

# Engineering Excellence

The strong industrial base of India is propelling the economy on the fast lane. The heavy engineering and engineering construction sectors, notes **Aju Joseph**, are driving growth in the industrial sector

**W**HEN India threw open its gates in the early 1990s, as part of the LPG (liberalisation, privatisation and globalisation) policies, none could have imagined that the heavy engineering industry and the engineering construction sectors would record explosive growth over the following years.

The heavy engineering industry comprises machine tools, heavy electri-

cal, industrial machinery and the auto industry, which provide goods and services for almost all sectors of the economy, including power, rail and road transport. Sixteen years after the reforms were initiated the sector has emerged at the vanguard of India's growth story.

The machine building industry caters to basic industries such as steel, non-ferrous metals, fertiliser, refineries, petrochemicals, shipping and cement. It is part

and parcel of the infrastructure sector – be it road, bridge, flyover development or setting up a seaport or airport, or building a power plant.

According to the Planning Commission, India would require \$350 billion worth of infrastructure investment over the next five years. Montek Singh Ahluwalia, deputy chairman, Planning Commission, says the investment requirement could be met through foreign direct investment (FDI) and private sector participation. With many new airports, seaports, roads, bridges and power projects in the pipeline, the prospects for the heavy engineering industry and the EPC sector in the domestic market have brightened.

Among domestic majors, Larsen & Toubro (L&T) has established itself as an Indian multinational (MNC) with a slew of projects undertaken by its engineering and construction division, both in India and abroad. Some major works include a gas and crude distillation unit at Zirku Island in Abu Dhabi, an FCC (fluid catalytic cracking) regenerator and combustor, which just happens to be the world's largest regenerator, for the Reliance refinery in India; the landmark Salalah power project in Oman, and the Mumbai-Pune expressway, India's first six-lane concrete expressway built to international standards.

The list goes on, with many other projects in sectors like oil and gas, refinery, power, petrochemicals, fertiliser, chemical plants, cement and minerals, food and pharmaceuticals, and infrastructure.



VANGUARD OF GROWTH STORY: Prospects for the heavy engineering industry have brightened in recent years

DPA

With advent of technological expertise, strategic alliances and world-class standards, the global EPC sector is increasingly adapting quicker and efficient methods. International alliances, collaborations and an ongoing consolidation process and outsourcing are providing much-needed adrenalin to the sector.

Toyo Engineering, Jacobs H&G, Uhde, Tecnimont and Aker Kvaerner Powergas are among the leading multinational players in India. "There is a boom in the market, with many heavy engineering contracts coming up in India," says a spokesman of Tecnimont. "Virtually all the players have a handful of projects, and are facing resource crunch, unlike in the past."

According to a spokesperson of Aker Kvaerner Powergas India, "these days, the total time span for executing projects has reduced drastically. Every customer wants high quality, world-class construction, built in the minimum possible time." Vigorous follow-up action, large-scale mechanisation, selection of resourceful contractors, use of state-of-the-art equipment and IT solutions, identifying the key and critical activities in time and proper construction supervision are the necessary tools to achieve these goals.

Indian EPC majors have not just limited themselves to national shores, but are looking across the borders. Major projects are foreseen in the Middle East, China, Africa, Vietnam, Latin America and, of course, the Asia-Pacific rim countries. The Middle East is the current hotspot, where the cheap availability of energy, feedstock and finance will witness a quantum jump in project activities.

India has a definite edge over other countries due to low cost, fast execution and availability of resources. The availability of a vast pool of English-speaking personnel with specialised technical experience makes India one of the best providers of manpower in the international market. Many foreign majors such as Tecnimont and Toyo have handed over a slew of international projects won by their parent firms to Indian subsidiaries for execution.

Indian engineers and technicians are increasingly being deployed for overseas projects through Indian as well as international construction contractors. This trend



is expected to increase substantially over the coming years despite the competition that could be expected through deployments from China, the Philippines and East European countries.

The rapid rise of the heavy engineering industry has fuelled industrial sector growth, which recorded an expansion of 10.3 per cent (measured in terms of the Index of Industrial Production or IIP) during April-October of last financial year (2006-07) as compared to 8.6 per cent achieved during the corresponding period in the previous fiscal. Capital goods

sector, which posted a robust growth of 16.9 per cent in 2005-06, has maintained its growth momentum last year as well. According to the IIP, capital goods sector posted a growth of 15 per cent during April-October 2006-07. And as the power sector finally takes off, thanks to the new policy of promoting ultra mega power plants, the heavy electrical industry is on a roll. Whether it's boilers, turbo generators, various types of turbines, transformers, switchgears and other allied items, Indian companies are taking central stage in the international arena.



**COMPLEX PROJECTS:** Many heavy engineering contracts are coming up in India

According to industry officials, India is the only other developing country besides China that produces a full-range of electric power generation and transmission equipment. The stupendous growth recorded by the state-owned Bharat Heavy Electricals (BHEL) mirrors how significant it is for the entire economy.

BHEL has the unique distinction of being one of the very few companies in the world, manufacturing all major power generating equipment under one roof. It is the largest manufacturer of boilers in India, with more than 60 per cent share, and has the capacity to manufacture boilers for super thermal power plants apart from utility boilers and industrial boilers.

India has opened up the power sector for foreign direct investment, and there is renewed interest in the sector, according to industry analysts. India plans to add 150,000 MW power generation capacity over the next 10 years. This will generate substantial demand for heavy electrical equipments. The industry has

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been upgrading the existing technology and is now capable of taking up turnkey contracts, also for export markets. Foreign collaborations are allowed with 100 per cent foreign direct investment (FDI).

Though a little late, India has now

stepped up expenditure on research & development (R&D). Investments in R&D by the electrical industry is amongst the largest in the corporate sector in India. Whether it's the state-of-the-art product designs and upgrading the manufacturing/testing facilities, domestic heavy electrical equipment firms are on course with global market developments.

Another sector in India that has witnessed phenomenal changes is the petroleum industry. It has been thrown open for the private sector in all major areas of exploration, production, refining and marketing, leading to increased demand for the oil field and related equipments. Domestic production covers mainly the on-shore drilling equipment.

As infrastructure development is inevitable, and demand for oil, petroleum products, polyester, power, cement and steel is steadily growing, heavy engineering industry and the EPC sector are gearing up for another long innings.