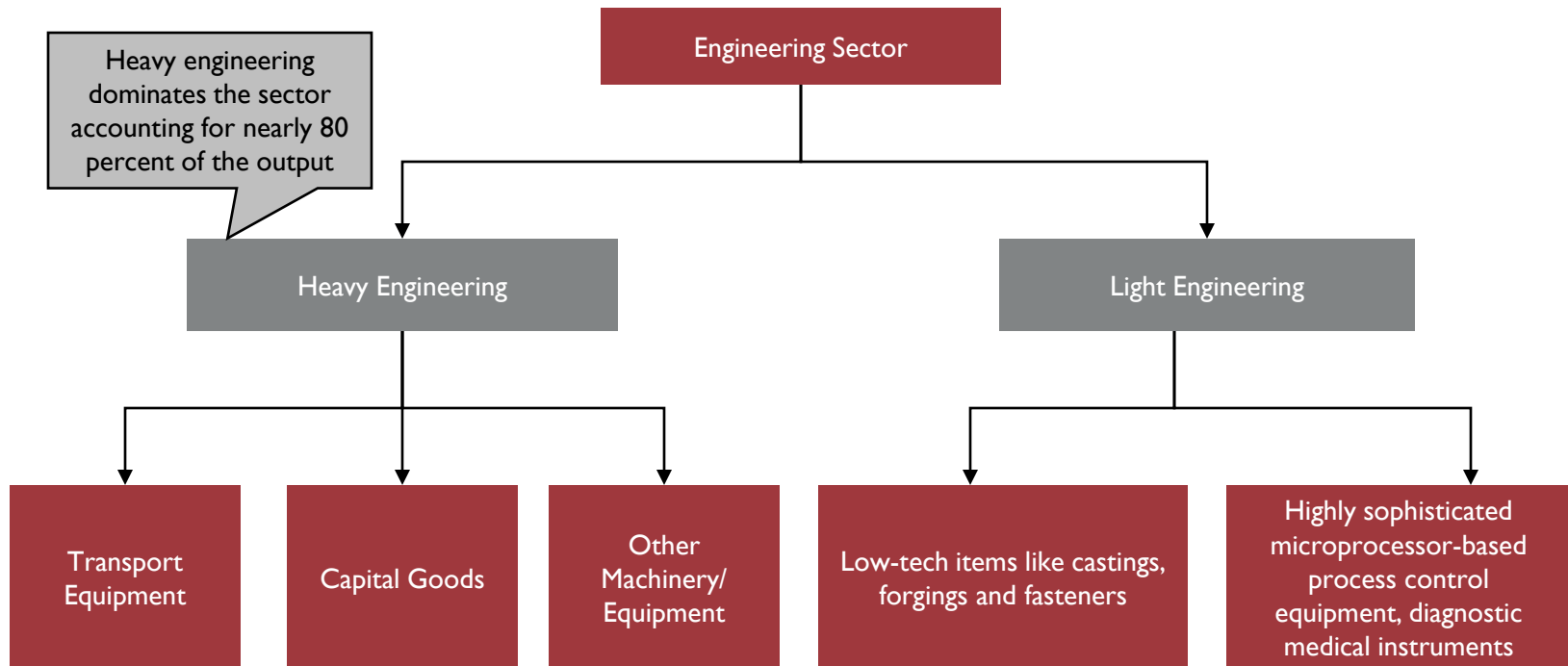


ENGINEERING SECTOR IN INDIA

September 2009

The Indian engineering sector can be classified into two key categories



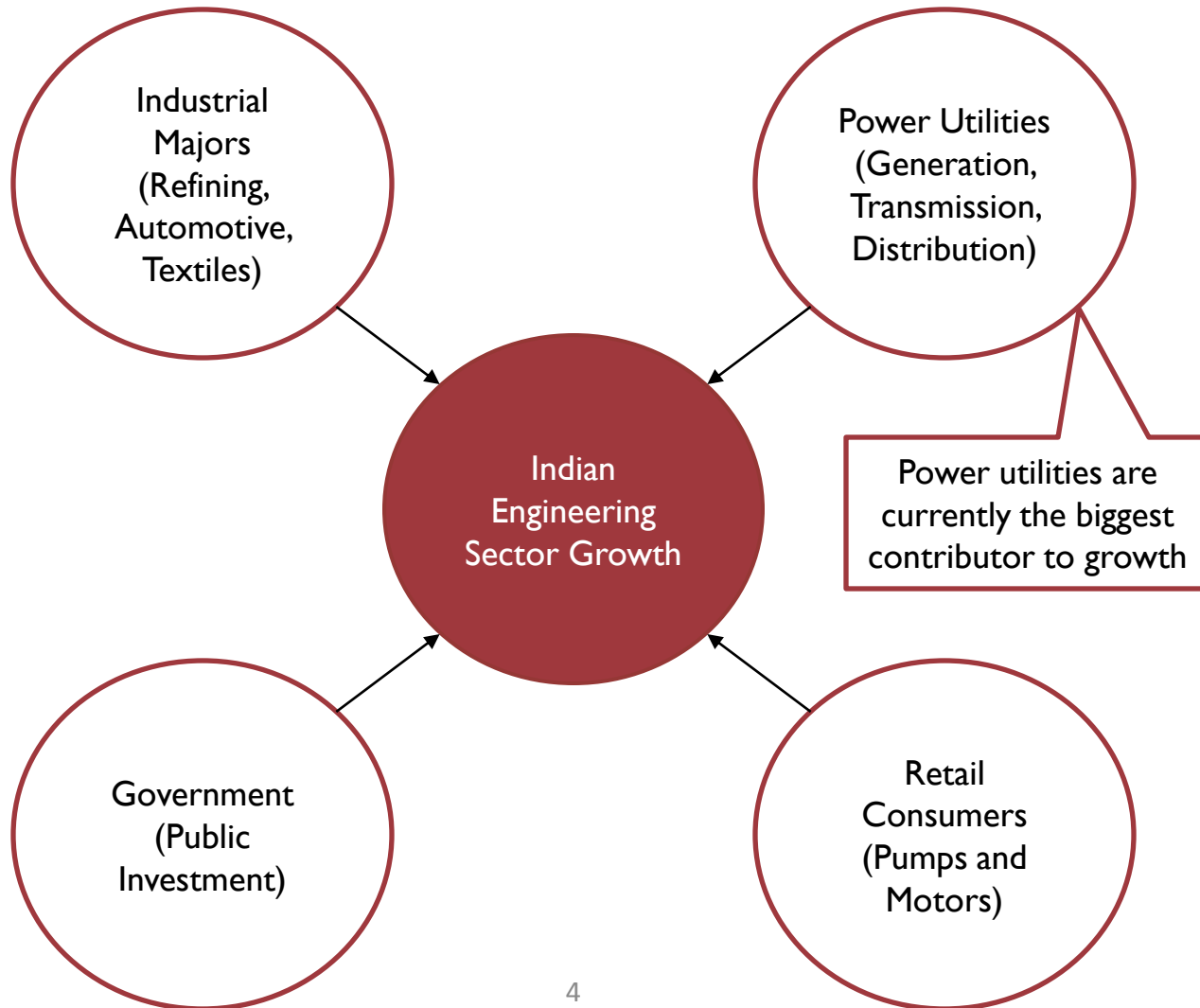
Players in the sector could also be classified as

1. Equipment manufacturers
2. Execution specialists and
3. Niche players

The industry is largely dominated by organised players as the sector demands a high level of capability and investment

Industry segment	No. of organised players
Heavy Engineering Industry	
Cement machinery	18
Sugar machinery	27
Rubber machinery	19
Metallurgical machinery	39
Machine tools	200
Material handling equipment	50
Mining machinery	32
Dairy machinery	20
Light Engineering industry	
Welded steel pipes and tubes	123
Process control instrument	26
Anti-friction roller bearing	19
Plain paper copier	12

Growth in the sector is driven by key user industries...



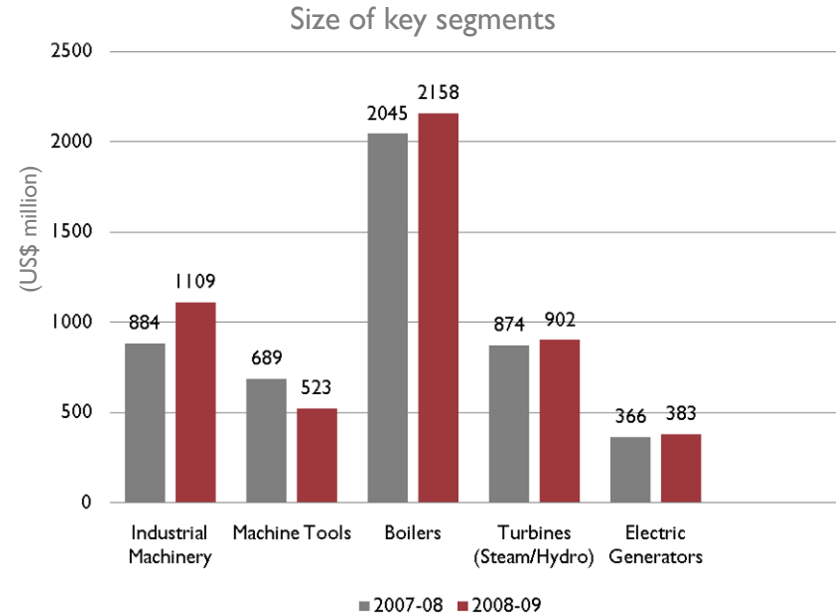
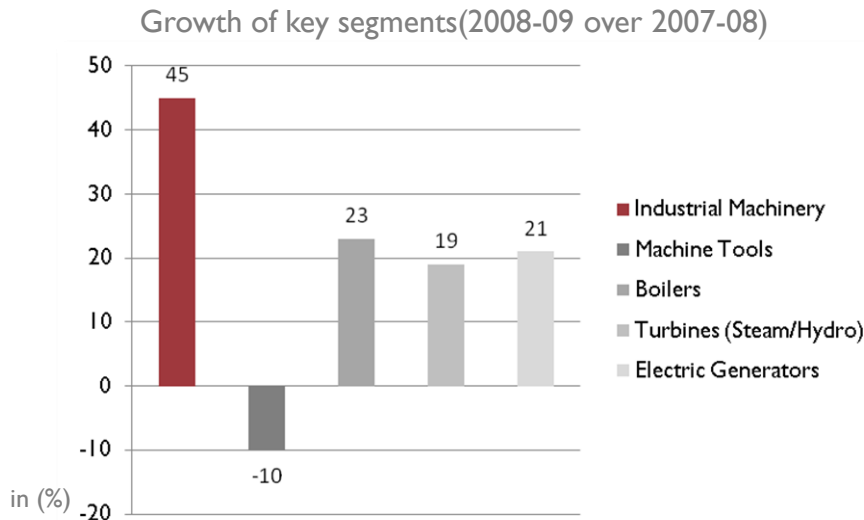
...which, in turn depend on other key growth factors

- Well developed demand conditions
- Consolidation of factor conditions including human resources, raw materials, etc.
- Conducive and stable regulatory mechanisms
- Promotion of special economic zones
- Government's emphasis on power and construction sector over the past few years
- India emerging as a preferred outsourcing destination among global manufacturing companies

Several key segments have been experiencing strong growth

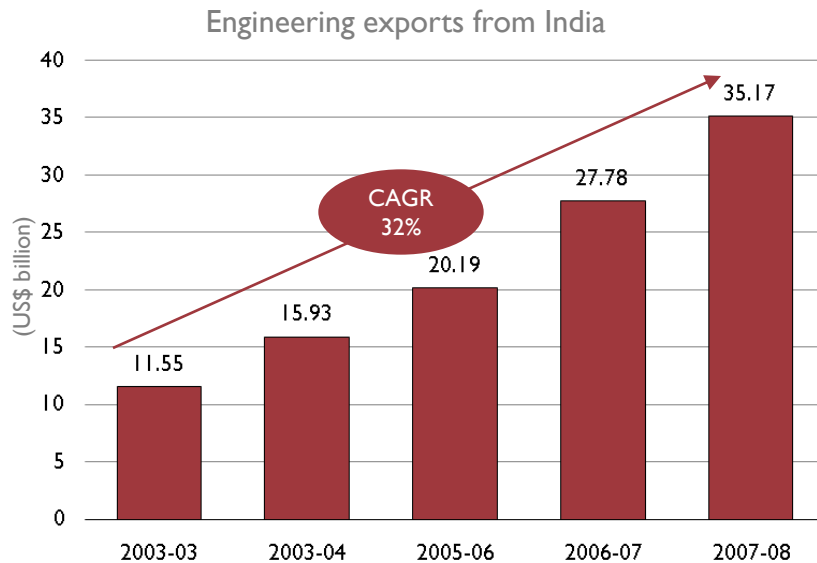
Boilers, industrial machinery and electric generators appear to be the most attractive segments from a size and growth perspective.

Given the focus on the development of power infrastructure, these segments are expected to see sustained growth.



- Source: Annual Report 2007-08, Ministry of Heavy Industries and Public Enterprises, GoI
- Exchange Rate: 2007-08 – 1 US\$ = 40.26 INR (Source: Ministry of Commerce, GoI); 2008-09 – 1 US\$ = 46.47 INR (Source: www.oanda.com)

Exports of engineering goods from India have also been growing rapidly



- 40 percent of exports are from Small and Medium Enterprises (SMEs)
- Capital goods account for 37 percent of exports in the sector
- Exports to technologically advanced countries such as USA, UK and Germany have been increasing.

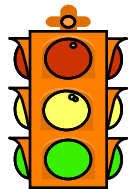
Key factors enabling growth in exports:

- India's labour cost advantage
- Growing capabilities of Indian engineering firms
- Availability of raw materials, supplier base and labour pool

Government support:

- SEZ policy
- Infrastructure development
- De-licensing, removal of tariff protection

The sector is competitive, and investors need to have the right approach and focus to succeed



High
Medium
Low

Threat of New Entrants

- Requires significant investment and long term outlook
- MNCs looking to expand / re-locate would find India an attractive destination



Supplier Power

- Well established supplier base with adequate capabilities
- Raw material availability



Competitive Rivalry

- Large number of domestic and global players
- Highly fragmented
- High level of competition among organised players



Customer Power

- Demanding customers who are significant players themselves
- High growth in demand across segments



Threat of Substitutes

- No substitutes currently for products in the sector



Successful MNCs have leveraged India's advantages in different ways



- R&D Hub
 - Has set up a global corporate R&D Centre in Bangalore, which focuses on Industrial IT development and deployment.
 - Supports a range of software intensive products and partners with ABB R&D centres globally as well as business areas within the group
 - It is the first such centre to be established outside US and Europe.
- Sourcing Hub
 - The Indian subsidiary is a global hub for high voltage 72.5 KV circuit breakers, medium voltage outdoor circuit breakers and magnetic actuators.



- R&D Hub
 - R&D centre in Pune - Cummins Research & Technology India Pvt Ltd
 - Offers engineering design and analysis for the company's technical centres worldwide
- Sourcing Hub
 - India is the single worldwide source of K-38 power-generation engines and V-28 engines
 - Also sourcing 50 litre power-generation engines (K-50) exclusively from India
 - Looking at opportunities in the area of components as well

With significant potential for future growth, the sector provides ample opportunities for investment...

Attractive Areas for Investment

- Key segments for investment have been assessed based on the following factors
 - 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, the following segments appear attractive
 - Electricity generation/transmission equipment
 - Earthmoving machinery
 - Thermal equipment - primarily boilers and furnaces

...there are several attractive states and locations that can be considered

- Key states for investment have been assessed based on the following factors
 - Engineering / multi-product SEZs being developed
 - Conducive factor and demand conditions
 - Presence of industry players and supporting institutions
 - Proximity to ports
- Based on the above, the following states appear attractive
 - Maharashtra
 - Gujarat
 - Tamil Nadu

Profiles of domestic and overseas players

Name of the company	Parent company	Output	Products/divisions/ sectors served	Plants
BHEL	Public sector enterprise. India's largest engineering and manufacturing enterprise	Sales turnover – US\$ 6.09 billion in 2008-09	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, eight service centres and 18 regional offices.
Hindustan Aeronautics Ltd	Public sector enterprise	Sales – US\$ 2.14 billion ^[1] in 2008-09.	Supplies / services are mainly to Indian defence services, Coast Guard and Border Security Force. Transport aircraft and helicopters have also been supplied to airlines as well as state governments of India.	Facilities are located throughout India including Nashik, Korwa, Kanpur, Koraput, Lucknow and Hyderabad.
Crompton Greaves	Part of the Avantha Group	Sales – US\$ 1.91 billion in 2008-09	Largest private sector enterprise in the business of electrical engineering	Facilities are located at Bhind, Mumbai, Nashik, Hosur, Goa

Sources: Annual Report 2007-08, Ministry of Heavy Industries and Public Enterprises, Gol, www.cgionline.com, OnceSource

Profiles of domestic and overseas players

Name of the company	Parent company	Output	Products/divisions/sectors served	Plants
Larsen & Toubro Ltd (L&T)	Part of the L&T group, India's largest engineering and construction conglomerate.	Sales – US\$ 8.93 billion in 2008-09	Four segments namely Engineering and Construction (E&C), Cement, Electrical and electronics and diversified business. It also has 19 subsidiaries.	Facilities are Coimbatore in Tamil Nadu, Kurnool District in Andhra Pradesh and Hassan in Karnataka.
Thermax Ltd	Originally incorporated as Thermo-Dynamics Pvt, Ltd on June 30, 1980. On July 1, 1980 Wanson (India) Ltd along with Thermax India (Pvt)Ltd was amalgamated with the company and subsequently the name was changed to Thermax Pvt	Sales – US\$ 0.76 billion in 2008-09	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	It has five manufacturing facilities, 12 sales and service offices and a widespread franchisee and dealer network across the country.
Cummins India Limited	Part of Cummins Inc., world's largest designer and manufacturer of diesel engines	Sales – US\$ 0.79 billion in 2008-09	Power generation, construction and mining, compressors, locomotives, marine, oilfields, fire pumps and cranes, automotive and special applications.	Plants are located at Nashik, Bardez, Sholapur, Pune, Bharuch

Profiles of domestic and overseas players

Name of the company	Parent company	Output	Products/divisions/sectors served	Plants
Alfa Laval (India) Ltd	Subsidiary of Alfa Laval AB, Swedish Multinational engineering company. The company has approximately 9,000 employees	Net sales – US\$ 0.2 billion in Dec 2008	Alfa Laval India has two divisions - equipment division and process technology division	Has manufacturing facilities in Pune, Sarole and Satara.
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 120,000 people.	Net sales – US\$ 1.6 billion in Dec ember 2008	ABB India caters to power and industry sectors.	Vast installed base, extensive local manufacturing at eight units and a nationwide marketing and service presence. ABB has also set up a global R&D centre in Bengaluru.
Siemens Ltd	Flagship of the Siemens Group in India. Siemens AG, the parent company holds 54.63 percent in Siemens Ltd	Sales – US\$ 23.65 billion in 2008-09	Power generation and distribution equipment, industrial projects and equipment, transportation systems, communication and healthcare products.	Has plants at Aurangabad, Nashik, Goa, Thane and North 24 Parganas (West Bengal).

Source: www.cgionline.com

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