

‘Make in India’ initiative galvanizes the country’s demand for machine tools

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KEY FINDINGS

- **Press machines, metal cutters, milling/grinding machines, gear boxes, and CNC machines have experienced the most demand in 2016**
- **Most of these tools are being applied to India's transportation industry**
- **European suppliers hold dominant share of the Indian machine tools market**
- **US machine tool suppliers enjoy strong position in highly-specialized defense sector**
- **Italy is uniquely positioned to benefit from the 'Make in India' initiative**

India's appetite for machine tools

Evidence that the 'Make in India' industrial policy is more than rhetoric has been identified by IIICorp via a two-month probe into the country's purchase of foreign machine tools and related components. During this period IIICorp has exclusively reported on 22 Indian machine tool deals involving foreign suppliers, the details of which are contained in this report

In addition to this proprietary reporting, a detailed assessment of proprietary data on machine tools and components that have been received at India's largest container port -- the Jawaharlal Nehru Port -- over the first eight months of calendar year 2016 was conducted.

And a recently-published survey by one of the leading funding sources of such equipment, the Italian export credit agency Servizi Assicurativi del Commercio Estero (SACE), provides a strong indication that this trend is set to continue.

According to SACE's findings, which were published in its July 2016 Focus report, traditional export destinations such as North America, North Africa and the Middle East will gradually be overtaken by countries such as India that have display projected "growth rates in imports of Italian machinery by more than 6.9% by 2019". The report specifically refers to India on three separate occasions, while other seemingly-important countries are not named at all.

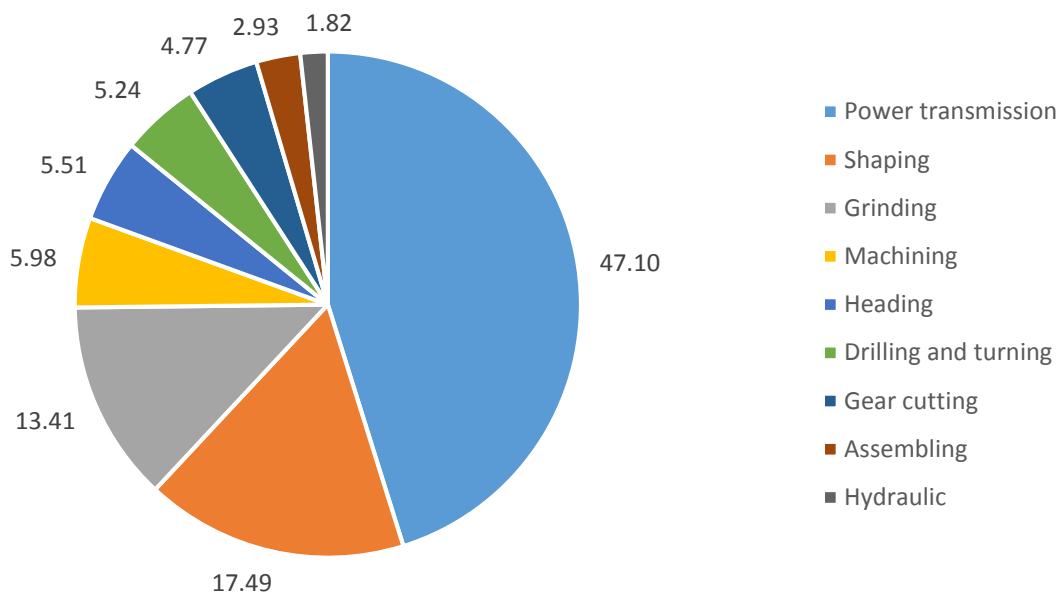
SACE's projections are in line with the above-mentioned port data which, according to a detailed analysis conducted by IIICorp, ranks Italy as the second largest supplier of machine tools after Germany. Several factors lie behind the country's increased appetite, not least the "Make in India" campaign launched by the ruling government aimed at minimizing the country's dependence on capital goods imports while also boosting its exports in a bid to strengthen its current account. This initiative has been enhanced by events such as the EU trade embargo against Russia, which has provided India with opportunities to act as a substitute supplier across a range of industries including transportation, defense and food and pharmaceuticals.

To meet the needs of markets like these, India has had to address a number of major industrial infrastructure challenges. Not least amongst these is the country's need to improve its manufacturing capacity which has been the key driver of India's appetite for advanced foreign-made machine tools.

Machine tools most in demand

All major manufacturing industries are dependent on machine tools that are power driven and/or automated to perform functions like cutting, drilling, boring, abrading, grinding and shaping metals or other materials. In India such machines have seen active application in the aerospace, automotive, railway and defense sectors.

CHART 1: CATEGORIES OF IMPORTED MACHINE TOOLS (USD MILLIONS)



Based on JNPT data Jan to August 2016

The machine tools most in demand in India are press machines, metal cutters, milling/grinding machines, gear boxes, and computer numeric control machines. Our port data analysis has identified several trends that underlie the demand for the different categories of tools.

Power transmission machine tools, or category 8483, make up the largest share of imports into India. This category of tools which are applied to transmission shafts, cranks, bear housings, balls and roller screws, gear boxes, clutches and shaft couplings. which are mainly used in the automotive, textile, power transmission and shipping sectors.

The appetite for such tools was underlined when Saurer Textile Solutions Private, the Indian arm of Sauer AG, purchased transmission shafts for planet gearing from SPN Schwaben Prazision Fritz Hopf earlier this year. Saurer sells machinery to several Indian textile makers such as Welspun Group, KKP Textiles Private and Morarjee Textiles.

The next category experiencing significant Indian demand is that of shaping machines, or category 8462. This consists of pressing machines, rotary tables, die stampers and metal cutters, forging rolls, benders and punchers. These machines are applicable in industries ranging from power to automotive. A recent example

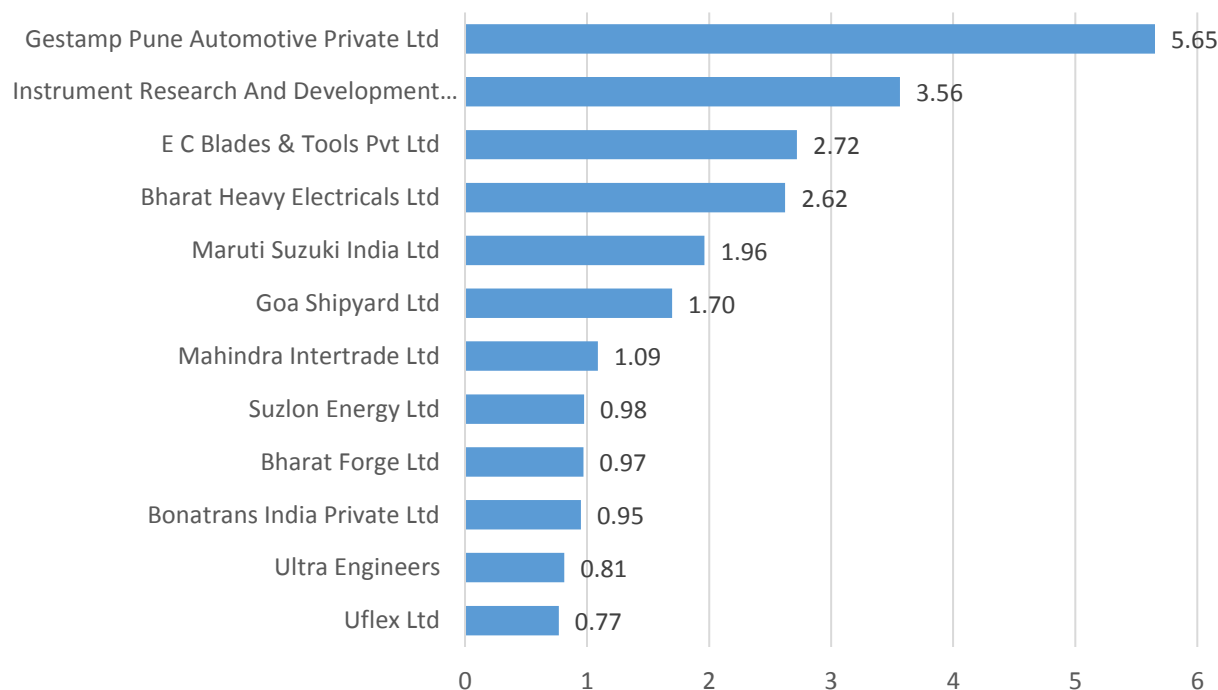
of this can be seen in Bharat Forge Limited's order for more than USD 1m worth rotary tables and forging rolls between January 2016 and August 2016. During this same period, FIAT India Automobiles purchased USD 4.05m worth of laser cutter and CMM holders.

Grinding machines, category 8460, includes machines and machine tools for deburring, sharpening, honing and polishing. The Instrument Research and Development Establishment (IRDE), under the Defense Research and Development Organization (DRDO) bought USD 3.5m worth of goods polishing machines between January 2016 and August 2016.

Machining tools, category 8456, which are used for the removal of material by laser or any other light such as photo beam or ultrasonic have been another active source of machine tool sales in India. Gestamp Pune Automotive Private bought USD 1.4m worth of 3D laser cutting machines.

Drilling and turning machines, category 8459, comprises machine-tools (including way-type unit head machines) for drilling, boring, milling, treading or tapping by removing metal, other than lathes, including turning centers. Though the import value of tools in this category 8459 is relatively small in India, it has been undergoing an increase in demand in India. This likely explains why Allied Machine & Engineering Corp acquired Wohlhaupter, thereby taking control of its Indian arm which makes precision boring tools. Other western companies looking to increase their footprint in this category of machine tools in India include Atlas Copco, which makes rock drilling machines primarily used in the mining sector, has decided to double the capacity of drilling products at its facility in Hyderabad.

CHART 2: TOP 12 INDIAN MACHINE TOOL IMPORTING COMPANIES (USD MILLIONS)



Based on JNPT data Jan to August 2016

Sector opportunities: automotive

The automobile industry has been the biggest consumer of machine tools in India, as evidenced by the fact that Gestamp Pune Automotive is largest importer by value after the IRDE. The firm has purchased 3D laser cutting machines and hot stamping presses, two of the most expensive types of machine tools on the market.

Demand for cutting tool makers for coating systems has seen a significant increase, drawing interest in the Indian market from several European companies. These include Plasma und Vakuum Technik, which is looking to build a factory to manufacture its ion and plasma-assisted vacuum coating machinery. It may set up the plant in Maharashtra, close to the cutting tools manufacturer which supply the automotive industry. In so doing it would challenge the 90% market share that OC Oerlikon Corporation commands in India.

The industry's growth prospects have spread across many other areas of the machine tools sector. Zavenir Daubert India Private Limited, whose customers include Daimler AG, Suzuki Motor Corp and Honda Motor Company Limited's Indian arms is bullish on the growing demand for cutting oils and lubricants. The company manufactures metal working, corrosion prevention, paint-shop and cleaning fluids at its factory in Haryana and has taken advantage of technical collaborations with such foreign firms as Daubert Industries Inc, Chemische Werke Kluthe GmbH as well as Nihon Parkerizing Company Limited.

Railways

In a bid to ramp up the country's much-needed modernization of the railways, both passenger and freight, the government has begun to scale back political interference in the sector. The scrapping of the 92-year old practice of holding a separate budget for the railways is one example of an ongoing policy that has reinforced an increase in demand for Indian laser cutting tools, robotic welding machinery and CNC machines required to produce wagons and repair workshops.

The announcement by Indian Railways' (IR) arm Central Organisation for Modernisation of Workshops (COFMOW) in July that it would purchase foreign-made CNC machines for use in its production units was a high-profile example of this trend.

COFMOW's facilities need horizontal machining 5-axis, axle turning lathes, air plasma cutting machines, 5-axis gear hobbing machines, 5-axis heavy duty universal machining centers with milling heads, APC, ATC and rotary tables, drill mill 5-axis vertical machining center, camshaft milling machines, horizontal boring and milling machines, double column plano milling machines, twin spindle turning centers and twin spindle chucks.

CNC, which can cost anywhere from USD 90,000 to USD 1.67m per unit, are needed by IR not least for restoration and modernization services in its factories. Such demand has been anticipated by the likes of System Engineering Company Sro, which represents several European CNC machine manufacturers. The privately-owned Czech firm has, via its SEC India Private Limited subsidiary, positioned Starrag Group Holding, Gebr Heller Maschinenfabrik, ZPS Frezovací Nastroje and Kovosvit to participate in tenders issued by IR.

Other policy initiatives include IR's establishment of special committees for induction of new technology and innovation. The need of the hour is for a high-speed railway system (HRS) aimed at reducing travel

time with increased efficiency and safety and, to this end, IR has signed a Memorandum of Understanding with the German Federal Ministry of Transport and Digital Infrastructure. Other bilateral initiatives underway include a feasibility study of the potential for a speed upgradation on the existing IR network.

A railway ministry project dubbed “Raftaar mission” recently tested the efficacy of lightweight aluminum railway cars, using those made by Talgo SA of Spain, as a simple but effective means of increasing speed on existing trunk routes built. This will be followed-up with a global tender issue by IR to procure 300 aluminum coaches for use on such inter-city routes as Delhi-Kanpur and Delhi-Lucknow.

India's initiatives in metro rail have also driven demand for advanced machine tools such as 2D fibre laser cutting machines and allied equipment. Salvagnini Italia won a USD 550,000 order for sheet metal cutting machines from Trio Elevators Company (India) Limited, a JV between Alps Technologies Private Limited and Otis Elevator Company (India) Limited, a subsidiary of United Technologies Corporation. Otis Elevator is executing a large order for a project being undertaken by Hyderabad Metro Rail whereby it will supply 670 elevators and escalators.

Defense

The “Make in India” initiative has brought about several amendments in defense procurement and manufacturing business aimed at minimizing the red tape which has acted as a curb on foreign investment and export controls. By reducing gestation periods and procurement delays in tendering process, the latest defense procurement procedure (DPP) 2016 has addressed the key hurdles faced by MSMEs (Micro, Small and Medium Enterprises).

A new category termed “indigenously designed, developed and manufactured” (IDDM) goods will be given the highest priority in tendering procedures, underlining the emphasis being placed on research and development (R&D). Such initiatives, which include the allocation of nearly USD 150bn for the overhaul and promotion of local production, have directly resulted in an increased appetite for machine tools, a fact which has been underlined in the port data analysis conducted by IIICorp (Chart 1) which shows that the IRDE is the second largest importer of machine tools in India.

In addition to taking steps to increase private partnerships in India's defense sector, the government has also divested large stakes in major state-owned defense undertakings. These include the sale of 20% holdings in Bharat Dynamics, Hindustan Aeronautics and Bharat Electronics.

The government has also allowed ease of foreign participation in manufacturing of defense equipment. For instance, CNC Servicing & Solutions India Private recently inked a deal with Bharat Electronics to supply Haas Automation's milling and turning machines for manufacturing night vision devices for the Indian armed forces. The Indian arm of Phillip's Corporation was permitted to supply American machinery to BEL provided the factory did not make weapons of mass destruction.

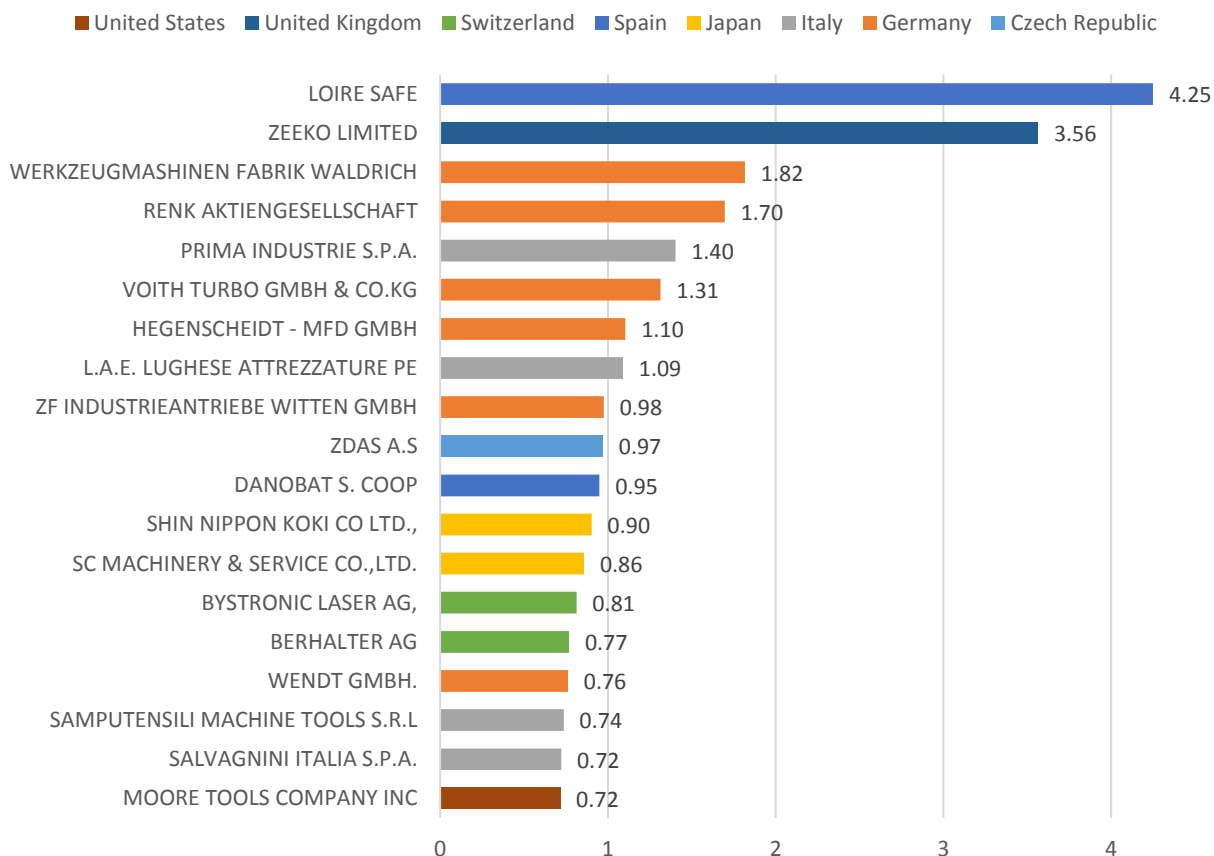
The fact that CNC Servicing sourced about USD 350,000 worth of parts and accessories for Haas Automation-supplied CNC machines underlines how US-made machine tools are largely favored for manufacturing of defense equipment in India. PMT Group's division, Moore Tool Company, supplied a CNC grinding machine to the Indian Ordnance Factory Board. Moore Tool had also supplied CNC machines to Hindustan Aeronautics.

Similarly, Bharat Electronics Limited has shown interest in procuring foreign-made computer numerical control (CNC) machines for manufacturing night vision devices for the Indian armed forces at its factory in Andhra Pradesh. A company source said that the project could be of interest to the likes of Haas Automation Inc and DMG MORI AG. BEL has plans to invest about USD 45m for the project and will place orders for CNC machines in early 2018.

Europe's dominance in the machine tools sector

Europe's dominant share in the Indian machine tools market is underlined in the chart below, based on IIICorp's port data analysis. It reveals that 17 of the top 20 largely mid-cap exporters of machine tools to India are European.

CHART 3: TOP 20 MACHINE TOOL EXPORTING COMPANIES TO INDIA (USD MILLIONS)



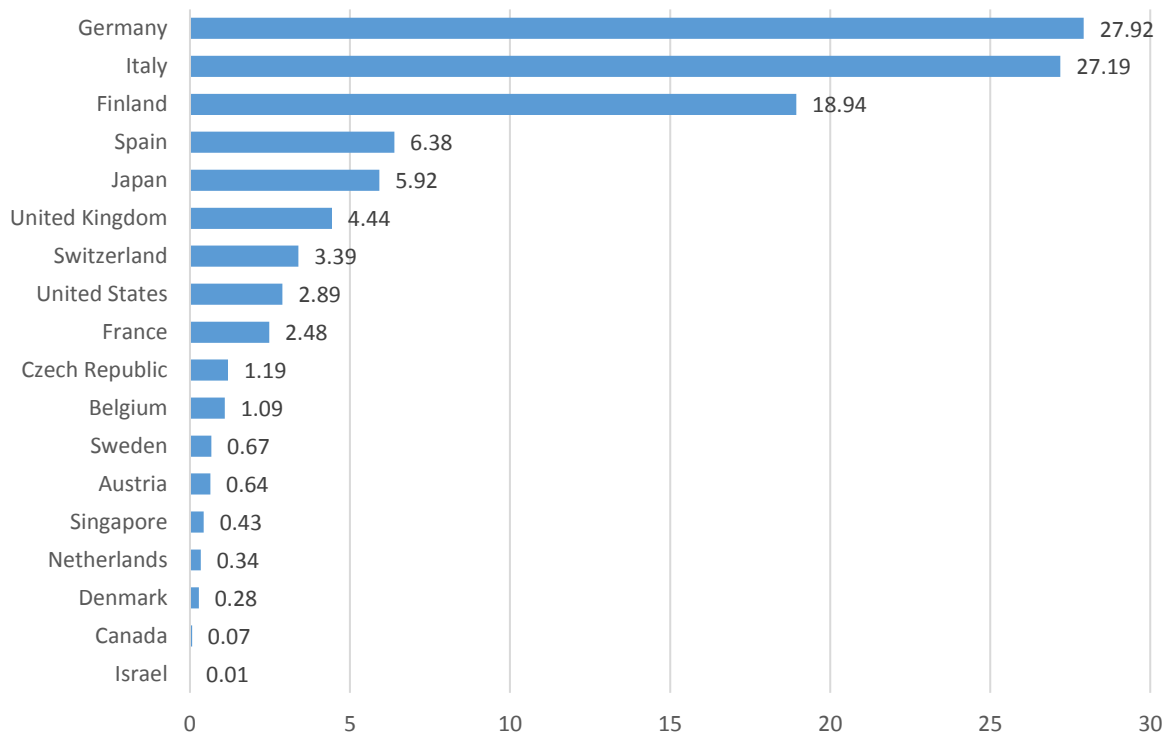
Based on JNPT data Jan to August 2016

Loire Safe, a Spanish manufacturer of valves and press plates is the largest individual exporter to India. Its machine tools fall into the shaping category. This company closely followed by Zeeko Limited of the UK and Werkzeugmaschinen Fabrik Waldrich of Germany. While Zeeko provides ultra-precision polishing solutions for optics and other complex surfaces, Werkzeugmaschinen supplies vertical and horizontal milling and turning machines. Renk Aktiengesellschaft provides slide bearings, naval gear units and couplings for

vehicle transmission. Prima Industrie ranks fifth on the list, supplies sheet metal machinery and 5-axle laser machines for the processing of 3D sheet metal components.

Voith Turbo, which primarily supplies equipment to automotive and oil and gas industries has been an active player in India's importation of cardan shafts and universal joint shafts, which fall under the power transmission machine tool category that, due to its high exposure to the automotive sector, has seen the most demand.

CHART 4: TOP 20 MACHINE TOOL EXPORTING COUNTRIES TO INDIA (USD MILLIONS)



Based on JNPT data Jan to August 2016

Germany and Italy dominate the machine tools market in India, aided in part by the positive investment climate in the automotive and power sectors. This explains why companies such as Hainbuch Spannende Technik, which makes tool holders and clamping solutions for such entities as Tata, Bajaj Auto and TVS Motor, are looking to establish a sales subsidiary in India.

Some 95% of the 5177 German machine tools imported through Jawaharlal Nehru fall into this category, which includes tools such as transmission (cam and crank) shafts, coupling, clutches, torque convertors, pulleys and gear boxes.

The main importers include by KTR Couplings India, Nord Drivesystems and Putzmeister Concret Machines. While KTR Couplings caters to power transmission companies, Nord Drivesystems largely serves steel, infrastructure, cement and packaging companies. Putzmeister is the manufacturer of concrete and solid pumps and placing systems used mainly in infrastructure, cement and heavy industries.

German equipment has a high profile in India's textile sector as well, particularly when the local entity is a subsidiary of a German firm, as with Saurer Textile Solutions. The company has purchased parts for ring spinning machines from sister-concern Schlafhorst Zweigniederlassung der Saurer Germany as well as transmission shafts for planet gearing from SPN Schwaben Präzision Fritz Hopf. And last year, HMT Ltd, a state-owned company, signed an MoU with Fraunhofer-Gesellschaft as part of the 'Make in India' initiative to enhance its level of machine tool innovation.

Italy is not far behind Germany, a position also largely predicated on the export of 'power transmission' machine tools which comprised 75% of the units shipped to India over the eight months to August 2016. The major importers of Italian tools are Carraro India, Faster Hydraulics, Ognibene India and SRI Techno Engineering. The latter firm mainly supplies planetary gears, wheel gears and negative brakes to India's construction, transport, marine and steel industries. Carraro India, subsidiary of Italian Carraro SpA, is a manufacturer of transmission and front axles for on-road and off-road vehicles typically used in the agricultural and construction industries. Ognibene is a manufacturer of actuators, steering units, hydraulic cylinders and steering valves that are used in heavy off-road and on-road vehicles and marine industries.

The strong position that Finland's machine tools industry has established in India is notable, given that its population represents just 6% that of Germany and 9% that of Italy. The Nordic country's firms have exported over 300 machine tools of all categories to India during the period in question, although although just under half of all the power transmission-related orders that made up 65% of all exports came from the Indian wind power giant, Suzlon Energy. Another sizeable chunk of these orders, 22%, came from Man Diesel and Turbo, which is part of the German engineering firm MAN AG.

Spain, the fourth largest exporter to India, also generated much of its business from the country's automotive and power industries. And CIE Automotive's decision to join up with Mahindra on the USD 200m acquisition of Bill Forge Private Limited indicates that the country's private sector is taking the Indian market seriously. In so doing the Madrid-based firm gained access to a strategic supplier of machined components for the automotive and other sectors via the target's factories Indian factories.

Conclusions

The importance of India's machine tools sector, which will total an estimated USD 1bn in sales in 2016, to the country's future growth prospects has become increasingly clear. The State Government of Karnataka signed an MoU with the Indian Machine Tools Manufacturing Associations for the establishment of the country's first Integrated Machine Tool Industry Park in Tumakuru district at a cost of USD 68m. The proposed park, which will comprise a cluster of machine tool builders, makers of accessories, components and foundries, is part of the 'Make in India' initiative and is aimed helping local SMEs expand manufacturing capacity.

The government has taken several steps aimed at providing a greater transparency and efficiency in the procurement process for public projects. SMEs, many of which previously were reluctant to participate in such deals, are now participating in tenders for large projects, often jointly with foreign companies.

India has demonstrated a clear commitment to the application of advanced machine tools. The main challenges western suppliers will face is the ability to meet the volume of demand as well as the emergence of new entrants like China.

Supply chain opportunities in India's manufacturing sector

Italy's unique position as a machine tool sector offers some compelling insights into the supply chain opportunities that exist in India, where its interest is expected to be driven by two major dynamics. On the one hand, major Indian companies are importing foreign-made machine tools in a bid to boost their local manufacturing capacity. However, the opportunities for Italian companies goes further than this, due to their comparatively small size vis-à-vis foreign competitors. With 77% of the suppliers to the country's exporters also being Italian, per the SACE report, India's manufacturing push represents a great opportunity for Italian firms looking for ways to boost scale and efficiencies.

This 'new paradigm' is essential part of the Italian machine tool industry's future strategy. SACE noted that the Italian firms that performed well through the economic crisis and have grown the most in recent years have been the 'pocket multinationals'. By this it was referring to companies with revenues over EUR 50m and which have successfully focused their production and marketing abroad, a strategy that fits in so well with 'Make in India'.



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About IIICorp

Inside International Industrials Inc. (IIICorp) was founded by Charlie Welsh, who has over two decades experience in the global M&A, capital markets and business news and intelligence fields. IIICorp's commercial headquarters were established in New York in July 2014, after two years of existence as part of The Mergermarket Group, which Charlie co-founded. Its Shanghai-based subsidiary was registered in October 2014, closely followed by a Mumbai-based subsidiary in March 2015.

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