

ENGINEERING INDUSTRY IN INDIA

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Brief:

India's engineering industry has proved its mettle to the world, as more and more engineering companies are offering their services to their international clients. Giving the benefits of cost savings and faster learning, Indian engineering sector is enjoying huge investments as many of the multinational national companies (MNCs) are setting up their research and development (R&D) centres in the country. India is also transforming into a research hub for the global companies. India spends around 0.9 % of gross domestic product (GDP) on R&D. Engineering exports include transport equipment, capital goods, other machinery/equipment and light engineering products like castings, forgings and fasteners.

Engineering exports from India: € 48 [USD 68] billion [expected in 2015]

The Engineering Sector in India is divided into 2 major segments:

Heavy Engineering

1. Heavy Electrical
2. Capital Equipment & Machine Tools
3. Automotive & Transport Equipment

Light Engineering

1. Low tech items like Forging, Castings & Fasteners
2. Pumps, Valves, Compressors
3. Highly Sophisticated microprocessor based Process Control Equipment & Automation, Diagnostic

Heavy Electrical Key Segments:

Boilers:

- ∠ The Indian boiler industry has the capability to manufacture boilers with super critical parameters up to 1000 MW unit size
- ∠ Market size of the industry stood at € 3.6 [USD5.1] billion in FY12

Turbines & Generator Sets:

- ∠ India's turbine industry manufactures various kinds of turbines in the range of 800- 7000 MW per annum, and generators ranging from 0.5 KVA to (ones even higher than) 250,00 KVA
- ∠ Market size of the industry stood at € 1.7 [USD2.4] billion in FY12

Transformers:

- ∠ Whole range of power and distribution transformers are manufactured in the country, including special type of transformers required for furnaces, electric tracts and rectifiers
- ∠ Energy-efficient amorphous core transformers with lesser losses and low noise levels are also being developed to meet rising demand

Switchgear and Control Gear

- ∠ The total production was 32.6 million during FY12
- ∠ Significant advances in technology have allowed the control gear industry to shift to production of digital relays in place of conventional relays

Heavy Engineering & Capital Goods Key segments:**Machine Tools:**

- ∠ India stands 12th in production and 7th in the consumption of machine tools in the world as per the latest survey.
- ∠ This segment churns out basic machinery for all major industries and determines competitiveness in other sectors such as automobiles, heavy electrical and defence
- ∠ 200 machine tool manufacturers are operational in the organised sector along with 400 small scale units
- ∠ Size of the machine tool industry was around € 536 [USD755] million in FY11
- ∠ With the projected demand for the capital goods sector being high (especially the automobile and textile industry), there is going to be significant demand for machine tools
- ∠ Considering the industry's demand for higher productivity, superior precision and accuracy, as well as low-cost manufacturing solutions, computer numerically controlled (CNC) machine tools are set to be in greater demand
- ∠ Imports growing at a steady 11% in FY 12

Textile Machinery:

- ∠ Comprises over 1446 units involved in churning out machinery and components; another 600 units produce complete machinery
- ∠ The industry is de-licensed with FDI up to 100 % allowed
- ∠ The industry has an installed capacity of € 1.2 [USD1.7] billion and produced goods worth € 0.92 [USD1.3] billion in FY11

Cement Machinery:

- ∠ Cement plants based on raw mill grinding, pyroprocessing and cement grinding process technology for capacities up to 10000 TPD are being manufactured in India
- ∠ Currently, 100 % FDI is allowed under automatic route
- ∠ With an installed capacity of around € 88.75 [USD125] million, the industry is fully capable of meeting domestic demand

Material Handling Equipment:

- ∠ With around 50 units in the organised sector, the material handling equipment industry manufactures a range of equipment, including coal/ore/ash handling plants and associated equipment
- ∠ The sector's total imports were worth USD331 million in FY11 while corresponding exports were USD31.9 million

Automotive – Key segments

Passenger and utility vehicles

- ∠ Currently, there are 16 manufacturers of passenger cars and multi-utility vehicles, 13 manufacturers of commercial vehicles, and 16 manufacturers of two-wheelers and three-wheelers
- ∠ Total production in the automobiles sector stood at approximately 17.9 million units in 2011; total exports during the year was 2.3 million units

Auto Components

- ∠ The auto components industry has more than 500 companies in the organised sector and about 10,000 companies in the unorganised sector
- ∠ The industry's turnover has grown at a CAGR of 19.6 % over FY08-11 to USD37.9 billion from USD22.2 billion

Agricultural machinery

- ∠ The agriculture machinery sector is primarily dominated by agricultural tractors
- ∠ The Indian tractor industry is the world's largest and accounts for one-third of global production
- ∠ More than 250,000 tractors are manufactured every year by 13 manufacturers
- ∠ Indian tractors are exported to US, Malaysia, Turkey and Africa

Light Engineering – Key segments

Casting & Forging

- ∠ Indian casting industry produces 6 MMT of various grades of casting and ranks sixth in the world
- ∠ The forging industry comprises around 10 organised players, with around 100 players in the small and medium sector
- ∠ The industry exports a substantial part of its production apart from meeting local demand

Pumps, Valves & Compressors

- ∠ The Indian market for pumps, valves and compressors has traditionally been dominated by international companies. While a few local firms do figure in the list of top Indian manufacturers, factors associated with limited technology know-how and financial constraints have impeded the growth of many other.
- ∠ The presence of unorganized sector is significant in the pumps and valves market when compared to compressors as complex design and relatively high capital required for compressor manufacturing has resulted in the industry being dominated by multinational players.

- ∟ The Indian market for this equipment thrives on global pattern, with demand primarily originating from the country's wide-spread oil and gas exploration & production activities, refineries and other core sectors.

Process Control Equipments

- ∟ Process control instruments and systems are used for measurement and control of process variable like pressure, temperature, humidity, liquid level, flow, specific gravity, and many forms of spectrometry, a key industry providing tools for automation for core sectors and process industries.
- ∟ Transfer of technology has been the major foundation for indigenous development. Future technology is for decrease in sensing and more automation control. The demand is basically derived demand and depends largely on progress of implementation of various projects in steel, power plants, fertilizers, petrochemicals, etc.
- ∟ Imports are very high, industry is delicensed and 100% FDI is allowed under automatic route.

Medical and surgical equipment

- The medical and surgical equipment industry manufactures a wide range of medical equipment such as ECG and X-ray scanners
- The industry is highly fragmented and dominated by small players
- The indigenous industry meets 40 % of demand and the rest is met through imports

Industrial fasteners

- The fastener industry in India can be classified into high tensile and mild steel fasteners
- Mild steel fasteners are primarily manufactured by the unorganized sector, while the high tensile steel segment is dominated by the organized sector
- Total production stood at 112.5 thousand tones in FY12

ADVANTAGE INDIA: Major Growth Drivers: Opportunities for Local & Foreign companies

Demand Side Drivers	Capacity Addition for power generation due to India's rise in energy requirement Increase in infrastructure [coal, steel, electricity, cement, gas, petroleum] spending Civil Nuclear capacity expansion expected to provide opportunities to electrical machinery Defense and Auto Components ESO – Engineering Services Outsourcing is expected to reach € 28.4 – 30 [USD 40-50] billion
Investment	Increasing FDI inflow [investment in manufacturing engineering products] M&A on the rise
Policy	De-Licencing, Foreign technology agreements permitted Reduction in tariffs and lowering of customs duties on range of engineering equip.
Competitive Advantages	Comparative advantages in manufacturing costs due to design, research, and labour costs and economies of scale Organized sector dominated by large multinational and top Indian companies employing over 4 million 4 and semi skilled labour