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Engineering

MARKET & OPPORTUNITIES

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A report by KPMG for IBEF

India's Engineering Industry

India has a strong engineering and capital goods base. The engineering sector is the largest segment of Indian Industry. The important groups within the engineering industry include machinery & instruments, castings, forgings, fasteners, electronic goods and project exports. The engineering sector employs over 4 million skilled and semi-skilled workers (direct and indirect)[1]. For the quarter ended June 2007, the total engineering production was about US$ 5 billion.

The sector can be categorised into Heavy Engineering and Light Engineering segments.

Heavy engineering constitutes over 80 per cent of the total industry, while light engineering contributes the rest. The heavy engineering industry includes capital goods/machinery and equipment, and transport equipment.

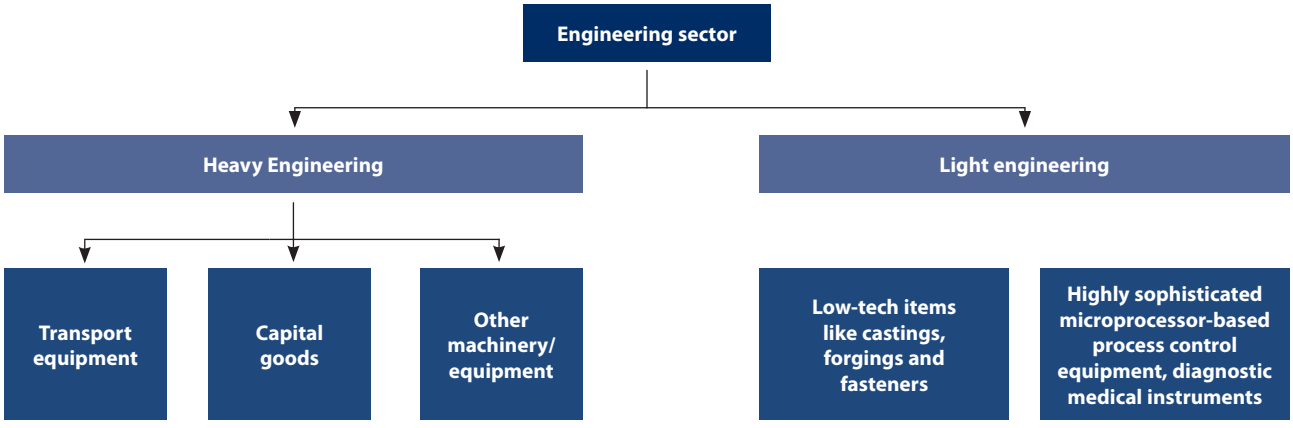
The light engineering industry includes items like castings, forgings and fasteners and sophisticated microprocessor-based process control equipment and diagnostic medical instruments.

INDIA MANUFACTURES A DIVERSIFIED RANGE OF ENGINEERING PRODUCTS

Growth in India's manufacturing sector has provided a stimulus for the engineering industry to develop capabilities in product development and advanced manufacturing technology. India manufactures the entire range of industrial machinery. Apart from demand from user industries, the availability of technical education infrastructure that provides an increased number of technically trained human resources, each year has been another key factor aiding the engineering industry in India.

The bulk of capital goods required for power projects, fertilizer, cement, steel and petrochemical plants and mining equipment are made in India. The country also makes construction machinery, equipment for irrigation projects, diesel engines, tractors, transport vehicles, cotton textile and sugar mill machinery. The recent spurt in the domestic construction and infrastructure industry has accelerated the demand for most of the products. India also exports a range of heavy and light engineering goods.

Another categorisation of players in the engineering industry can be based on the role they play, such as:



- Equipment manufacturers – such as Bharat Earth Movers Limited (BEML), Siemens, Cummins India, ABB, etc
- Execution specialists – such as Bharat Heavy Electricals Ltd.(BHEL), Larsen &Toubro (L&T), Engineers India, etc
- Niche players – such as Thermax in environmental solutions, Voltas in electro-mechanical projects, ABB for automation technologies and so on

INDUSTRY DEMAND IS DRIVEN BY INVESTMENTS IN CORE SECTORS

The demand from this sector depends largely on GDP growth, which in turn is a function of expenditure in core segments like power, railways, and infrastructure development, private sector investments, and the speed at which projects are implemented.

The power sector is the largest contributor to the revenues of engineering companies. Engineering majors like Bharat Heavy Electricals Limited (BHEL) and ABB Limited derive a significant chunk of their revenues (69 per cent and 60 per cent, respectively) through the supply of equipment to the power sector.

Infrastructure is another key area of operation. Larsen & Toubro Limited, for example, garners around 35 per cent of its sales from infrastructure activities like engineering, design and construction of industrial projects, social and physical projects like housing, hospitals, information technology (IT) parks, expressways, bridges, ports, and water/effluent treatment projects.

The industrial segment contributes to around 30 per cent of the total revenues of the engineering sector.

While India's engineering industry has capabilities in manufacturing the range of machinery required by the different user sectors, the rapid rise in demand has led to a large part of the machinery requirements being met through imports. This indicates the size of opportunity for investment in the engineering and capital goods sector in India. The engineering industry has attracted FDI inflows of US$ 1,196.73 million from August 1991-July 2006.

INDIA'S ENGINEERING INDUSTRY IS DOMINATED BY ORGANISED PLAYERS

The heavy and light engineering segments in India's engineering industry can be further classified as shown in the table. As the sector demands a high level of capability and investment, it is dominated by large organised players.

The industry consists of multi national companies, joint ventures, large domestic players, regional players in the organised sector and large number of small players in the unorganised sectors. Some unorganised players also exist at lower levels where the technology required is basic.

Public sector enterprises play an important role in the heavy engineering sector in India. There are 34 public sector enterprises operating in this segment.

The detailed profiles of different sub segments in the heavy and light engineering segments are shown in the appendix.

Industry segment	No. of organised players
Heavy Engineering Industry	
Cement machinery	18
Sugar machinery	27
Rubber machinery	19
Metallurgical machinery	39
Machine tool	160
Material handling equipment	50
Mining machinery	32
Dairy machinery	16
Light Engineering industry	
Welded steel pipes & tubes	123
Process control instrument	26
Antifriction roller bearing	19
Plain paper copier	12

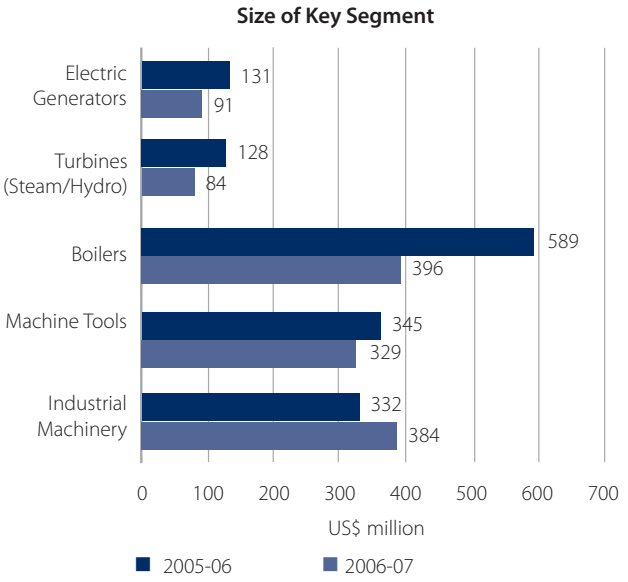
Source: Ministry of Heavy Industries as public enterprises, Annual Report 2007 and www.indiainbusiness.inc.in

THE ENGINEERING SECTOR IS EXPERIENCING ROBUST GROWTH

Domestic Performance

The performance of the engineering sector is linked to the performance of the end user industries for this sector. The user industries for engineering include power utilities, industrial majors (refining, automotive and textiles), Government (public investment) and retail consumers (pumps and motors). The Engineering sector has been growing, driven by growth in end user industries and the new projects being taken up in the power, railways, infrastructure development, private sector investments fields etc.

The production of machine tools increased from US$ 329.2 million in the first half of 2005-06 to US$ 344 million in the corresponding period in 2006-07. Production of machinery for the power sector has witnessed the highest growth rate with electric generators, boilers and turbines growing at rates above 44 per cent. After continuous growth rates of above 50 per cent in the past 2 years, industrial machinery production has seen some correction in the recent months.



Growth of key segments	
Industrial machinery	-14%
Machine tools	5%
Boilers	49%
Turbines (Steam/Hydro)	53%
Electric generators	45%

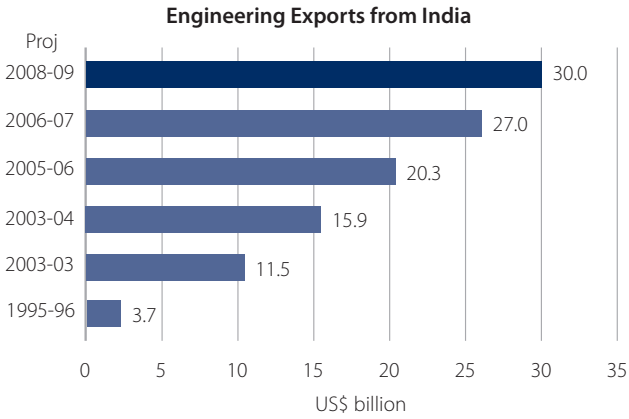
User industries like automotive, consumer durables, infrastructure and power have been growing over the past few years. The drivers for this growth include factors such as:

- Strong growth in the economy and conducive and stable regulatory mechanisms
- Focus on infrastructure and power sector development by the Government. More than 35000 MW capacity has been added in the 10th five year plan period. This has led to increase in demand for electrical machinery
- Increase in private consumption levels due to favourable demographic shifts - low average age of population, increase in income levels and number of double income families, etc.
- India is being preferred by global manufacturing companies as an outsourcing destination due to its lower labour cost and better designing capabilities

Indian Engineering goods are gaining acceptance in overseas markets

India's exports of engineering goods are valued at US$ 27 billion during 2006-07 which represents a 36 per cent growth over the exports for 2005-06 (US$ 20 billion).

The engineering sector accounted for 14 per cent of the country's total exports. It is also noteworthy that 40 per cent of India's engineering export is from the small and medium enterprises (SME) sector.



A key driver for increased engineering exports is the trend towards shifting of global manufacturing bases to countries like India that offer lower costs and good engineering talent. This trend is expected to continue and boost exports of engineering goods from India over the next 5 years. According to Engineering Exports Promotion Council (EEPC), engineering exports could touch US$ 30 billion by 2008-09. In such a scenario, India, driven by the engineering sector, will emerge as a key global manufacturing hub.

The nature of Indian engineering exports is also changing with time. India is fast moving from exporting low-value goods to developing countries to more sophisticated goods targeted at developed countries. Capital goods account for 27 per cent of total engineering exports. Exports to European Union countries and North America accounted for 19 per cent and 17 per cent respectively, of total engineering exports in 2005-06. Engineering goods worth US$ 3.34 billion were exported to USA alone in April – Feb 2006-07. Germany imported engineering goods

worth US$ 788 million from India during the same period, representing a growth of 33 per cent over the previous year. Engineering exports to UK, Italy and Netherlands have also been rising significantly.

INDIA HAS DISTINCT COMPETITIVE ADVANTAGES IN THE ENGINEERING INDUSTRY

India's competitiveness in engineering industry can be assessed using the following framework:

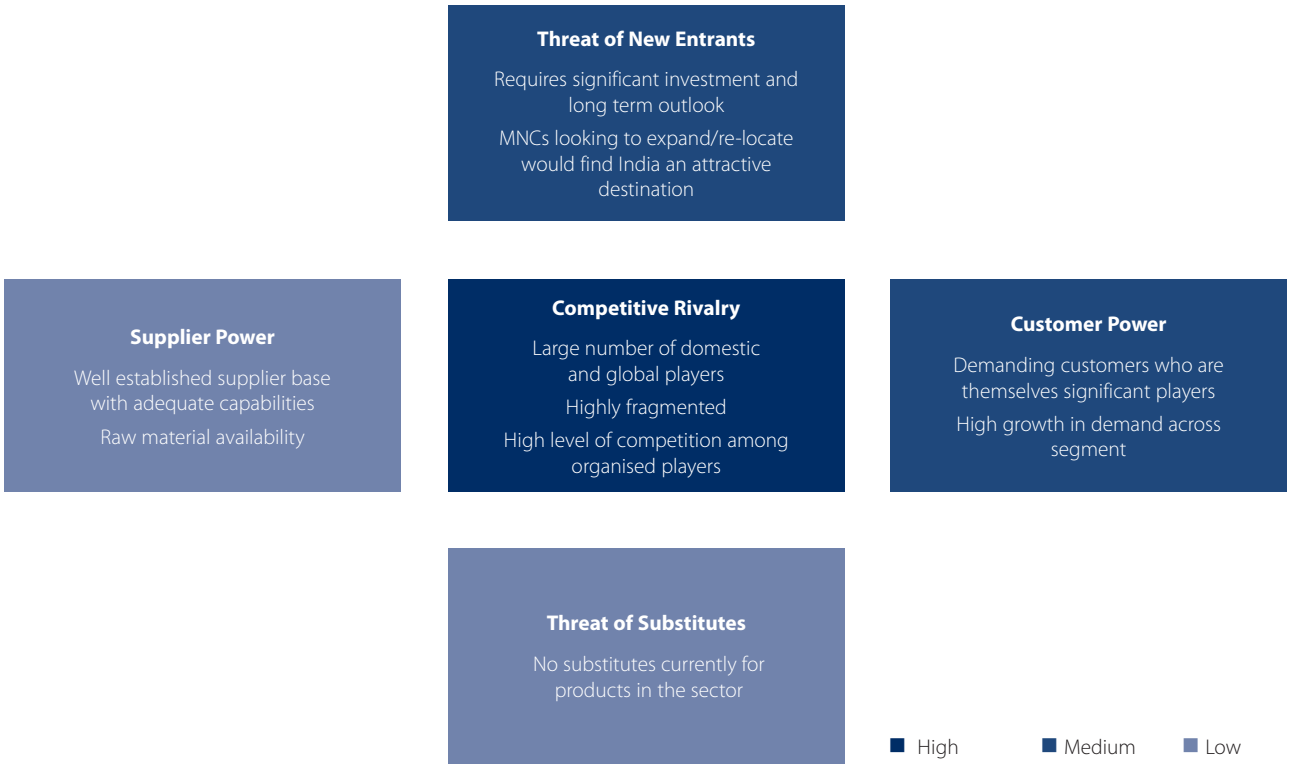
Competitive industry with well developed capabilities

Indian engineering industry is highly competitive with a number of players in each segment. A large number of multi national companies such as Cummins, ABB and Alfa Laval have also entered the industry.

The intense competition has led to Indian players developing improved capabilities that have made them more competitive. Companies have become more quality conscious and upgraded their technology base, besides diversifying their manufacturing range in tune with global market requirements. For example, more than 2500 firms in the engineering sector in different areas such as castings and forgings, automobile parts, machine tools, electrical machinery, pumps, textile machinery, etc. have acquired ISO 9000 accreditation. Most firms are becoming more competitive in R&D, product development and service. This has resulted in MNCs increasingly leveraging their Indian arms to support their global operations. For example,

ABB Group plans to leverage its Indian operations as a production and resource base for its global operations. The group has a manufacturing facility for its new range of ACS 550 drives in Bangalore to reduce lead delivery times for the customers

Cummins India Limited (CIL) is developing into a key sourcing hub for its parent company, Cummins Inc, in the engine and component segment. The company is the single worldwide source of K-38 power-generation engines and the V-28 engines and is looking at opportunities in the area of components as well. The parent company Cummins



Inc also recently started sourcing 50 litre power-generation engines (K-50) exclusively from India for worldwide use.

With most firms getting focused on becoming globally competitive, India has the potential and the ability to become a major global sourcing hub in the engineering sector.

Availability of raw materials, skilled resources

Among developing countries, India offers the best combination of low costs availability and skills and capabilities of manpower for the engineering sector. In terms of availability and skills, India produces over 500 PhDs, 200,000 engineers, 300,000 non-engineering postgraduates and 21,00,000 other graduates each year, thus ensuring a steady supply of qualified manpower for the sector. India also has a significant labour cost advantage over most other countries.

Several companies in the engineering sector have leveraged India's advantages in labour effectively.

- In order to leverage India's intrinsic technology strengths and the pool of qualified software professionals, *ABB* has set up a global Corporate R&D Centre in Bangalore, which focuses on Industrial IT development and deployment. It also helps maintain and support a range of software intensive products and partners with the ABB R&D centres as well as business areas within the group. This was the first such centre to be established outside US and Europe
- The combination of *ABB's* global know-how and India's skilled manpower enables the Indian subsidiary to produce products for the global markets. The Indian subsidiary is a base for production of high voltage 72.5 KV circuit breakers, medium voltage outdoor circuit breakers and magnetic actuators. It also exports several other products including transformers
- *Cummins* has opened a new R&D centre in Pune, Cummins Research & Technology India Pvt. Ltd., which will offer engineering design and analysis capabilities for the company's' technical centres worldwide

India also has a wealth of raw material resources to meet the demands of the engineering industry. Key raw materials required by the engineering sector are ferrous and non-ferrous metals such as mild steel and aluminium which are available in India. Ready availability of these materials gives India a major cost advantage, as materials account for nearly 50 per cent of the industry's operating costs.

Related and Supporting industries

Presence of supporting industries provides a facilitating environment for the engineering sector to grow and prosper. India's engineering industry has significant support from India's well established IT sector, as well as institutions of higher education. India has a well-developed technical and tertiary education infrastructure of over 250 universities, 1500 research institutions and over 10,000 higher education centres, which support the engineering sector not only by supplying a steady stream of qualified manpower, but also in areas of research and development.

India has a well developed vendor base for supporting engineering industries. Industries such as machine tools, textile machinery, auto components, etc, provide ample support to the engineering sector and promote self sufficiency. Some of these sectors have developed global capabilities and help the engineering sector to achieve global competitiveness.

Growing Demand

Capacity creation and transformation in sectors such as infrastructure, power, mining, oil & gas, refinery, steel, automotive, consumer durables are driving growth in the engineering industry. The framework below captures some of the key factors that are contributing to domestic and international demand for engineering goods from India.

Restructuring of the state electricity boards in different states, growth of private sector players and focus on capacity creation have driven growth in the power sector.

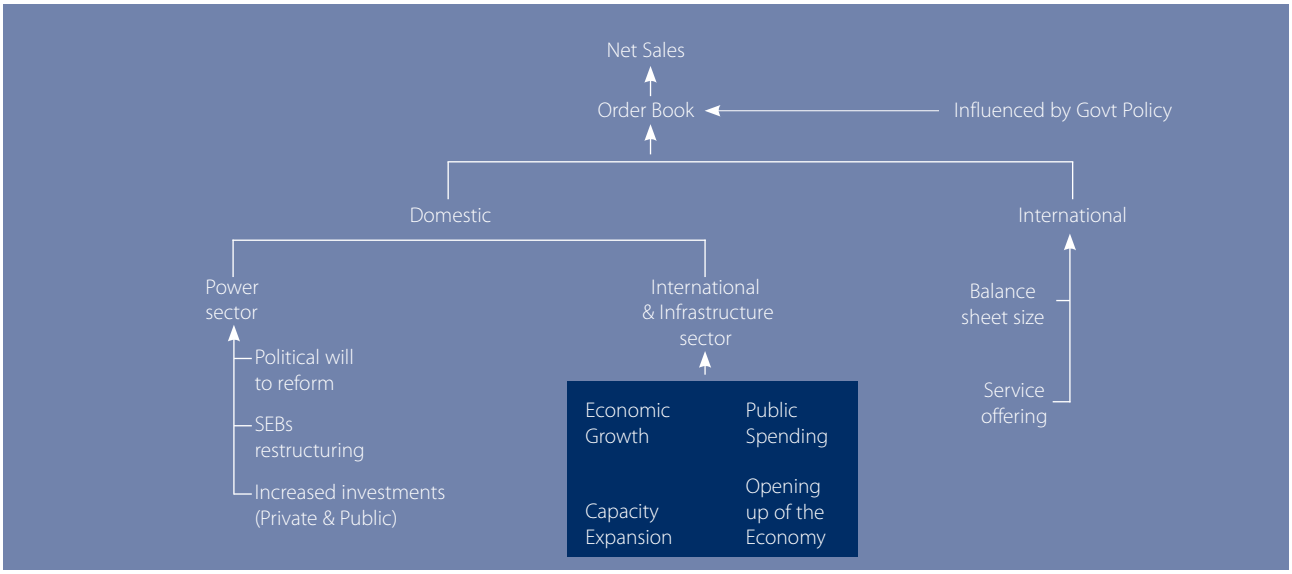
Governmental projects like the World Bank-funded Golden Quadrilateral Project and the North-South and East-West corridors have fuelled growth in the construction industry and the overall industrial sector. Industrial growth (measured in terms of the Index of Industrial Production) recorded a rate of 13.6 per cent during the April– March 2006-07 compared with 9.9 per cent achieved during the same period the previous year.

Sectors such as automotive and textiles have benefited from the changing demographic profile of the Indian market. Key demographic changes include:

- Increasing income levels and greater propensity to spend
- Lifestyle changes, driven by trends like increase in nuclear families, working women and exposure to global trends

These changes have been driving consumption in end-user sectors such as consumer durables. In turn, this has facilitated growth in the engineering sector.

Demand Drivers for the Engineering Sectors in India



Government Regulations and Support

Government of India has reviewed its Foreign Direct Investment (FDI) policy constantly, in a bid to attract more investment. 100 per cent FDI has been permitted in construction and development projects. India has opened up to private sector participation and FDI in infrastructure projects for power, roads, ports, mining sector and pharmaceutical sector.

Around 36 per cent of the total FDI is directed towards engineering industry through an automatic route, but subject to a limit of US$ 2 million lump sum payments. Royalty payment is restricted to 5 per cent and 8 per cent on domestic and exports respectively. Depreciation on general plant and machinery is around 15 per cent.

Some specific initiatives by the Government which have a positive impact on the engineering sector are:

- SEZ policy and industrial corridor development across centres of development
- Removal of tariff protection on capital goods
- Delicensing of heavy electrical industry and allowance of 100 per cent FDI
- The reduction of custom duties on various equipments
- Incentives for R&D activities
- Various initiatives focused on infrastructure development and construction, initiatives to increase power generation and improve quality of power supply

The above initiatives are aimed at creating a facilitating environment wherein the engineering sector can thrive and have been beneficial in helping the sector become competitive.

POTENTIAL INVESTMENT AREAS

Potential sectors that promise rapid growth

The various segments that comprise the engineering industry in India offer different levels of growth and investment attractiveness. For a comparative assessment, the following criterion can be applied, based on the current drivers and trends in the market.

- Segment size
- Projected growth in domestic and exports markets
- Presence of supply base and supporting industries
- Readiness of the market to accept global products and services

Based on the above factors, the following segments emerge as potential investment areas.

- Electrical Generation/Transmission Equipment
- Earthmoving Machinery
- Thermal Equipment - primarily Boilers, Furnaces

All the above segments support the ongoing development of infrastructure, construction and power generation capacity, which is expected to sustain over the long term.

Key states for investment

Several states in India are looking to attract investment into manufacturing and services through a combination of regulatory policies, infrastructure development and providing conducive industrial ecosystems. For the engineering industry, the potential locations can be assessed based on the following factors.

- Number and size of engineering/multi-product SEZs being developed in the state
- Market size, growth of user segments
- Availability of raw materials, strong supplier base and human resources
- Proximity to ports

Based on these factors, Maharashtra, Gujarat and Tamil Nadu appear to be attractive locations. With a number of engineering/multi-product SEZs being developed across these states, factor and demand conditions being conducive and being home to the major ports in India, these states offer attractive opportunity for investment.

Conclusion

The Engineering sector's future outlook is promising. Drivers like power projects, other infrastructure development activities, industrial growth and favorable policy regulations will drive growth in manufacturing. The Indian engineering industry has been witnessing significant level of capability enhancement over the years. As export markets open up, this will help India develop a strong presence in global engineering exports.

Power sector contributes the largest to the engineering companies' revenues. Major players in this sector like ABB and BHEL derive 60 per cent and 69 per cent of their revenues from supplying equipments to the power sector. Going forward, with the Government clearing the blueprint for adding 100,000 MW in the tenth (2002-07) and eleventh (2007-12) five-year plans, the potential is high for the engineering majors.

Emerging trends such as outsourcing of engineering services can provide new opportunities for quantum growth. Engineering and design services such as new product designing, product improvement, maintenance and designing manufacturing systems are increasingly getting outsourced to countries like India and China.

India's engineering sector has significant potential for future growth, in manufacturing as well as services. With development in associated sectors like automotive, one of the largest evolving markets for engineering and industrial goods, and a well developed technical human resources pool, India is poised to make significant strides in all segments of engineering.

Appendix

Profile of Heavy and Light Engineering segments

Heavy Engineering Industry	Capabilities/ capacities of Indian manufacturers
Heavy Electrical Industry	Large electrical equipment used in Steel plants, Petrochemical complexes and other such heavy industries are being manufactured in the country.
Turbines & Generator Sets	Capacity established for manufacture of various kinds of turbines such as steam & hydro turbines including industrial turbines is more than 7000 MW per annum.
Boilers	Indian Industry is continuously upgrading their technology and is introducing better products.
Switchgear and Control Gear	The entire range of circuit breakers from bulk oil, minimum oil, air blast, vacuum is manufactured in India to standard specification.
Textile Machinery Industry	It has a capital investment of US$ 326 million and an installed capacity of US$ 653 million per annum. Approximately 600 companies manufacture a complete range of textile machinery in India.
Cement Machinery Industry	The industry is fully capable to meet the domestic demand of cement machinery. The value of the existing installed capacity has been estimated at US$ 130.5 million per annum.
Sugar Machinery Industry	27 units in industry with an installed capacity of US$ 43.5 million to manufacture complete sugar plants and components.
Rubber Machinery Industry	There are at present 19 units in the organised sector for the manufacture of rubber machinery mainly required for tyre/tube industry.
Material Handling Equipment	There are 50 units in the organised sector for the manufacture of material handling equipment.
Metallurgical Machinery	At present there are 39 units in the organised sector engaged in the manufacture of various types of metallurgical machinery.
Mining Machinery	At present there are 32 manufacturers in the organised sector both in public and private sector for underground and surface mining equipment of various types. Out of the 32, there are 17 units manufacturing underground mining equipment.
Dairy Machinery Industry	At present there are 16 units manufacturing dairy machinery and equipment in the organised sector, both in private and public sector.
Machine Tool Industry	There are around 125 machine tool manufacturers in the organised sector as also around 300 units in the small ancillary sector.
Light Engineering Industry	**Capabilities/ Capacities of Indian manufacturers**
Welded Steel Pipes & Tubes	There are currently 123 units engaged in the manufacture of welded steel pipes & tubes in the organised sector. There is adequate capacity of the manufacture of these types of pipes & tubes.
Process Control Instrument	There are 26 units in the organised sector manufacturing process control instruments & systems, out of which seven units are in a position to take up complete turn key projects for the entire instrumentation system including software required by process industries. The industry is in a position to meet approximately 2/3rd of the country's demand.
Medical & Surgical Equipments	Indigenous manufacturers are currently in a position to manufacture a wide variety of electro-medical equipments such as Electro-Cardiograph (ECG machine), X-rays scanner, CT Scanner, short-wave physiotherapy unit, electro surgical units, blood chemistry analyser etc. The indigenous industry is capable of supplying about 40 per cent of the demand and the rest is met by imports.
Industrial Fasteners	Industrial fasteners cover high tensile and mild steel bolts, nuts, screws, studs and pins. All types of fasteners except high tensile and special type fasteners are reserved for SSI Sector.

Industrial Gears	The industry is de-licensed as per the current Industrial Licensing Policy and is eligible for automatic approval for Foreign Direct Investment.
Antifriction Roller Bearing	The Indian bearing industry has grown rapidly during the last few years. Today the industry is meeting around 70 per cent of its demand for common varieties and sizes of bearings while rest is being imported. At present there are 19 units in the organised sector manufacturing both ball and roller bearings. The industry has established a highly diversified product range of around 500 types of bearings.
Plain Paper Copier	There are, presently, 12 units manufacturing plain paper copiers. The major manufacturers have technical collaboration with reputed foreign companies.
Sewing machine	The major source of production of sewing machines in the country is from small scale sector as manufacture of conventional "hand operated" sewing machine is reserved for this sector. The demand for conventional domestic machines is being fully met indigenously. The industry has potential to undertake export to developing countries.
Bicycle industry	The bicycle industry is mostly in the small scale sector. Large-scale units have been permitted to manufacture bicycle frames, chains and rims for captive consumption only. The bicycle manufacturing is an established industry in the country with well accepted quality standards in the international market.
Steel forgings	This industry is well established in the country having modern manufacturing facilities. Besides meeting the requirement of domestic market, it is well established in export market also.

Profile of Domestic and Overseas players

Name of the company	Parent company	Products/divisions/sectors served	Plants
BHEL	Public sector enterprise. India's largest engineering and manufacturing enterprise	Caters to power generation and transmission, transportation (especially railways), telecom, renewable energy and industry at large.	14 manufacturing divisions, four power sector centres, over 100 project sites, 8 service centres and 18 regional offices.
Engineers India Ltd	Government undertaking (as 90.39 per cent stake is owned by Government), under Petroleum & Natural Gas Ministry	Highways and bridges, airports, mass rapid transport systems (MRTS), ports & terminals, power projects, non-conventional / renewable energy sources, specialist materials and maintenance services, intelligent buildings, water and urban development projects	Besides its head office at New Delhi, EIL has a branch office at Mumbai, zonal office at Kolkata, regional offices at Chennai and Vadodara and inspection offices at all major equipment manufacturing locations in India. It also has overseas offices at London, Abu Dhabi, Kuwait, Qatar, Malaysia and Australia.
Hindustan Aeronautics Ltd.	Public sector enterprise	Supplies / services are mainly to Indian Defense Services, Coast Guard and Border Security Force. Transport aircraft and Helicopters have also been supplied to Airlines as well as State Governments of India.	Based out of Bangalore. Facilities are located throughout India including Nasik (Maharashtra), Korwa, Kanpur, Lucknow (Uttar Pradesh), Koraput (Orissa) and Hyderabad (Andhra Pradesh).
Crompton Greaves	Part of the B.M.Thapar Group	Largest private sector enterprise in the business of electrical engineering.	Bhind, Mumbai, Nashik (Maharashtra), Hosur (Karnataka), Goa.
Elgi Equipments	Market leader and Asia's largest manufacturer of air compressors and automobile service station equipment.	Elgi products have wide range of applications in areas ranging from mining, defense, transport, pharmaceuticals, power, oil, railways, chemicals, textiles, printing to ship building, paper, electronics, telecommunications, medical, food & beverages and plastics.	Singanallur and Kurichy in Coimbatore (Tamil Nadu).

Name of the company	Parent company	Products/divisions/sectors served	Plants
HMT	Public sector enterprise	Tractors, printing machinery, metal forming presses, die casting & plastic processing machinery, CNC systems and bearings.	Srinagar (Jammu & Kashmir), Mohali (Punjab), Hyderabad (Andhra Pradesh), Kalamassery (Kerala) and Ajmer (Rajasthan)
Kirloskar Oil Engines Ltd. (KOEL)	Part of the century old Kirloskar group promoted by S L Kirloskar.	The company has two segments – Engines and Engine bearings & valves. Also in business of manufacturing gray iron castings and trading in oil, power generation.	Manufacturing facilities in Pune, Nasik, Ahmednagar and Phursungi (Maharashtra).
Larsen & Toubro Ltd. (L&T)	Part of L&T group, India's largest engineering and construction conglomerate.	Four segments namely Engineering and Construction (E&C), Cement, Electrical and Electronics and Diversified business. It also has 19 subsidiaries.	Coimbatore in Tamil Nadu, Kurnool District in Andhra Pradesh and Hassan in Karnataka.
Thermax Ltd.	Originally incorporated as Thermo-Dynamics Pvt., Ltd on 30th June, 1980. On 1st July, 1980 Wanson (India) Ltd. along with Thermax India (Pvt) Ltd. was amalgamated with the Company and subsequently the name was changed to Thermax Pvt.	Six core businesses - Boilers and Heaters, Absorption Cooling, Water and Waste Solutions, Chemicals for Energy and Environment Applications, Captive Power and Cogeneration systems, Air Pollution and Purification.	Five manufacturing facilities, 12 sales and service offices and a widespread franchisee and dealer network.
Cummins India Limited	Part of Cummins Inc., world's largest designer and manufacturer of diesel engines.	Power generation, construction & mining, compressors, locomotives, marine, oilfields, fire pumps & cranes, automotive and special applications.	Nashik, Sholapur, Pune (Maharashtra), Bharuch (Gujarat) and Bardez (Goa).
Alfa Laval (India) Ltd.	Subsidiary of Alfa Laval AB, Swedish Multinational engineering company. The company has approximately 9,000 employees.	Alfa Laval India has two divisions namely Equipment division and Process Technology division.	Manufacturing facilities in Pune, Sarole and Satara. (Maharashtra).
Asea Brown Boveri Ltd. (ABB)	Subsidiary of ABB Ltd -Zurich which is a leader in Power and Automation technologies. The Company operates in around 100 countries and employs about 120000 people.	ABB India caters to power and industry sectors.	Local manufacturing at 8 units and a nationwide marketing and service presence. ABB has also set up a global R&D centre in Bangalore.
Siemens Ltd.	Flagship of the Siemens Group in India. Siemens AG, the parent company holds 54.63 per cent in Siemens Ltd.	Power generation and distribution equipment, industrial projects and equipment, transportation systems, communication and healthcare products.	Aurangabad, Nashik, Thane (Maharashtra), Goa and North 24 Parganas (West Bengal).

Address of the Apex Contact Agency for the Sector

Apex Contact Agency	Address
Engineering Export Promotion Council (EEPC)	Vanijya Bhavan (1st Floor), International Trade Facilitation Centre, 1/1 Wood Street Kolkata 700016 Ph: 91-33-22890651/52 Email : eepcho@eth.net Website: http://www.eepc.gov.in
Federation of Engineering Industries of India	B-30 Sagar Apartment, 6, Tilak Marg, New Delhi- 110001 Ph: 91-11-2381895 / 2388665
Indian Machine Tools Manufacturer Association (IMTMA)	Plot 249 F, Phase IV, Udyog Vihar, Sector 18 Gurgaon 122 015 Haryana Ph: 91-124-5014101/02/03/04 Email: imtma@del2.vsnl.net.in Website: http://www.imtma.org

Exchange Rate Used

Year	Exchange Rate (INR/US$)
2000-01	45.75
2001-02	47.73
2002-03	48.42
2003-04	45.95
2004-05	44.87
2005-06	44.09
2006-07	45.11

DISCLAIMER

India Brand Equity Foundation (IBEF) is a public-private partnership between the Ministry of Commerce & Industry, Government of India and the Confederation of Indian Industry. It aims to effectively present the India business perspective and leverage business partnerships in a globalising market-place.

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