), Make in India (2014) and National Capital Goods Policy (2016). The government is also planning to leverage the Free Trade Agreements (FTAs) to boost capital goods exports.

Demand for machine tools from the capital goods sector is projected to remain high. Considering the industry's demand for higher productivity, superior precision and accuracy, and low-cost manufacturing solutions, CNC machine tools are set to be in greater demand.

The capital goods industry has a huge market potential and the industry turnover is expected to increase from €61.5 Bn ($70 Bn) in 2017 to €101 Bn ($115.17 Bn) in 2025 at a CAGR of 6.42%.

Capital Goods Turnover (€ Bn)



Source: India Brand Equity Foundation

[50] *Invest India*

Government Schemes

National Capital Goods Policy

The machine tools sector, in the National Capital Goods Policy, aims to make the Indian capital goods sector globally competitive. The policy integrates major capital goods sub-sectors such as machine tools, textile machinery, earthmoving and mining machinery, heavy electrical equipment, plastic machinery, process plant equipment, dies, moulds, press tools, printing and packaging machinery and food processing machinery as priority sectors to be developed under Make in India initiative.

Major Investments

- The Central government plans to spend €403.6 Mn[51] ($459.7 Mn) to implement various programmes under the National Capital Goods Policy
- China's Sany Heavy Industry, among the world's leading engineering machinery manufacturers, plans to invest €8.6 Bn ($9.8 Bn) in the Indian capital goods industry

[51] *National Investment Promotion and Facilitation Agency*

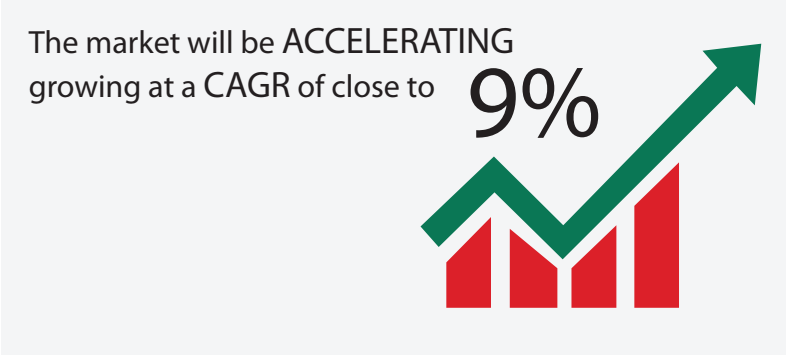
Die and Mould Industry

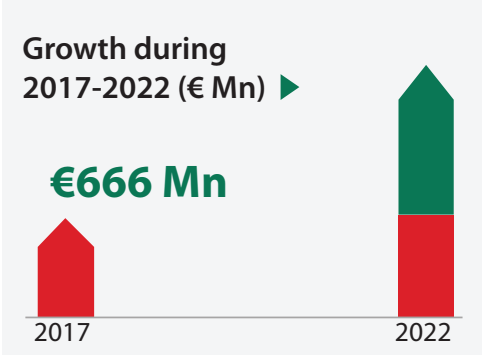
Overview

Die and mould market is fairly fragmented and is expected to grow by €666 Mn[52] ($759 Mn) during 2017-22. The die and mould industry has been a major contributor to the Indian economy and plays an eminent role in India's growing manufacturing sector. This industry caters to a range of sectors such as auto components, automobiles, industrial machinery, defence, railways and medical equipment.

The industry has evolved over the years and the major push comes from the Government of India with its "Make in India" initiative. The die and mould market is growing at the rate of 15-20% and the automotive industry is the main growth driver for Indian die and mould industry. Indian automotive sector is set to register a turnover of €175 Bn ($200 Bn) by 2026 and auto component industry is set to become the third largest in the world by 2025. Hence, there is enormous potential for die and mould industry in the coming years.

Also, latest technological trends, such as high-speed machining, rapid tooling and proper CAD/CAM solutions are driving the die and mould industry by providing cost-effective, energy efficient and environmentally friendly solutions for the dies and mould makers.





Source: Technavio

[52]*Technavio*

Main Indian Bodies & Trade Associations

ASSOCIATION	ADDRESS	TELEPHONE & EMAIL
INDIAN MACHINE TOOL MANUFCATURERS' ASSOCIATION (IMTMA)	Bangalore International Exhibition Centre (BIEC) 10th Mile, Tumkur Road, Madavara post, Bangalore 562123, Karnataka, India	T: +91-80-6624 6600 F: +91-80-6624 6661 E: imtma@imtma.in

Formed in 1946, the Indian Machine Tool industry IMTMA was started when around 20 machine tool manufacturers joined hands. IMTMA has played a leading role in the development of the machine tool industry, which is the backbone for industrial growth in India. IMTMA is committed to support its members to increase competitiveness, enhance efficiency, improve productivity, and ensure growth. It does so with the aim to assist the members to become cost-effective, technology-driven and responsive to customers' changing needs. IMTMA has supported the user industries with better and more modern technology of machine tools to provide them with competitive manufacturing solutions.

Website: www.imtma.in

INDIAN CUTTING TOOL MANUFACTURERS' ASSOCIATION (ICTMA)	No.41, IMPERIAL COURT 33/37 CUNNIGHAM ROAD Bangalore 56005 Karnataka	T: +91-80-4111 376 E: secretary@ictma.co.in, president@ictma.co.in

ICTMA is formed in the year 2012 by leading Cutting tool manufacturing companies. At present, it comprises 44-member organizations including 14 Patron members, 17 associate members and 13 ordinary members. It has a structure of board and executive committee, which meets once every quarter. It helps forge tie-ups and synergistic associations in India and abroad with the aim of promoting Indian cutting tools manufacturing industry. It works with the government and policy makers to address and resolve key challenges.

Website: www.ictma.co.in

RAJKOT MACHINE TOOLS ASSOCIATION (MTMA)	44 - Shivanand Complex, Near Mehta Petrol Pump, Dhebar Road, Rajkot 360002 Gujarat	T: +91-281-2238 708 T: +91-9427410851 E: info@mtmarajkot.org mtmarajkot@gmail.com

Rajkot Machine Tools Association was established in 1983 with initial membership of 25 units. MTMA has widened its horizon and expanded its activities with the association of UNIDO (United Nation Industrial Development Organization) & ICAMT (International Centre for Advancement of Manufacturing Technology). Rajkot is a leading machine tool manufacturing hub of India in the conventional machine tools as well as CNC machine tools manufacturing and has been identified as the machine tools cluster in India.

Website: www.mtmarajkot.org

ASSOCIATION	ADDRESS	TELEPHONE & EMAIL
LUDHIANA MACHINE TOOL MANUFACTURERS ASSOCIATION (LMTMA)	#14325, Near Punjab & Sind Bank G. T. Road, Near Dholewal Chowk, Ludhiana 141003 Punjab	T: +91-161-2539 558 E: info@lmtma.org

Ludhiana Machine Tool Makers Association (LMTMA) came into existence in 1978. Over the years, its membership has grown considerably due to the reduction in central excise exemption limit. The association has organized various events and seminars on machine tools manufacturing. Its key objective is to foster the technological advancement and promote the Indian machine tools industry globally. It has also supported the growth of small-scale sector and aims to continue to strive for the development of machine tools industry in India.

Website: www.lmtma.org

Main Italian Bodies & Trade Associations

ASSOCIATION	ADDRESS	TELEPHONE & EMAIL
ASSOCIATION OF ITALIAN MANUFACTURERS OF MACHINE TOOLS (UCIMU-SISTEMI PER PRODURRE)	Viale Fulvio Testi 128 20099 Cinisello Balsamo, Milano, Italy	T: +39-02-2625 51 F: +39-02-2625 5214

UCIMU-SISTEMI PER PRODURRE is the Italian machine tool, robots, automation systems and ancillary products (NC, tools, components, accessories) manufacturers' association.

The official representative of the sector, UCIMU-SISTEMI PER PRODURRE, has over two hundred associate member companies, which account for over 70% of the Made in Italy of the sector. UCIMU provides its associate members with support on all the key domains including research and development, sales and marketing, promotion, communication and training.

Website: www.ucimu.it

Major Exhibitions in India

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
TOOLTECH 2020 (IMTEX 2020)	51st Annual	Bangalore International Exhibition Centre (BIEC) Bangalore	355,209 sq. ft. (33,000 sq. mtrs.)	91,446	23rd – 28th Jan 2020

Indian Machine Tool Manufacturers' Association (IMTMA) will organize its flagship event Tooltech 2020, an event specializing in dies & moulds, forming tools, machine tool accessories, metrology and CAD/CAM technology. This exclusive business-to-business event will attract Indian and foreign exhibitors who would offer a range of technologically innovative manufacturing and engineering products and applications.

Website: www.imtex.in

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
ASIA MACHINE TOOL EXHIBITION (AMTEX 2020)	20th Annual	Pragati Maidan, New Delhi	269,098 sq. ft. (25,000 sq. mtrs.)	25,000	10th – 13th Jul 2020

AMTEX is one of the leading exhibitions in India on metal cutting and machine tool industry. It brings together national and international players to create a marketplace which offers unique business, learning and networking opportunities. The organisers of AMTEX work closely with industry stakeholders to keep the event relevant with changing needs of the industry and to enhance the experience of our exhibitors and visitors.

Website: www.amtex-expo.com

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
DELHI MACHINE TOOL EXPO (MTX)	3rd Annual	India Exposition Mart Limited, Greater Noida	129,167 sq. ft. (12,000 sq. mtrs.)	15,000	8th – 11th Aug 2019

Delhi Machine Tool Expo 2019 is a one-stop destination to display state-of-art technologies primarily focusing on manufacturing. The expo will cover the entire gamut of metal working machine tools for both metal cutting and metal forming including automation and robotics, tooling systems, CAD/CAM and other technologies essential for today's manufacturing. Along with Delhi & NCR, the event will attract delegates and visitors from the Tier II and Tier III cities such as Jagadhri, Sangrur, Rudrapur, Chandigarh, Ludhiana, Jalandhar, Manesar, Faridabad, Panipat besides visitors from the neighbouring states of Rajasthan, Uttar Pradesh, Himachal Pradesh, Uttarakhand, and others.

Website: www.mtx.co.in

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
CHENNAI MACHINE TOOL EXPO (MTX)	3rd Annual	Chennai Trade Centre, Chennai	66,306 sq. ft. (6,160 sq. mtrs.)	Not Available	26th – 29th Sep 2019

Machine Tool Expo 2019 is a B2B exhibition that would have the presence of industry delegations representing various sectors such as automobile auto components, aerospace, general engineering capital good and many more. Chennai, an important auto and engineering industry hub also has many other ancillary industries that makes it a potential market for the machine tool builders to expand their business horizons. Along with Chennai, the expo will cater to the tier II and tier III cities like Coimbatore, Tiruchirappalli, Madurai, and Namakkal, etc. along with industries from neighbouring states of Andhra, Telangana and Pondicherry.

Website: www.mtx.co.in

RAJKOT MACHINE TOOLS SHOW 2020 (RMTS)	8th Annual	NSIC Ground, AJI GIDC	102,257 sq. ft. (9,500 sq. mtrs.)	Not Available	1st – 4th Dec 2020

The RMTS 2020 shall be a one-stop destination to address the manufacturing and machine tools requirements of various industry sectors not only in Gujarat but the entire nation. The show shall unwell the latest manufacturing technologies and machine tools solutions which would enable large industries and other small and medium enterprises (SMEs) to leverage and enhance their manufacturing capabilities. The expo will cover the entire gamut of machine tools, ancillary industries and other technologies essential for tomorrow manufacturing. Further, RMTS 2020 shall prove to be the ultimate facilitator for b2b cooperation between manufacturers and customer of all hues connected to machine tools industry. The participating companies can expect to generate targeted sales leads, future business development, demonstrate their products to appropriate audience, network with their key customers and upgrade their knowledge on new technologies & concepts in the market.

Website: www.rmtsindia.com

PUNE MACHINE TOOLS SHOW 2020 (PMTS)	6th Annual	Autocluster Exhibition Centre, Chinchwad, Pune	45,208 sq. ft. (4,200 sq. mtrs.)	11,200	10th–12th Sep 2020

The PMTS 2020 is an exclusive showcase of engineering, machine tools, automation and automotive technology. It is an endeavour designed to present the entire spectrum of developments in the machine tools sector. It showcases the latest trends and technologies in the world tool machine market. Pune is now considered a strong manufacturing hub with the digitization of mechanical industries as the manufacturing sector has adapted to Industry 4.0. Along with host city Pune, the event attracts delegates and visitors from the Tier II and Tier III cities such as Aurangabad, Nagpur, Kolhapur, Mumbai, Satara, Ahmednagar, Nasik besides the neighbouring states of Gujarat and Madhya Pradesh.

Website: www.mtx.co.in

Major Exhibitions in Italy

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
BI-MU	32nd Annual	Fiera Milano, Rho-Pero, Milano	1,076,391 sq. ft. (100,000 sq. mtrs.)	65,000	14th – 17th Oct 2020

BI-MU is organized by EFIM-ENTE FIERE ITALIANE MACCHINE and takes place once in every two years. It is one of the leading Italian exhibitions dedicated to the metal cutting and metal forming machine tools industry encompassing robotics, automation, digital manufacturing, auxiliary and enabling technologies. The show has an international appeal, with a special focus on the Internet of Things, Big Data, Cyber Security, Cloud Computing, Augmented Reality, System Integrators, Additive Manufacturing, vision and systems control.

Website: www.bimu.it

EMO-MILANO	7th Annual	Fiera Milano, Rho-Pero, Milano	1,291,669 sq. ft. (120,000 sq. mtrs.)	155,362	4th – 9th Oct 2021

The event is organized by EFIM-ENTE FIERE ITALIANE MACCHINE SPA and takes place once in every six years. It is focused towards metal forming and metal cutting machine tools, machines for welding, for thermal and surface treatments, robots, mechatronics, additive manufacturing technologies, automation hardware and software, assembling, tools, parts, components, accessories, metrology, quality control, systems for safety and environmental protection.

Website: www.emo-milano.com

LAMIERA	21st Annual	Fiera Milano, Rho-Pero, Milano	538,196 sq. ft. (50,000 sq. mtrs.)	26,197	17th – 20th Mar 2021

The event is organized by CEU-CENTRO ESPOSIZIONI UCIMU SPA and takes place once in every two years. It attracts both Italian and foreign manufacturers, enterprises specializing in the production of complex industrial plants and automated systems and companies focused on manufacturing stand-alone machines and technologies for traditional factories. It also attracts exhibitors operating in laser-cutting technologies along with dies and moulds, machines and tools, equipment for metal structural work and fastener systems. It also provides an opportunity to the professionals of tube and plate machining, there are the experts in sheet metal and innovative materials machining. In addition, a special area is dedicated to the solutions of Industry 4.0 for the digital factory and to the world of robotics and integrators.

Website: www.lamiera.net

FAIRS	OCCURRENCE	VENUE	EXHIBITION SPACE	VISITORS IN PREVIOUS EDITION	DATES
MACCHINE & UTENSILI 2020	19th Annual	Fiere di Parma Fairgrounds, Italy	1,184,030 sq.ft. (110,000 sq. mtrs.)	53,442	26th – 28th Mar 2020

MICSPE is an annual B2B exhibition that attracts exhibitors and decision-makers from sectors including machines and tools, treatments and finishes, metrology and quality control, digital factory, power transmissions, automation and robotics, logistics, electronic subcontracting, mechanical subcontracting, machines and moulds for plastic materials and subcontracting, non-ferrous materials, alloys, composites and technologies and additive manufacturing. The Digital Factory beyond automation is a special initiative that focuses on the essential role of industry 4.0 technologies.

Website: www.mecspe.com

SAMUMETAL	20th Annual	Pordenone Fiere, Italy	322,917 sq.ft. (30,000 sq. mtrs.)	13,000	6th – 8th Feb 2020

SamuMetal is a reference trade show in the tools and technology sector for metal workings. The event provides an opportunity to meet customers, distributors and buyers, with the aim to find new business and interactions. The sectors for the exhibition include sheet metal cutting & deformation, automation, logistics, metal workings, robotics and tools. It entails focused discussions on interesting topics for manufacturers and users, and to deal with technical, quality, economic and safety standards. The combination with Samumetal, Samuplast and Subtech ensures high visibility and development of new business.

Website: www.samuexpo.com

HS Codes

Cutting Tools

HS	Description
8456	Machine tools for working any material by removal of material, by laser or other light or photon beam, ultrasonic, electro-discharge, electro-chemical, electron beam, ionic-beam or plasma arc processes; water-jet cutting machines (excluding cleaning apparatus operated by ultrasonic processes, soldering and welding machines, incl. those which can be used for cutting, and material testing machines)
8459	Machine tools, incl. way-type unit head machines, for drilling, boring, milling, threading or tapping (excluding lathes and turning centres of heading 8458, gear cutting machines of heading 8461 and hand-operated machines)
8460	Machine tools for deburring, sharpening, grinding, honing, lapping, polishing or otherwise finishing metal, metal carbides or cermets by means of grinding stones, abrasives or polishing products (excluding gear cutting, gear grinding or gear finishing machines of heading 8461 and machines for working in the hand)
8461	Machine tools for planing, shaping, slotting, broaching, gear cutting, gear grinding or gear finishing, sawing, cutting-off and other machine tools working by removing metal, sintered metal carbides or cermets, n.e.s.

Forming Tools

HS	Description
8457	Machining centres, unit construction machines "single station" and multi-station transfer machines for working metal
8458	Lathes, incl. turning centres, for removing metal
8462	Machine tools, incl. presses, for working metal by forging, hammering or die-stamping; machine tools, incl. presses, for working metal by bending, folding, straightening, flattening, shearing, punching or notching; presses for working metal or metal carbides
8463	Machine tools for working metal, sintered metal carbides or cermets, without removing material (excluding forging, bending, folding, straightening and flattening presses, shearing machines, punching or notching machines, presses and machines for working in the hand)

Glossary

Notes

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