Management's Discussion & Analysis

The management of Larsen & Toubro Limited presents the analysis of division-wise performance of the Company for the year 2002-2003 and its outlook for the future. This outlook is based on assessment of the current business environment. It may vary due to future economic and other developments, both in India and abroad.

The Company’s performance was satisfactory during 2002-2003, yet another year of challenging business environment. During the year under review, the Indian economy faced sluggish GDP growth which slid down to 4.3% from 5.6% in 2001-2002. This was primarily on account of a drought arising from a poor monsoon which affected the agriculture sector and also the rest of the economy. Global economic recovery remained subdued affecting capital inflows. Unsettling conditions in the Middle East added to the volatility of the situation. Fortunately, the domestic situation was alleviated to a certain extent by a sharp recovery in the manufacturing sector and a better performance from the services sector.

The growth in domestic manufacturing sector increased from 2.9% in 2001-2002 to 6.0% in 2002-2003. Within the industry, however, the machinery and equipment segment grew by just 1.8% during the year. The core sector industries posted a growth of 5.2% with cement production rising by 8.8%. A significant achievement for the Indian economy was the performance on the external front with exports growing by 17.8% in 2002-2003 from -0.4% in 2001-2002. With global surplus capacities populating the various regions however, businesses are facing intense competition and hence declining operating margins.

Notwithstanding the intense competitive pressures, the Company maintained its leadership position in most of its businesses during 2002-2003. While coping with the challenges of sluggish investment climate, global competition, declining operating margins and increasing customer expectations, the Company focused on strengthening its capabilities. The Company launched a series of initiatives aimed at enhancing its value proposition to the customer. Since the Company is pursuing a strategy to expand its presence in the international markets, efforts are under way to increase the competitiveness benchmarked to global standards. During 2002-2003, the Company took specific initiatives to improve its positioning, significant among these being - Businesses reorganization to facilitate sharper focus on thrust areas/select markets and faster response to market developments, global alliances with leading organizations in the areas of technology, project execution, product marketing etc., productivity enhancement due to asset sweating, process improvements aided by Six Sigma, JIT initiatives etc., Improved customer orientation, Cost reduction initiatives, Adoption of dynamic HR practices etc.

The Company’s impressive order book and its growing international business evidence the success of these initiatives. While export revenues are increasing smartly, the Company is today exposed to global business conditions like never before. The initiatives being taken by the Company are therefore to enable the Company to compete successfully in the international markets, while consolidating its dominance in the domestic markets.

The Company’s business consists of the following major segments:

<table>
<thead>
<tr>
<th>Name of the Segment</th>
<th>% of Segment Revenue</th>
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<tbody>
<tr>
<td>Engineering &amp; Construction (E&amp;C) [Construction, E&amp;C Projects and Heavy Engineering]</td>
<td>62%</td>
</tr>
<tr>
<td>Cement</td>
<td>26%</td>
</tr>
<tr>
<td>Electrical &amp; Electronics</td>
<td>8%</td>
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<td>Others</td>
<td>4%</td>
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Given below are the performance highlights of the major operating divisions of the Company during 2002-2003 in addition to financial review of the Company’s performance, information on the Company’s HR initiatives, Industrial Relations and the Awards conferred on the Company during 2002-2003. The brief details of the activities of major Subsidiary and Associate companies are also enclosed.

1. AN OVERVIEW

L&T undertakes engineering design and construction of infrastructure and industrial projects covering civil, mechanical, electrical and instrumentation engineering sectors through its ECC (Engineering, Construction and Contracts) Division. ECC is India’s largest construction organization, having many of the country’s landmark constructions to its credit.

ECC Division offers complete turnkey solutions including engineering and uses mechanized methods of construction and modern management principles on the lines of construction majors of the developed world. This has helped the Division to establish itself as an undisputed leader in the domestic construction industry. In-house engineering design and research skills have enabled the Division to undertake complete turnkey projects across sectors. L&T’s customers have the advantage of getting projects completed on time – many a time setting world benchmarks.

2. BUSINESS ENVIRONMENT

The year 2002-2003 witnessed continued sluggishness in demand and hence low growth in investments in industrial and infrastructure projects. Despite some improvement in the fortunes of core sector industries like steel, excess capacities continue to hamper investment
initiatives. Contract award decisions, land acquisition issues, environmental clearances and financial closures need to be expedited to facilitate early commencement/progress of most projects. The success of public-private partnership initiatives hold the key for the much needed development of infrastructural facilities in the country. Efforts are required to improve the viability and bankability of these projects. Increased acceptability of “Pay for Use” and the commitment of States for adherence of the contract terms are imperative to gain funding support at competitive costs for infrastructure projects.

Continued focus on Road sector, proposals for world-class sports infrastructure, Convention Centers and grant of infrastructure status to hospital projects are welcome features in the recent Union Budget. The “Viability Gap Funding” proposed in the Finance Act is also expected to help private sector participation in promotion of more roads, ports, airports etc. Apart from infrastructure sector opportunities, growth in housing demand, development of IT parks and improved focus on water management hold promise for construction companies.

During the year, ECC division stepped up its efforts to secure increased share of international business particularly in the Middle East and other neighbouring countries where the prospects appear good.

3. SIGNIFICANT INITIATIVES

Keeping in view the stiff competition on international front and the pressure on pricing, the Division has evolved strategies including organization redesign, that exploit the existing strengths and enhance business prospects and profitability. Some of the significant initiatives towards this end are:

a) Operational Improvements – Organization Redesign

Construction Division, from the erstwhile complex model of 18 SBUs, with 7 Regional Offices in India and 4 Area Offices abroad, has been redesigned to a new functional 4x4 matrix structure. The SBUs are regrouped into four Business Sectors based on core-technologies - Buildings and Factories, Civil and Transport Infrastructure, Industrial Projects & Utilities and Electrical & Instrumentation.

Geographically, the entire operations, both domestic and international are now divided into 4 zones. The West Zone will operate from Mumbai and will look at opportunities in the Middle East and Africa apart from Mumbai Region. The East Zone based in Kolkata will cover, apart from Kolkata Region the markets of Nepal, Bhutan, Bangladesh and Myanmar and will further explore emerging opportunities in Vietnam, Cambodia and China. The North Zone presence will be from Delhi to oversee projects in the Delhi and Ahmedabad Regions and beyond India in Afghanistan, Iran, Kazakhstan, Uzbekistan, etc. in Central Asia and the Russian Federation. The South Zone will cover Chennai Region, Hyderabad Region and Bangalore Region while spreading operations in Sri Lanka, Male, Malaysia and Indonesia. The new structure thus brings multi-pronged and yet focused attention to our objective of increasing international business, especially in the neighbouring countries.

A Global Resources and Supply Chain Management Cell has been created to address Asset and Resources Management, Vendor / Sub-Contract Development in terms of standardization, sustaining systems, classification, ratings, materials planning and procurement etc. The objective is to leverage the Division’s large operations towards achieving cost competitiveness in procurement, in addition to optimal utilization of all resources for project timeliness, quality and cost.

The new structure is operational from April 1, 2003.

b) Customer and Quality Focus

Customer needs form a crucial cornerstone of our growth initiatives. The Division endeavors to cater to customer needs, at the time and at a price that reflects the product’s value to the customer. Long-term relationships with customers and vendors also help the Division to enhance performance, aim at better quality and have efficient delivery systems. For instance, TISCO has recognized the Division’s 25 years of continued association in project execution, with an award in a recent ceremony at Jamshedpur.

Quality in construction is not limited to zero defects execution but getting it ‘right the first time’, delivery on time and to budget, innovating for the benefit of the client and eliminating waste, be it in design, materials or construction on site. Cyber Gateway – Phase 2 of Hitec City at Hyderabad that the Division has executed on Design & Build basis with total turnkey responsibility has saved considerable costs for the client.

The Division strives to achieve this through continuous process improvements and quality accreditations. Most of the Division’s operations are ISO certified.

c) Engineering Design & Construction Methods

The Division has been initiating steps constantly to improve its engineering design & construction methods benchmarked to global best practices.

Standardization of designs with application of modular concepts, application of mechanized forms of construction and development of innovative construction materials will go a long way in industrializing construction. This would in turn help in achieving savings in both cost and time. Construction method is another area wherein the Division’s expertise of completing complex projects with maximum speed and at minimum costs matches global standards.

d) Focus on International Markets

The Division’s efforts to broad base international operations with diverse projects have yielded positive
results. Large orders have been received during the year from Tanzania, Mauritius, Jordan, UAE and Kuwait in different business segments. The Division proposes to further strengthen global marketing through strategic tie-ups which will aid its efforts to increase international sales to around 20% from its present 11%.

The Division proposes to position itself as a cost effective Business Process Outsourcing partner in engineering and design services. This could also help the Division to be truly contemporary by imbibing the latest and the best from the international arena.

e) Ready Mix Concrete & Building Products

The Division has more than 50 state-of-the-art concrete batching plants and 250 transit mixers and produces more than one million cubic meter of concrete, every year. Sophisticated equipment makes “L&T Concrete” the leader in India and at par with the best in the world.

In view of emerging business opportunities in the near and long term, the Division would extend the Building Product portfolio to include Pre-fabricated building elements. Development, production and marketing of Pre-fabricated building elements in collaboration with business affiliates for access to technology and experience would be pursued concurrently.

4. MAJOR ORDERS BOOKED / EXECUTED

Some of the major orders booked/executed during the year 2002-2003 include:

<table>
<thead>
<tr>
<th>Rs. crore</th>
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<tbody>
<tr>
<td>Water Distribution System at Vizag for Vizag Industrial Water Supply Co. Ltd.</td>
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<tr>
<td>Jaipur-Kishengar Road</td>
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<tr>
<td>Upgradation of road from Hiriyr to Bellary for Karnataka State Highways</td>
</tr>
<tr>
<td>Upgradation of roads from Bahraich to Faizabad (Katra) and Jaunpur to Mohammadpur for PWD, Uttar Pradesh</td>
</tr>
<tr>
<td>Sawalkot access road, J&amp;K</td>
</tr>
<tr>
<td>Construction of LPG Cavern for South Asia LPG Co. Ltd.</td>
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<tr>
<td>Laboratory &amp; Animal house for NIB at Noida, UP</td>
</tr>
<tr>
<td>Gujarat Petronet - Paghuthan-Baroda Gas pipeline</td>
</tr>
<tr>
<td>Cross-country conveyor for Lafarge Cement</td>
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The Division has completed the following major projects during the year 2002-2003:

- Rebuilding of Tisco Blast Furnace in a record period of 105 Days
- Construction of Parliament Library, another landmark structure in the country’s capital
- Construction of Bapughat, a memorial at Hyderabad in 90 Days
- Completion of Ahmedabad-Mehsana Road ahead of schedule
- Construction of Hitex – an international class Exhibition Centre at Hyderabad
- National Judicial Academy, Bhopal
- De-inking plant for Hindustan Newsprint Limited, Kottayam

5. FUTURE OUTLOOK

Project processes in the construction industry typically are a sequence of largely separated operations undertaken by diverse entities. This necessitates superior integration with all the players in the industry working back from value creation and customer’s needs. Projects like the Haldia Berth-4A taken-up by the Division on similar lines will be replicated wherever possible. There are no standardised evaluation criteria for pre-qualification and award of contracts. In order to overcome the associated time delays and pressures on margins, due to grouping of un-equals, the Division has to emerge as a “Preferred contractor” in its area of operations.

Brand building in the construction industry has been hampered by the conventional processes of choosing a new team of designers, constructors and suppliers competitively for every project, thereby inhibiting learning, innovation and the development of experienced teams. This could be overcome through long-term relationships based on clear measurement of sustained performance replacing competitive tendering with a target price approach. The Division enjoys long relationships with some customers, reputed architectural consultants and process consultants and international construction majors. These could help the Division win large orders from neighbouring overseas markets.

Projects under public-private partnership are on increase due to facilitating legal framework. Hydel power and irrigation project construction is expected to provide large business opportunities in the near and long term. The Division would augment necessary capabilities in these areas, explore technology tie-ups and grow the Building Products business line by developing Pre-cast building elements. More orders in the areas of Airport, Bridges and Ports are expected to be contracted through the Developmental Projects route. The Division is also pre-qualified for projects of diverse nature such as Special Economic Zones, Container Terminals, Ropeways, Railway lines, Food grain storage projects and Water supply projects, etc. The Division is also focusing on proactive development of projects in coordination with some State Governments. This could help the Division win many large projects, both industrial and infrastructure, either singly or in consortium.
E&C PROJECTS

1. AN OVERVIEW
After gaining greater acceptability in the domestic market, E&C Projects Division has set its sights on establishing the regional brand as the only EPC group pre-qualified for executing large turnkey projects in the areas of hydrocarbon, power, cement and chemicals. Winning some of the prestigious projects in the Middle East against stiff international competition reflects the growing acceptability of the Company’s capabilities in these areas.

In order to increase the horizon and expand the lines of business, the E&C Projects Division is also seeking to gain foothold in Nuclear, Space, Deep-water technology and clean fuel projects where it sees enormous business potential.

The Division’s performance can be attributed to its sound technical base, excellent engineering, procurement, project management, construction and commissioning skills and a dedicated human force.

2. BUSINESS ENVIRONMENT

After passing through a challenging year in 2001-2002, the later part of the year 2002-2003 ushered in a modest industrial recovery backed by a positive sentiment in some of the core and infrastructure sectors of the economy.

Margins, however, continued to be under pressure due to intense competition resulting in aggressive pricing. On the positive side, Government of India’s proposal to amend Atomic Energy Act would facilitate private sector participation in nuclear power generation. However imposition and increase in Service tax coupled with uncertainty on VAT implementation may have direct cost impact on the operations of E&C Division. The continued purchase preference for PSUs is also acting as a major disincentive for the private players in the market.

Slowdown in the investments in process sector industries such as cement, petrochemicals and fertilizers continues due to demand-supply mismatch affecting the order booking in this sector.

3. SIGNIFICANT INITIATIVES

The Division has been able to maintain its operational efficiency through improved project monitoring and cost control initiatives. It has also evolved strategies for building brand for L&T as a major EPC company and for countering the competition. Some of these are:

a) Cost Control & monitoring
Among the principal initiatives to control cost and increase overall efficiency, the Division has initiated several steps during the year:
- Development of alternative vendors to secure price advantage
- Engineering / Design optimisation to save on cost of materials albeit without compromising on the quality / efficiency.
- Process improvements generating savings on execution costs.
- Extensive use of latest IT support services.
- Design & Engineering capability build-up.

b) Focus on International Markets
International Business Development Cell formed in E&C Division has made initial efforts on L&T brand building which has started yielding results with increased acceptance and awareness of L&T as a major EPC company especially in GCC countries.

E&C’s major business development strategies for focus include competitive bidding, commitment through relationship and local presence and need-based partnering with local contractors. The Division is evaluating close alliances and synergies in Gulf with fabrication yards and installation contractors. E&C’s efforts in penetration of other geographical areas are also being channelled through business consultants and local agents.

The Division is making in-roads with global EPC players for joint bidding, alliances and sub-contracting of packages for major projects. Early identification of partners and firming up alliance for joint bidding will hold the key for success in this regard.

E&C is also building competency in vital areas such as risk management, global sourcing, international safety and quality benchmarks to meet the global challenges.

c) Risk Management
E&C business has a specific set of risk characteristics, which needs to be carefully evaluated, managed and mitigated. In order to effectively manage the potential risks of such large value project orders, the Division has taken a number of pro-active steps by preparing and adhering to an internal Risk Management Protocol.

The Risk Management process starts at the proposal stage and continues over the entire execution of the project. The learnings from the earlier projects through Knowledge Management and close-out Reports are consolidated and filtered. During the course of execution, the new learnings and mitigation plans are captured for future projects. The process of Risk Assessment is aided by using some of the latest state-of-the-art tools and technologies.

d) Focus on Competitiveness
To counter domestic and international competition as well as to minimize the risks present in large scale projects, all against a backdrop of increasingly complex and advance project requirements, the Division has undertaken a number of initiatives which include:
LARSEN & TOUBRO LIMITED

- operational tie-ups and technical alliances with major global engineering companies with cutting-edge technologies.
- reaping the benefits of pre-qualification with various international customers through immaculate estimation and aggressive pricing.
- offering innovative technical solutions.
- formation of consortium with installation and engineering contractors in select lines of business
- partnering with PSUs to avail Purchase Preference benefits
- developing long term relationship with Process Licensors.
- developing yard / building association with foreign yards to handle additional capacity.
- developing capabilities in new technological arena like clean fuel air technology, Gas-to-liquid projects, Isomerization, Deepwater and Marginal field exploration.

e) Capability Building

Through sustained training and development, the Division is constantly developing the quality and competency of its human resource and imparting them with the requisite skills required of a global manager.

The Division has developed and conducted programs such as Capabilities and Leadership Development (CALD) and Global Expatriates (GLOPAT).

The basic objective of the CALD initiative is to identify and build competencies generic to the level or common to more than one function as well as specific to the functions within the levels. The main objective of GLOPAT program has been to develop global business acumen and leaders who would drive and manage E&C’s international business initiatives with focus on global business strategy, statutory requirements, cross cultural management, customer relationship management, international finance & taxation, risk & insurance, international law & contract management, marketing & strategic selling, etc.

4. MAJOR ORDERS BOOKED/EXECUTED

During the year, the Petrochemicals business unit of the Division achieved a major break-through by bagging the single largest value order of Rs.1242 crore for the PTA (Purified Terephthalic Acid) plant for IOCL at Panipat. Other major domestic orders included Sulphur Recovery Unit for BPCL and DHD and balance of Hydrogen plant for IOCL.

At international level, the Division booked five prestigious orders against stiff international competition, such as USD 67 million Gas Processing facilities and Offshore pipelines for Songas Limited at Songo Songo Island, Tanzania, Capacity augmentation of Sulphur Recovery Unit based on Oxygen enriched technology for KNPC-Kuwait at their Shuaiba and Mina Abdullah Refineries aggregating to USD 24 million, Reformer Primary Packages for Oman India Fertiliser Company valued USD 9 million and Living quarters and power upgrade project for Qatar Petroleum for USD 98 million. The Division has also recently completed a process heater for Sasol, South Africa through Foster Wheeler. Two Power projects, one in Oman and another in Sri Lanka are already in the final stages of completion.

In addition to the above, some of the major orders executed / under execution during the year 2002-2003 were:

**Domestic:**
- Balance of Plant and mandatory spares for 330 MW Combined Cycle Power Plant for BHEL A/C Delhi Vidyut Board
- Mumbai High North Water (MNW) injection-cum-gas compression platform of EIL-ONGC
- Naphtha Hydroreformer, Catalytic reformer unit and Hydrogen generation unit for CPCL
- Pyro processing upgradation / Clinker Grinding Unit for Jaypee Cement Ltd.
- Piles for MNW platform for EIL-ONGC
- Clamp on structure at various platforms for ONGC

**International:**
- Supply of Gas Turbine & Generator, Steam Turbine & Generator, HRSG and all plant & equipment for 168.1 MW Combined Cycle Power Project for AES Kelanittissa Pvt. Ltd. Sri Lanka

5. FUTURE OUTLOOK

Apart from domestic market opportunities, the Division is geared up to exploit global opportunities mainly in hydrocarbon sector and power sector.

In view of the huge investments expected on the domestic front by PSUs and private operators in hydrocarbon sector consisting of refineries and oil & gas, significant business prospects exist for the Division. In addition, encouraging international business prospects are also present for this sector in the Middle East and select African countries. Technological strides in Deep water and Marginal Field exploration are expected to generate new opportunities. Major investments are expected in domestic and international markets to meet quality norms, clean fuel programs and quality up-gradation which should generate sizable opportunities for the Division.
Coming to the Power sector, the new Electricity bill passed by the Lok Sabha has been a major step in the power sector reform process. The positive impact of this legislation in terms of accelerated investments in power sector remains to be seen. The problem of off-take risks perceived by lenders for big independent power projects continues to hamper bankability of these projects. Nuclear power would become a more viable source of energy in the future. The Division is expecting potentially large power would become a more viable source of energy in the future. The Division is expecting potentially large opportunities for co-generation & captive power plants.

HEAVY ENGINEERING DIVISION

1. AN OVERVIEW

Heavy Engineering Division with its state of the art manufacturing facilities and strong engineering capabilities has established a reputation for quality products benchmarked to global standards. The Division manufactures and supplies highly critical precision Process Plant Equipment and Industrial Machinery to varied industries like Fertilizer, Refinery, Petrochemical, Chemical, Oil & Gas, Power, Aerospace, Paper & Pulp, Steel and Ports. The Division also supplies Rubber Processing machinery for the Tyre Industry and undertakes marketing of Industrial Valves and Plastic processing machinery manufactured by L&T’s Joint Venture companies.

The Division is working towards becoming the preferred supplier of fabricated equipment in the global market through continuous improvements in quality, delivery performance and manufacturing technology.

The Division’s manufacturing facilities are located at Powai in Mumbai, Hazira and Vadodara in Gujarat, Kansbahal in Orissa and Chennai in Tamil Nadu.

2. BUSINESS ENVIRONMENT

The domestic process plant segment had remained sluggish for the last three years due to uncertainties associated with the dismantling of Administrative Pricing Mechanism and the divestment process for PSUs. Partial revival is now seen in the Refinery sector with some major projects getting the necessary clearances. However, there is no major investment yet in the domestic fertilizer sector.

In the case of Rubber Processing Machinery, the domestic market is showing improved prospects. However, the import of second hand tyre machinery is hampering the prospects in this business. Further, there is a gradual shift of demand from mechanical tyre curing presses to hydraulic presses which are better suited to manufacture high accuracy radial tyres. To cater to this shift in demand, the Division has entered into a technical collaboration agreement with Kobe Steel of Japan.

Adoption of Wind energy is gaining momentum and many states have identified wind energy as a thrust area. New Power Plants using Wind Mill Generators are being set up and the Division's Kansbahal business unit has positioned itself to supply the specialized nacelle parts – both cast as well as fabricated. The business environment for Crushing as well as Paper equipment is showing signs of revival. This is expected to further improve the prospects of Kansbahal unit.

The Division concentrated on exports of process plant equipment to compensate for the demand limitations in the domestic markets.

3. SIGNIFICANT INITIATIVES

The Division had designed a two-pronged strategy to mitigate the risk of shrinking business potential in the domestic process plant market. These have started yielding results. The initiatives include:

a) Thrust on Exports

Export sales increased by almost 119% during 2002-2003 as compared to the previous year as a result of improved track record of the Division in meeting customer expectations of ever decreasing cycle time and cost.

The Division's exports presently reach diverse international markets in the Middle East, Far East, USA, Canada, Norway, UK, South Africa, Brazil and Australia. The marketing efforts of the Division have opened up new opportunities in France, Morocco and China during the year.

The Division has established a “preferred supplier” relationship with major EPC contractors. Some of the key success factors have been strategic positioning through market intelligence, close customer contacts, goodwill generation, packaging the equipment to reduce freight and positioning L&T as a reliable long term partner. Repeat orders from some of the foreign customers signify growing customer satisfaction.

b) Hi-Tech Products

The Division has identified high end products as the engine of future growth. The Division has strengthened its design and engineering capabilities and is concentrating on development of new products and manufacturing technology. The Division has also made progress in finalising technology collaboration agreements with global key technology players in the respective fields.

Government of India (GOI) has initiated concrete actions towards liberalization of the Defence sector that hitherto was reserved for the State sector. The Division has received Letters of Intent from GOI for manufacture of defence goods under four broad categories.

The Division is in the process of augmenting facilities to cater to the new opportunities arising out of the
liberalization of the Defence sector. Steps are also being initiated to explore export opportunities for Hi-Tech products.

4. MAJOR ORDERS BOOKED / EXECUTED

Some of the major orders booked during 2002-2003 include S/200 Rocket motor cases & S/139 Segments for Vikram Sarabhai Space Centre (Rs. 68 crore), Integrated Cannister Assembly made of composite materials from Bramhos Missile Programme, Re-furbishing of 220 MW Steam Generator at Kota for Nuclear Power Corporation of India Ltd., (Rs. 60 crore) etc. Large orders were also procured from customers like IOCL, ITC, Research Development & Establishment Engineers, etc. These were in addition to significant international orders like Waste Heat Boiler, Steam Super Heater, Steam Drum, etc. for Oman India Fertilizer Co. (Rs. 115 crore), orders from Jinhshan Asso. Trading Co. China, Conoco Philip Refinery – Bechtel, USA, Michelin Siam Co. etc.

During the year, the Division executed orders for critical equipment like Ammonia Converters and Heat Exchangers for UHDE/QAFCO, large thick-walled vessels for LNG Project in Australia and for a Clean Fuel project in USA. The Division also completed an order where reactors with CE marking (European Conformity marking, which make sales with EU countries easier), were supplied for the first time.

The Division supplied the largest column in a single piece, 103m long, to Saudi Petrochemicals, Al Jubail, through Samsung Engineering. Further the Division supplied five DHDS reactors for Canada and four reactors for Brazil. The Division exported over 11,000 MT of process plant equipment for the first time.

5. FUTURE OUTLOOK

The Division is focusing on export of high end Process Plant equipment which has a good business potential. The Division expects business opportunities from the clean fuel programmes in USA & Canada as well as the new fertilizer plants being set up overseas.

The Division has positioned its personnel in key overseas locations keeping in view the major business potential in USA, Canada & Brazil and the potential of sourcing critical materials from Europe. The Division has also appointed agents in countries like China and Brazil to tap possible business opportunities.

The policy guidelines towards liberalisation of the Defence sector are expected to be operational shortly. This will result in the participation of private sector industries in large scale indigenous manufacture of Defence goods. The Division is optimistic about its prospects in this sector in the medium to long term.

CEMENT

1. AN OVERVIEW

The Company’s cement capacity including that of Narmada Cement Company Limited was enhanced during the year to 16.5 million tones. The increase which was essentially achieved through “Sweating of Assets”, consolidated the Company’s position as the largest cement manufacturer in the country. The Cement Division continues to enjoy leadership position backed by a robust distribution network, strong brand equity and a consistently high quality product.

2. BUSINESS ENVIRONMENT

For the second year in a row, growth in cement consumption was satisfactory. Financial year 2002-2003 recorded a 9% growth as against 10% in the previous year. This is impressive considering subdued industrial growth and poor monsoons. Cement demand in Northern region grew by around 9%, Central region by around 11%, Southern region by 14% and by 4% each in Eastern and Western regions. Cement demand growth continues to be driven by the housing sector which is growing due to low interest rates and continuing tax incentives.

India is the second largest producer of cement in the world, with an installed capacity of about 144 million tonnes (including mini plants). Despite a compounded growth rate of 8% during the last decade, cement capacity additions continue to outpace demand, leading to a supply overhang in the market and hence low capacity utilisation. However, during 2002-2003, the capacity additions were marginal as compared to the 16 million tonnes added during 2001-2002. The thrust towards blended cement continues and its production increased from 43% last fiscal to 49% this fiscal.

Given the supply overhang, the prices of cement were volatile and depressed during 2002-2003. Domestic sales realisation was lower by 10% as compared to financial year 2001-2002.

3. SIGNIFICANT INITIATIVES

Given the reality of low cement prices, the Cement Division undertook various well-structured initiatives to drive down costs and improve the profitability. The significant initiatives among these being:

a) Cost Reduction Initiatives

During the year 2002-2003, the Division contained its operating costs through various measures and process optimization. The efforts were directed to achieve reduction in fixed costs by control over less-productive expenses. The process of cost reduction was given a further fillip by the production of higher quantity of blended cement at 44% as against 34% in the previous year. Several measures that were taken to optimize cost include reduction in energy consumption, use of alternate packing materials, changes in raw materials mix, etc. These initiatives have led to the Company being one of the lowest cost producers of cement in the country.
b) Supply Chain Management
A structured approach of reducing distribution costs without compromising on service to customers was achieved by a movement called ‘ICBM’ (Improving Cement Business Margins). The entire project focuses on four key areas of value creation: Total Distribution Cost, Network Optimization, Sales & Distribution and Consumer Research directed at understanding the cement buyer in terms of developing a better marketing mix to suit construction needs.

c) Project “Parivartan”
Through Project “Parivartan” the Division introduced during the year Total Productivity Management and Six Sigma concepts in its cement plants. The objective of this initiative is to redefine new standards in manufacturing and therefore bring about “Comprehensive Asset Care Regime”. These initiatives have shown positive results in employee ownership, process improvement and cost reduction.

d) Exports
The Company continues to be the largest exporter of cement and clinker from India and exported about 2.8 million tonnes of cement and clinker during 2002-2003 (previous year 2.41 million tonnes). The focus during the year was on enhancing clinker exports for which demand and prices are encouraging. The Company’s cement and clinker have been well received and command a good market in Western Europe, Middle East, Africa and neighbouring countries. The Company has consistently bagged the CAPEXIL award for the last six years as highest exporter of cement and clinker from India.

4. FUTURE OUTLOOK
The outlook for the cement industry in 2003-2004 continues to be encouraging. Cement demand is expected to grow at over 8% in the next year. The Government of India in the latest budget announced various initiatives, which would boost investments in housing and infrastructure sectors like construction of roads, ports and airports. Prices, however, will continue to be under pressure due to supply overhang and pose a major challenge to cement companies.

The Cement Division has undertaken specific initiatives in supply chain management, procurement and cement distribution optimisation and brand building. Further thrust would be on increasing sale of blended cement, especially in Western India, and continued efforts to reduce operating costs. Initiatives would be taken in the area of materials to complete the focus on supply chain management. The initiatives have been institutionalised and are expected to improve the cost competitiveness and the profitability of the Division.

In relation to global levels, India’s per capita consumption of cement is low and therefore the prospects for long-term growth are good, considering the objectives of the country in terms of economic growth. The Company believes that further capacity build-up will be rational and driven by demand growth alone. The consolidation in the cement industry is also expected to contribute to more stable market conditions.

ELECTRICAL AND ELECTRONICS DIVISION

1. AN OVERVIEW

2. BUSINESS ENVIRONMENT
As against a growth of about 5% in the electrical industry during 2003-2003, the Division increased its sales by 10.6%, which is a significant accomplishment. Multinational companies’ attempts to increase their presence has not affected the leadership position of the Company and the Division retained its market leadership position in Electrical Standard Products, Electrical Systems & Equipment and Medical Equipment segments. Further, the Division consolidated its leadership position in Petroleum Dispensing Pumps & Systems. Metering & Protection Systems business is on the verge of emerging as the largest in the country in one of its products viz. Trivector meter. Embedded Systems & Software (EmSyS) has made a good beginning in North American and European markets.

All these have been achieved due to focused introduction of new products, increasing un-solicited service to customers and enhancing the customer base by offering product variants on a regular basis to satisfy their needs.

3. SIGNIFICANT INITIATIVES
Some of the key initiatives undertaken by the Division include:

a) Development of New Products / Technology
In order to mitigate the risk of changes in technology and product obsolescence, the Division has been constantly focusing on introduction of new products, product variants and addressing new markets. High New Product Intensity (NPI) of 34% for Low Voltage Switchgear products and 87% for Medical Equipment in the year is a benchmark in itself. Increasingly more and more products are becoming “communication enabled” and the Division is evaluating on a regular basis its required response to these developments.
4. FUTURE OUTLOOK

Improvement in overall economic scenario is expected to sustain the Division’s growth plan. Government policies are generally favourable with particular emphasis on Housing Sector, Infrastructure Development, Health-care and Petroleum. Power Sector reforms are expected to result in a growth of 10% in the switchgear sector of the electrical industry. The new Finance Act has provided incentives such as increased depreciation benefit and granting infrastructure status to hospitals for the growth of healthcare industry. Consequently, increased investments are expected in this sector, which augurs well for the prospects of the Medical equipment & Systems business. The US market offers opportunity for the Medical equipment business and the Division is gearing up by getting additional approvals and developing new products to address this market.

**DIVERSIFIED BUSINESS DIVISION**

1. BUSINESS ENVIRONMENT

a) Packaging Business Unit

This unit consists of manufacturing and marketing of Metal Packaging & Glass Containers for Soft Drinks, Breweries, Liquor, Pharmaceuticals, Processed Food, etc. The industry capacity in Metal Packaging as well as Glass Container Business continues to be higher compared to the demand. The demand-supply gap and entry of MNCs in domestic market have resulted in fierce competition and pressure on prices.

Reduction in excise duty on soft drinks and introduction of 200 ml bottles has yielded good growth for glass bottles and crowns. The liquor segment continues to suffer from high excise duty and low margins. The quality awareness in industry is increasing and bottles manufactured by the Company are getting preference. With concerted efforts the exports of glass bottles have doubled to Rs 17.6 crore.

b) Welding & Industrial Products

This business involves providing Welding solutions for repairs & maintenance, automatic welding system through Robotics and marketing of world-renowned ISCAR carbide cutting tools. The Welding business has strategic alliance with MESSER E+C. It involves application development and supply of consumables and special equipments. The Automation business involves design, engineering and supply of automation systems with robots for automobile, defence and process industries. L&T is the sole distributor for ISCAR, Israel in carbide cutting tools business in the high-end cutting tool market segment in automobiles, engineering and defence.

L&T is well placed in this business segment with its well spread out network of stockists and technical personnel. The focus is on development of new products and high-end technology solutions to counter the threat from cheaper alternatives and emerging international competition.

c) Earthmoving & Construction Equipment

This business segment comprises of marketing and after-sales service of Backhoe Loaders and Vibratory Compactors manufactured by L&T-Case Equipment Pvt. Ltd. (50:50 JV with CNH Global N.V., USA) and Hydraulic Excavators manufactured at L&T-Komatsu Limited (50:50 JV with Komatsu Ltd., Japan). Both
these sectors have a number of established players in the market, viz. JCB, TELCO, CAT, BEML, VOLVO, Escorts, Ingersoll Rand, etc. Most players in the industry have tie-up with major MNCs, which increases competition with pressure on prices. Control on costs will therefore be the key for success.

Major government programmes viz. National Highway Development, East-West-North-South Corridor, Rural Roads under PMGSY, etc. have seen a market growth of 31% in Backhoe loader, 39% in Compactors and 7% in Hydraulic Excavators.

2. FUTURE OUTLOOK

The thrust in Glass business will be on improving product mix, better price realisation and focus on exports and Western Region market.

The Welding & Industrial Products business will focus on industries like Defence, Railways, Automobiles, Oil & Drilling, for growth and enhanced export initiatives in Sri Lanka & Bangladesh.

The outlook in Construction & Earthmoving equipment is encouraging. The continuing Government emphasis on infrastructure building along with financial reforms would lead to massive construction activity in Power sector, linking of National rivers, Ports & Airports, Road construction, etc. With these developments, the demand for Excavators is expected to increase by 10-12% and that for Backhoe Loaders and Compactors by 12-15%.

FINANCIAL REVIEW

The year 2002-2003 witnessed some revival in the Indian industrial activity. During the year, industry grew by about 5.8% as compared to 3% in the previous year. Although broad-based investments were still lacking, capital goods sector reported a 10% growth. Investment activity picked up in select areas such as Infrastructure, Oil & Gas and Petrochemicals. Meanwhile, in the global markets, economic conditions continued to be subdued. Competition however was intense, with many multinational companies evincing keen interest in most of the available opportunities. Prices were under competitive pressures resulting in squeezed operating margins. The Company continued its thrust on international business during 2002-2003. The financial performance of the Company for the year ended 31st March, 2003 requires to be viewed in this backdrop.

Revenues

Sales & service income at Rs.9870 crore recorded an impressive increase of 20.8% over the previous year. The increase was largely due to the rise in the revenues of E&C segment, which grew by 32.7%, during the year. While Cement sales grew by a mere 4% during 2002-2003, sales from Electrical and Electronics business grew by 10.6%. Other income of Rs.254 crore, which increased by 17%, comprises mainly dividends from Subsidiaries & Associate Companies (Rs.49 crore), income from investments (Rs.26 crore) and other business related income (Rs.150 crore).

Exports

Export Order Booking clocked a major growth of 93.2% to Rs. 2285 crore. This is mainly attributable to the 118.6% growth in E&C export order booking. Export earnings grew by 46.8% during the year to Rs. 1622 crore, representing nearly 16% of the Company’s total turnover. Export revenues from the E&C segment alone saw a significant increase of 55.7%. Although some of the initial contracts were undertaken with thin margins, the Company gained invaluable experience for building its track-record in the international market place.

Manufacturing & Other Costs

Manufacturing, construction and operating expenses at Rs.6567 crore, were higher by 31% as compared to the previous year. Given the large number of orders under execution by the E&C segment, expenditure on raw materials, construction materials, sub-contracts and stores & spares increased during the year. The expenditure on these accounts largely depends upon the nature of the contracts under execution and therefore needs to be viewed in totality for comparison. Higher level of activity at Powai, Hazira, Nashik and at the various cement plants, expansion of modular fabrication yard at Hazira, rise in fuel prices, increased cost of packing materials and the impact of full year’s operation at Durgapur Cement Grinding Unit have all contributed to the increase in manufacturing cost. Higher production of cement leading to increased limestone consumption, increase in payments and technical knowhow fees paid for power plant contracts have resulted in larger outgo on these accounts as compared to the previous year. As a part of financial restructuring efforts, the Company sold and leased back certain equipment which have contributed to increased hire charges during the year. Repairs to equipment at the jetty catering to the Gujarat cement plant contributed to some cost increase as well.

The Company has undertaken several initiatives at its various establishments to bring down the overall manufacturing and construction cost. Improved procurement processes, global sourcing, logistics review and redesign, value engineering initiatives, etc. are some of the steps in this direction. The Company has launched several initiatives such as Six Sigma, Total Productivity Management, etc. to eliminate waste, optimize cost and maximize productivity, all of which aggregated to cost savings in excess of Rs. 60 crore.

Staff expenses at Rs.668 crore during the year reflect an increase of 10.8% over the previous year. The increase is on account of annual increments in salary & wages and additional staff welfare expenses such as medical, leave travel, contribution towards canteen expenses, etc. The increase also reflects the impact of separation of 722 persons under the Company’s Voluntary Retirement Schemes during the year. Decline in the interest rates and reduction in the corpus of the retirement benefit funds due to VRS separations.
have resulted in higher contribution to Gratuity and Pension Funds.
Sales, administration and other expenses at Rs.1413 crore for the year have increased by 8.2% over the previous year. The expenses on travel and packing & forwarding expenses have gone up mainly due to increased international business. Increased sum assured due to growth in project business and 10% additional surcharge on fire and engineering policies have contributed to incremental insurance cost. Issuance of additional bank guarantees due to larger order book and increased movement of funds, both within the country and outside, have resulted in higher bank charges. The decision to lease technology-based equipment during the year in preference to owning has led to increase in the rental outgo. Also, the increase in expenses towards professional fees for technical and other consultations is in line with increased volume of business during the year. Delay in broad-based revival of core sector industries, to which the Company has exposure in the form of receivables, has necessitated increase in precautionary provisions / write-off of some of these receivables.

There was a significant reduction in interest cost for the year 2002-2003. Gross interest at Rs.225 crore was lower by 40% as compared to the previous year. The savings of over Rs.150 crore during 2002-2003 were achieved by efficient treasury operations, repayment of debt and close monitoring of funds employed by the various business units. Improved working capital management, strict control over capital expenditure and larger quantum of customer advances helped in optimizing funds employed. While the soft interest rate environment aided the effort, the Company made focused efforts on retiring high cost debt and refinancing some of them at much lower cost. The Company effected a net debt repayment of Rs.287 crore during the year. Judicious use of hedging tools such as interest rate swaps, efficient mix of foreign currency loans and varying debt tenors have assisted the Company in reducing its average cost of borrowing.

Depreciation and obsolescence charges at Rs.306 crore was lower by Rs.20 crore on account of sale of certain plant and machinery and technology-based equipment towards the end of the previous year.

Profitability

The operating profit for 2002-2003 was lower at Rs.969 crore, a decrease of Rs.73 crore over the previous year. The operating margin in E&C business, the largest business segment for the Company, is lower as compared to the previous year mainly due to thin margins in some jobs from the international market undertaken in the earlier years, which are nearing completion. Tight delivery schedules, enhanced quality specifications benchmarked to global standards, etc. involve cost and have led to reduction in operating margins.

Cement prices throughout the year were under pressure. The imbalance in demand and supply and capacity increase due to commissioning of new plants of some of the competitors, had an adverse impact on the cement prices and realisation.

Significant reduction in interest cost and lower depreciation enabled the Company to report a higher profit before tax at Rs.510 crore for 2002-2003. After considering the tax credits available under Sec.115JAA of Income-tax Act, 1961, the Company made a provision of Rs.89 crore towards current tax and has written back Rs.11 crore on account of deferred tax. The Company’s profit after tax for 2002-2003 at Rs.433 crore was 24.8% higher as compared to the previous year.

### SEGMENT-WISE PERFORMANCE

#### Engineering & Construction (E&C)

During the year 2002-2003, the segment booked orders aggregating to Rs.9502 crore, an increase of 29% over the previous year. The order booking for project exports and supplies at Rs.1937 crore showed an impressive growth of 118.6% over the previous year. The segment reported export revenues of Rs.1280 crore during 2002-2003, an increase of 55.7% over the previous year. The total revenues of the segment increased by 30.6% to Rs.6155 crore during the year.

The operating margins for 2002-2003 were lower at 8.1% due to competitive pressures. The brief financials for the segment are:

<table>
<thead>
<tr>
<th>Figures in Rs. crore</th>
<th>2002-2003</th>
<th>2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Booking</td>
<td>9502</td>
<td>7354</td>
</tr>
<tr>
<td>Order Backlog</td>
<td>13687</td>
<td>11063</td>
</tr>
<tr>
<td>Gross Revenues *</td>
<td>6155</td>
<td>4714</td>
</tr>
<tr>
<td>EBITDA / Revenue * (%)</td>
<td>8.1</td>
<td>10.1</td>
</tr>
<tr>
<td>Export Earnings</td>
<td>1280</td>
<td>822</td>
</tr>
</tbody>
</table>

* Includes inter-segment revenue

#### Cement

Total sales of cement and clinker at 13.3 million tonnes increased by 11.8% over the previous year. Average sales realization during 2002-2003 declined by about 6% to Rs.1222 per MT. Consequently, despite the volume growth, the sales turnover for 2002-2003 posted a marginal increase over the previous year. The operating margin for the segment declined during the year, due to lower sales realisation. While fuel, power and packing & forwarding costs increased during the year both due to increased volumes and rise in their prices, the Segment launched several cost reduction initiatives such as reduction in energy consumption, use of alternative packing material, change in raw materials mix, reduction in distribution and logistics cost, etc. to arrest the decline in operating margins.

The Company was the single largest exporter of bulk cement and clinker from India with shipments aggregating to 2.8 million tonnes valued at around USD 60 million.

The brief financials for the Segment are:

<table>
<thead>
<tr>
<th>Figures in Rs. crore</th>
<th>2002-2003</th>
<th>2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Revenues *</td>
<td>2715</td>
<td>2611</td>
</tr>
<tr>
<td>EBITDA / Revenue * (%)</td>
<td>14.4</td>
<td>18.4</td>
</tr>
<tr>
<td>Export Earnings</td>
<td>284</td>
<td>234</td>
</tr>
</tbody>
</table>

* Includes inter-segment revenue
Electrical & Electronics
The Segment booked orders valued at Rs.871 crore during 2002-2003, recording an increase of 22.5% over the previous year. The revenues of the Segment at Rs.865 crore grew by over 17% during the year, well ahead of the growth rate reported by the electrical industry. Sustained efforts to reduce cost through initiatives covering material cost, value engineering, manufacturing processes and work-force optimization contributed to the Segment’s improved operating margins.

The brief financials for the segment are:

<table>
<thead>
<tr>
<th>Figures in Rs. crore</th>
<th>2002-2003</th>
<th>2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Booking</td>
<td>871</td>
<td>711</td>
</tr>
<tr>
<td>Gross Revenues *</td>
<td>865</td>
<td>736</td>
</tr>
<tr>
<td>EBITDA / Revenue * (%)</td>
<td>13.2</td>
<td>12.6</td>
</tr>
<tr>
<td>Export Earnings</td>
<td>35</td>
<td>34</td>
</tr>
</tbody>
</table>

* Includes inter-segment revenue

Diversified Businesses
For Metal & Glass Packaging business, the surplus capacity in the industry and the entry of multinationals have resulted in inadequate capacity utilization and unremunerative prices. The Company made concerted efforts to increase the plant efficiency, step up the export of glass bottles and improve the profitability of the business.

The industrial slow-down during the past few years has impacted the growth of the welding business. Efforts are under way to migrate to high-end solutions to stay ahead of competition.

In Earthmoving & Construction Equipment business, the Company faces intense competition from well-established players. Ability to deliver superior products at competitive prices would enable the Company to take advantage of the major developmental programmes announced by the Government such as upgradation of transportation infrastructure, etc.

The brief financials for the Segment are:

<table>
<thead>
<tr>
<th>Figures in Rs. crore</th>
<th>2002-2003</th>
<th>2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Revenues *</td>
<td>425</td>
<td>425</td>
</tr>
<tr>
<td>EBITDA / Revenue * (%)</td>
<td>6.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Export Earnings</td>
<td>23</td>
<td>15</td>
</tr>
</tbody>
</table>

* Includes inter-segment revenue

Fixed Assets
The gross fixed assets as at March 31, 2003 were at Rs.6232 crore as compared to Rs.6135 crore in the previous year. As the capital expenditure during the year was strictly controlled, additions to fixed assets were kept at necessary minimum. During the year, net additions to fixed assets amounted to Rs.97 crore inclusive of both owned and leased assets. The additions were essentially towards normal

Working Capital
The net working capital at Rs.2300 crore as of March 31, 2003 reflects a reduction of Rs.113 crore as compared to the previous year. The Company continued to place strong emphasis on optimizing the funds locked up in working capital requirements during the year. Improved cash management systems, optimizing vendor credit arrangements, strict monitoring of cash budgets contributed to lower level of working capital despite increase in sales.

Financial condition and Liquidity
The Fixed Deposit Schemes and the Commercial Papers issued by the Company continue to be rated at the top of the league with credit ratings of AAA and P1+, respectively. Although the long term debt rating is AA+, the Company enjoys the price preference of a AAA Corporate, given its impeccable debt servicing track record. The Company’s plan to improve its debt equity structure is well on course with the Net Debt (net of cash and cash equivalents) to Equity ratio declining to 0.58 : 1 as on 31st March, 2003. The Company continues to access markets at opportune times for raising both short and long term resources, often at benchmark rates. The Company manages its liquidity efficiently through a system of rolling cash forecasts and short term investment of treasury surpluses in the financial markets.

The Company’s principal sources of liquidity are:
1. Existing cash and cash equivalents
2. Cash generated from operations
3. Unutilised funded limits with banks
4. Incremental borrowings

The cash generated by the operations during 2002-2003 was marginally lower as compared to the previous year. The increase in trade and other receivables during the year were funded by higher quantum of vendor and other trade payables. Net cash generated by operating activities was essentially utilized for reduction of debt, servicing of interest and dividend commitments and investment in capital asset. Net of loans / deposits made with Subsidiary & Associate Companies for meeting their cash flow requirements, the surplus cash available was utilized for making short term investments.
The Company has an integrated financial risk management policy to monitor and manage liquidity, interest rate and foreign currency exposures. The procedures, practices and limits with respect to this function were subject to periodic review by senior management during the year.

Consolidated Financial Statements

The Company has presented elsewhere in this annual report a Consolidated Financial Statement prepared in compliance with the applicable Accounting Standards. The consolidated net debt to equity was lower at 0.9:1.

The consolidated sales and service income for 2002-2003 was 18% higher at Rs.10857 crore as compared to the previous year. The profit before tax and profit after tax at consolidated level for 2002-2003 were higher by 16% and 22% respectively at Rs.480 crore and Rs.385 crore. The consolidated net worth (excluding deferred tax liability) of the Group as on 31st March 2003 was higher at Rs.4130 crore as compared to Rs.4065 crore during the previous year.

INTERNAL CONTROL SYSTEM

The Company has an internal control system commensurate with its size and nature of business which provides for:

- Efficient use and safeguarding of resources
- Accurate recording and custody of assets
- Compliance with prevalent statutes, policies, procedures, listing requirements, management guidelines and circulars
- Transactions being accurately recorded, cross-verified and promptly reported
- Adherence to applicable accounting standards and policies
- IT Systems, which include controls for facilitating the above.

The internal control system provides for well-documented policies, guidelines, authorizations and approval procedures. The Corporate Audit Services Department conducts periodic audits across all locations and of all functions throughout the year and brings out the compliances or deviations of internal control procedures through its audit reports. The observations arising out of audit are subject to periodic review and compliance monitoring. The significant observations made in internal audit reports, along with the status of action thereon, are reviewed by the Audit Committee of the Board of Directors on a regular basis for further appropriate action, if and as deemed necessary.

LEVERAGING INFORMATION TECHNOLOGY AND e-ENABLING OF OPERATIONS

The Company has been constantly striving to be at the forefront of information technology and has embraced the latest technology and equipment to gain competitive strengths. Considerable progress has been made in e-enabling operations for improvements in quality, delivery schedule & cost control.

The framework of IT assets (e.g. LAN/WAN, 3-D PDS, SAP R/3 etc.), built over the last few years, has now matured into a vibrant system which provides on-line information for better value-based decision-making and customer service. Hence the thrust during the year in the E&C business was on leveraging IT for efficient Collaboration & Knowledge Management. The Division launched innovative software called 'The KnowNet' to enable E&C-ites to pool and share their collective knowledge gained through individual experience in various facets of project business.

The Heavy Engineering Division implemented various IT initiatives like Web based Vendor Managed Inventory, e-Procurement / Reverse auctions, Customer Relationship Management, internet-based design / data transfer with overseas clients, Work-flow based system for employee benefits with back-end ERP integration, Query facility in ERP system using SMS for select applications etc.

IT initiatives during the year in the Electrical & Electronics Division include introduction of Business Warehouse, Strategic Enterprise Management (SEM) and Product Life Cycle Management (PLM). A major initiative of integrating product design & CAD (Pro-E) with ERP, launched last year to enhance concurrent engineering in product design, is resulting in faster introduction of new products. The Division implemented Sales Force Automation (SFA) and is extending the same as a step towards implementation of Customer Relationship Management (CRM). The Division is now considering exploiting new technologies like wireless LANs and VoIP to increase productivity.

The Company expects the above initiatives to improve its competitiveness and help augment its business.

PEOPLE INITIATIVES

The Company has prepared a road map for talent acquisition and retention, to augment its plan of making its presence more prominent in global markets. A slew of leadership programmes have been launched to segregate talent that can build business, by identifying and developing individual potential, in areas of strategic importance to the Company's growth. The Management Leadership Programme (MLP), launched in 2001, has calibrated the potential of over a thousand high performing employees, with the objective of placing the cream of this talent in critical business roles and developing them through systematic training and coaching plans. A succession planning process for fast track career development of these potential business leaders is evolving simultaneously.

A Technology Leadership Programme (TLP), launched in 2002, has delineated top talent in the area of technology. Nominees from strategically important core areas of business, such as defence, electronics etc. participated in this unique HR initiative, which addresses the need to provide a separate career track for encouraging the development of domain knowledge in growth business areas. Another important programme on the anvil is for Top Operational Talent (TOT), which is meant for high quality execution. A set of competencies especially important for executing some of the prestigious orders booked by the Company, in the E&C business segment, is being assessed separately through this initiative.

Brand building ambassadors at college campuses are making efforts to attract young top talent to join the Company as
trainees under various schemes. The training and development philosophy of the Company ensures that the developmental inputs are identified through a scientific assessment of competency gaps. Feedback and coaching sessions are becoming a part of the responsibilities of every manager. A new framework for linking assessment of individual performance with incentives and rewards has been developed. The system called FAIR has been launched for objectively measuring and rewarding contribution to value drivers for enhancing business performance. A Global Management Leadership programme is being prepared for developing global business managers. This initiative is to strengthen the Company’s efforts of expanding its operations to new international frontiers.

**EMPLOYEE RELATIONS**

The employee relations at various Works and Establishments of the Company continue to be cordial. The active cooperation of unionised employees at various locations is an important contributory factor for the cordial relations.

**CORPORATE AWARDS / ACCREDITATIONS**

The following awards/accreditations were conferred on various business divisions of the Company during 2002-2003.

**Construction**

- Engineering Design and Research Centre building of the Division has won the prestigious international award instituted by fib (Federation Internationale du Beton), the International Federation for Structural Concrete as Outstanding concrete structure – 2002 Special Mention
- ACCE Billimoria Award for high-rise building for South City Project at Bangalore
- The American Society of Concrete Contractors (ASCC) - Certificate of Recognition for achieving Zero Fatalities in Ahmedabad Region
- Coal Handling Project at Paradip, Odisha has won the prestigious RoSPA Gold Award for Occupational Health and Safety from The Royal Society for the Prevention of Accidents (RoSPA), UK

**E&C Projects**

M/s. LRQA, UK, has recently certified the Division’s e-Engineering solutions business unit and information technology service unit at Baroda to ISO 9001 Quality Management System. Further the Quality Management System of all Strategic Business Units and Service Units of E&C Division were upgraded and duly certified to the new ISO 9001 – 2000 version. The Division’s R&D Center at Powai and EPC Centre at Baroda have successfully completed their certification & surveillance audits by Ministry of Communications and Information Technology, Government of India and became the first in India to be certified for Information Security Management System to the British Standard BS 7799. In addition Front End Engineering and Design (FEED) Group has been certified to ISO 9001 and ISO 14001 by LRQA-UK.

**Cement**

The Company was awarded the “Top Exporter of the Year for 2001-2002” by CAPEXIL for export of cement and clinker. Further, some of the Company’s cement-manufacturing units have also received various awards for environment protection, social awareness, safety and management of better industrial relations.

**Electrical & Electronics Division**

- At 13th World Congress on Total Quality held in February 2003, the Medical Equipment business got the Golden Peacock Award for innovative product/service in the medical equipment sector. The Division has received this prestigious award for the second consecutive year.
- One of the Division’s new initiatives, EmSyS, became the first exclusive embedded systems organisation in the World to achieve SEI CMMI Level 5 (CMMI is registered in the U.S. Patent and Trademark office by Carnegie Mellon University) maturity rating by using the entire set of CMMI model components (Systems Engineering, Software Engineering, Integrated Product and Process Development and Supplier Sourcing). It is the seventh organisation worldwide to achieve the highest CMMI Level.

**Other Awards**

The Company’s leadership position in the domestic infrastructure sector received further reaffirmation. A peer-to-peer survey by Businessworld, a leading business publication, established that L&T was ‘India’s Most Respected Company’ in the Infrastructure Sector. The Jamnalal Bajaj Uchit Vyavahar Puraskar – 2002 for fair business practices added an ethical dimension to the Company’s achievements. The Council for Fair Business Practices, Mumbai, cited L&T’s excellent record in maintaining high ethical standards in its business dealings, the high quality of its products and services, its emphasis on customer satisfaction and strong commitment to social obligations.

**PERFORMANCE OF SUBSIDIARY AND ASSOCIATE COMPANIES**

**SUBSIDIARY COMPANIES**

**Larsen & Toubro Infotech Limited**

The Company is a wholly-owned subsidiary engaged in the business of providing software solutions tailored for varied applications and industries, focusing its offerings around four broad verticals namely, Manufacturing, Utilities, Financial Services and Telecom services.
The Company’s alliances/partnerships with various software vendors like SAP, Sun Microsystems, Microsoft, Oracle, IBM, TIBCO, I2, etc. demonstrate its commitment to keep pace with the latest technologies and ability to imbibe in their solutions offerings. During the year, the Company obtained SEI-CMMI Level 5 certification across all verticals and development centres.

During the year under review, the Company reported lower total income of Rs.269.5 crore including that of its wholly owned subsidiary, Larsen & Toubro Infotech GmbH (previous year: Rs.281.2 crore) and a lower profit after tax of Rs.12.7 crore (previous year: Rs.35.7 crore). The reduction in total income and margin is mainly due to fallout of slowdown in USA which has driven rate realizations down by more than 10% as compared to the previous year.

USA continues to be the leading destination contributing 51% of the Company’s software exports, while Europe and Japan contribute 22% and 7% respectively. 61% of the Company’s exports come out of on-site services and balance through offshore development centers.

While the verticals cover a substantial part of the total IT services landscape and underline the Company’s future growth strategy, the Company also sees horizontal technology areas like enterprise solutions (SAP, Oracle, People Soft, JD Edwards, etc.), communication and embedded software and Geographical Information Systems (GIS) as also Enterprise Application Integration (EAI) as central to its future growth plans.

The Company has taken appropriate steps to nurture long-term relationships with several large customers. The Company’s client base comprises large international corporates including some of the Fortune 500 companies. During the coming year, the initiatives launched on strengthening the sales and marketing teams coupled with the renewed vertical focus and the thrust on quality with SEI CMM Level 5 are expected to position the Company as a premier IT solutions provider.

The Company has been successful in positioning itself for certain large outsourcing deals by leveraging on L&T’s parentage. The thrust on ERP segment has also been vastly increased to gear up for the anticipated availability of business during the next year.

**L&T Finance Limited**

The Company, a wholly-owned subsidiary of L&T, is a Non-Banking Finance Company engaged in the business of providing lease, hire purchase and other financing facilities. The Company has consolidated its position in construction equipment finance and businesses around the L&T Group. The Company is highly respected in the construction equipment finance market and enjoys a client base of over 700.

The Company has been playing a key role in supporting the business growth of L&T Group’s Construction and Earthmoving Equipment as well as Tractors by actively participating in customer financing. Recently, the Company has also embarked on vendor financing in a significant way.

The Company prepaid public fixed deposits during the year, with the approval of RBI.

During the year under review, the Company reported lower total income of Rs.64.3 crore (previous year: Rs.59.0 crore). The company’s profit after tax is lower at Rs.6.1 crore (previous year: Rs.11.2 crore) due to additional provisioning for risk assets pertaining to small and medium sized enterprises.

The Company will continue its focus on consolidating its position in construction equipment finance and businesses around the the L&T Group while at the same time exploring growth opportunities.

**HPL Cogeneration Limited**

The Company, a 51% subsidiary, is a special purpose company set up as a joint venture between L&T and Haldia Petrochemicals Limited, Kolkata (HPL) for the purpose of owning and operating a 116MW combined cycle cogeneration power plant for supply of power and steam exclusively to HPL’s Petrochemical Complex at Haldia, West Bengal.

During the year under review, the Company reported a lower total income of Rs.143.9 crore (previous year: Rs.151.5 crore) The reduction in total income is mainly due to impact of weakening USD and lower LIBOR on USD component of lease rentals. The Company earned a higher profit after tax of Rs.40.4 crore (previous year: Rs.36.7 crore) mainly due to lower operating expenses.

The Company is expected to maintain its profitability in the immediate future.

**L&T Infocity Limited**

The Company, an 89% subsidiary of L&T, is a joint venture with the Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC). The Company is engaged in the business of development and maintenance of Information Technology Parks in Andhra Pradesh. The revenues of the Company consist of sales proceeds and lease rentals of floor space as well as income from maintenance of the IT Park.

The Company is currently developing Phase III of the 151-acre HITEC City (Hyderabad Information Technology Engineering Consultancy City) in Hyderabad, in joint venture with another company.

Phase I of development of HITEC City was the “Cyber Towers” building with 5.25 lakh sq. ft. of office space, constructed and marketed successfully to various IT companies. Phase II was the “Cyber Gateway” building, providing 7.8 lakh sq. ft. of office space, which was completed in 2002 and booking for over 90% of the space has been completed.

The Company has also completed the first phase of infrastructure development work on 145 acres of land in HITEC City, which includes laying of roads, storm water drain, trenches for underground power distribution & communication network, sewerage network, water supply, street lighting, etc. This infrastructure facility is attracting multi-national companies like Oracle, Microsoft, Convergys etc. to set up Built to Suit facilities.

During the year under review, the Company reported lower total income of Rs.58.9 crore (previous year: Rs.70.8 crore), as a result of lower floor space sold/leased. The Company has earned a profit after tax of Rs.8.7 crore (previous year: Rs.12.5 crore)
The Company plans to undertake Consultancy Services for setting up IT Parks, with the participation of other developers in various places across the country. The Company is also developing a Trade Fair Centre in two phases through its subsidiary viz. Hyderabad International Trade Expositions Limited.

**L&T Equipment Leasing Company Limited**

The Company, a wholly-owned subsidiary, was formed to provide construction related equipment on operating lease to construction contractors. The Company currently predominantly caters to the equipment requirements of L&T. During the year, the Company has added road making equipment including crushers and impactors, concreting equipment like batching plants and large capacity general utility equipment to its portfolio of assets.

During the year under review, the Company reported a higher total income of Rs.6.8 crore (previous year : Rs. 3.9 crore). The profit after tax was higher at Rs.1.3 crore (previous year : Rs.0.5 crore).

The Company expects reasonable growth in its business with the impetus for development of infrastructure projects being given by Government of India. In the long term, however, the Company would continue to focus on L&T’s requirements and assist it in achieving better utilization of its assets.

**India Infrastructure Developers Limited**

The Company, a wholly owned subsidiary, was formed as a special purpose company to provide a 2x45 MW captive cogeneration plant on lease to Indian Petrochemicals Corporation Limited at their Gandhar petrochemical facility in Gujarat. The Company has been registered as a Non Banking Finance Company (“NBFC”) with RBI.

During the year under review, the Company earned a total income of Rs.68.0 crore (previous year : Rs.73.6 crore). The reduction in total income is mainly due to impact of weakening USD and lower LIBOR on USD component of lease rentals.

The Company incurred a lower loss of Rs.0.19 crore (previous year loss: Rs.9.6 crore). During the year, the Company changed its accounting policy with respect to taxes on income and accordingly reversed the provision for deferred tax liability of Rs.24.8 crore considering the interim injunction issued by the Hon’ble High Court of Judicature at Chennai, restraining the Institute of Chartered Accountants of India from implementing the Accounting Standard (AS) 22 - “Accounting for Taxes on Income”, with reference to NBFCs.

The Company’s earnings are expected to follow a consistent pattern during the period of the lease agreement, subject to exchange rate and interest rate fluctuations.

**Tractor Engineers Limited**

The Company, a wholly owned subsidiary, manufactures and sells under-carriage systems for excavators, crawler tractors, and bull-dozers, material handling equipment like apron conveyors, spares for oil-field equipment, etc. and is currently the only domestic manufacturer of under-carriage systems for excavators.

During the year under review, the Company reported a higher total income of Rs.34.0 crore (previous year : Rs.28.4 crore). The increase is mainly due to increase in sales in Under-carriage segment to OEMs and in Oil-Field Equipment segment. The profit after tax was Rs.1.5 crore (previous year loss : Rs.1.5 crore).

Competition from imported under-carriage systems at lower prices has affected the Company’s market share in certain months over the years. The Company has introduced three new Under-carriage models (7T, 35T and 60T) and two new applications for Under-carriage (Road Pavers and Surface Miners). Certain orders in the Defence area have also been secured.

The Company plans to introduce new models to fight the competition and explore possibilities of enhancing business in Defence sector and apron conveyors.

**Narmada Cement Company Limited**

The Company, a subsidiary of L&T, manufactures and sells grey Portland cement. The Company’s plants, having a combined annual capacity of 1.50 million tonnes, are located at Jafrabad and Magdalla in Gujarat and Ratnagiri in Maharashtra.

During the 12-month period ended 31st March 2003, the Company achieved a turnover of Rs.149.5 Cr. as against Rs.258.5 crore in the previous 12-month period. The loss during the period was Rs. 43.5 crore (previous period : Rs. 15.8 crore) Cement sales in Gujarat and Maharashtra, where the Company markets its products, were affected due to poor realization and excess supply. During the period, cement realization even fell below the variable cost. Certain input costs also increased mainly due to rise in petroleum prices. In view of the poor demand conditions, the Company temporarily discontinued cement grinding operations at its plants at Jafrabad and Magdalla.

The Company took certain initiatives to tune up its operations, including major repairs to plant and machinery. A debt restructuring exercise was carried out and a VRS scheme was announced which received a favourable response.

The Company continues to be a ‘potentially sick company’ within the meaning of the Sick Industrial Companies (Special Provisions) Act, 1985. Efforts are being made to improve the viability of the Company through a scheme of restructuring.

The Company has extended its financial year by six months and accordingly the current financial year will end on 30th September 2003.

**Larsen and Toubro Ceylinco (Private) Limited**

The Company, an 80% subsidiary, is a joint venture with the Ceylinco Group of Sri Lanka. The Company has a cement terminal in Sri Lanka through which it imports bulk cement from L&T and markets it in Sri Lanka through a distributor/dealer network. The Company is a major cement player in the country and the “Ceylinco L&T Cement” brand is well recognized in Sri Lanka.

The year 2002 saw an improvement in the political scenario and general economic conditions in Sri Lanka, which led to lowering of interest rates and stable exchange rates.
During the year under review the Company sold 2.9 lakh tonnes of cement compared to 3.3 lakh tonnes in the previous year. The cement prices continued to remain depressed. Consequently, the Company reported lower income of Sri Lankan Rupees (SLR) 1594.4 million (previous year: SLR 1728.2 million). The loss was lower at SLR 38.5 million (previous year: SLR 48.2 million). The Company undertook various cost reduction measures to keep operating costs under control.

With the economic situation improving and political scenario becoming stable in Sri Lanka, the outlook for the next year appears positive. The demand for cement is expected to improve due to the expected rehabilitation activities and increased investments in the construction and related areas.

**Narmada Infrastructure Construction Enterprise Limited**

The Company, a 80% subsidiary, is a special purpose company with a 15-year ownership/tolling rights in respect of 2 bridges at Zadeshwar across the river Narmada in Gujarat on National Highway 8.

During the year under review, the Company reported a total income of Rs.23.2 crore (previous year: Rs.19.8 crore) and a loss of Rs. 5.7 crore (previous year: Rs. 7.4 crore) Lower than expected traffic during the first half of the year due to disturbances in Gujarat has affected the Company’s profitability.

Toll collections however picked up in the later half of the year. The restructuring of term loans during the year has resulted in bringing down the weighted average cost of borrowings, which would get reflected in improved margins in the ensuing years.

**L&T Western India Tollbridge Limited**

The Company, a wholly owned subsidiary, is a special purpose company formed for the purpose of constructing and operating a two-lane bridge across the river Watrak on the Ahmedabad-Baroda section of National Highway 8 on BOT basis. The Company has a 10 year ownership and tolling rights in respect of the bridge and its approach roads.

During the year under review, the Company reported a total income of Rs.12.2 crore (previous year: Rs.12.4 crore). The profit after tax was Rs.1.7 crore (previous year: Rs.1.2 crore).

During the year, toll collection was affected due to the disturbances in Gujarat and also due to the general economic slow-down. The order of the District Magistrate not to collect toll from non-users of the bridge and issue of passes to local vehicles also resulted in lower income.

The Company has pre-paid loans to the tune of Rs.3.95 crore during the year.

The Company expects stable operations during the ensuing year.

**L&T Transportation Infrastructure Limited**

The Company, a wholly owned subsidiary, is a special purpose company owning the property and tolling rights of the 28 kilometer Coimbatore Bypass Road and a 2 lane Bridge across river Noyyal (Athupalam) on National Highway 47. The tolling rights cover the concession period (including construction period) of 31 years for the bypass and 21 years for the bridge.

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infrastructure projects. The Company has invested Rs.92 crore in projects pertaining to roads, bridges, airport, port and IT service sector, which are at different stages of implementation.

During the year under review, the Company reported a total income of Rs.0.03 crore (previous year : Rs.1.35 crore) and a loss of Rs.2.1 crore (previous year : loss Rs.0.18 crore). Since the Company’s investments are in their early stages, its revenues are essentially from short-term investment activities. The higher loss is mainly due to interest outgo on non-convertible debentures issued during the year to augment resources for investment in infrastructure projects.

The Government's continued focus on development of roads / bridges on a risk-sharing basis and impetus to other areas like ports, airports and cyber-parks would provide further opportunities for the Company to build up a strong and diversified portfolio of infrastructure investments.

**Larsen & Toubro International FZE, Sharjah**

The Company, a wholly-owned subsidiary with limited liability was incorporated in the Hamriya Free Zone, Sharjah, to carry on business of import and hire of plant, machinery and other equipment. The Company is yet to start its operations.

**L&T ECC Construction (M) SDN.BHD, Malaysia**

The Company, which is a joint venture between L&T and local partners in Malaysia, undertakes civil, mechanical and electrical contracts and turnkey projects and is a subsidiary of L&T by virtue of management control. L&T’s shareholding in the Company is 30%.

During the year under review, the Company reported a total income of Malaysian Ringgit (‘RM’) 3.0 million (previous year : RM 1.3 million) and a loss of RM 0.1 million (previous year : 0.3 million).

The Company enjoys the status of a local Malaysian company.

**Larsen & Toubro (Oman) LLC**

The Company, which is a joint venture with Zubair Enterprises LLC, became a subsidiary during the year when L&T acquired a further 16% of the Company’s equity capital, thereby increasing its shareholding to 65%. The Company was established to provide the entire spectrum of construction services in the field of civil, mechanical and electrical engineering.

The major orders currently under execution include Royal Flight Hangar Project for a value of Omani Riyal 16.3 million. During the year under review, the Company reported a higher total income of Omani Riyal (‘OR’) 11.1 million (previous year loss : OR 5.0 million) and a profit after tax of OR 0.23 million (previous year : OR 0.08 million). The Company plays a significant role in furthering the L&T Group’s business interests in Oman and the neighbouring countries.

**ASSOCIATE COMPANIES**

**Audco India Limited**

The Company, a joint venture with the Flowserve Group (US), is engaged in the manufacture and sale of industrial valves, safety systems & equipment, pneumatic actuators and accessories.

The quality of the Company’s products has been certified by internationally accredited agencies. Currently, around 54% of the Company’s revenues accrue out of exports. Superior product quality, good R&D capabilities leading to faster product development, strong distribution network and competitive pricing are the key strengths of the Company.

During the year under review, the Company reported a 25% increase in total income to Rs.267.8 crore (previous year : Rs.214.1 crore) and a higher profit after tax of Rs.25.5 crore (previous year : Rs.21.6 crore).

The scenario for the ensuing year looks encouraging, with a healthy order backlog position. Export opportunities in the refinery sector and increased off-take by Flowserve are expected to provide growth impetus to the Company.

**Ewac Alloys Limited**

The Company is a joint venture with the Eutectic + Castolin Group, Switzerland, who are now part of Messer Group worldwide. The Company is a market leader in the business of maintenance & repair welding and welding solutions for conservation of global metal resources. The principal products and services comprise maintenance & repair electrode consumables, specification grade electrodes, flux-cored welding wires, wear plates/parts, welding equipment, teco coat lab services, etc. L&T markets the Company’s products in India. The Company enjoys 46% market share in maintenance & repair segment.

Rise in application of continuous welding wire poses a threat to the Company’s business of traditional electrodes. Cheap imports and low priced products from small-scale industries continued to cause pressure on sales and operating margins. Downturn in core sector industries also impacted sales. During the year under review, the Company reported a total income of Rs.54.9 crore (previous year: Rs.51.7 crore) and profit after tax of Rs.9.5 crore (previous year : Rs.9.3 crore).

The Company has commissioned Roll Reduction Mill to gear up its production capacity of continuous wires and will continue its thrust on production of flux cored wires & low cost wear plates to counter competition. Export opportunities are also being explored with the joint venture partner.

**L&T-Sargent & Lundy Limited**

The Company, which is a joint venture with Sargent & Lundy LLC, USA (S&L) was established for providing the entire spectrum of engineering services and solutions to projects in the power sector.

The Company caters to the captive requirements of its parent entities and a few niche clients in India and abroad. The Company, apart from being a high quality engineering resource to S&L, has also completed design and detailed engineering of L&T’s power projects for Delhi Vidyut Board in India and also its export projects at Oman and Sri Lanka.

Adverse conditions prevailing in the global markets in general and US markets in particular have impacted working results of the Company. During the year under review, the Company reported a lower income of Rs.20.8 crore (previous year : Rs.25.7 crore) and lower profit after tax of Rs.6.1 crore (previous year : Rs.9.3 crore). Exports accounted for over 80% of the Company’s turnover.
L&T-Chiyoda Limited
The Company, which is a joint venture with Chiyoda Corporation, Japan, is a consultancy service firm that offers complete range of IT-enabled design and engineering services to the hydrocarbon sector. The services offered include technology / licensor selection, preparation of techno-economic feasibility reports, development of process design package, front-end engineering and design, project management consulting, etc.

The hydrocarbon industry in India has shown growth with expansion projects being implemented and is expected to continue to offer business opportunities with fuel upgradation projects being planned for most of the refineries.
The Company is looking at widening its customer base through Oil and Gas sector projects of on-shore & off-shore facilities. The Company also supports L&T and Chiyoda Corporation for their international projects in the Middle East and South East Asia.

During the year under review, the Company reported a 57% higher total income of Rs.22.4 crore (previous year : Rs.14.3 crore). The profit after tax was higher at Rs.2.0 crore (previous year Rs.1.2 crore). The Company received a Gold Medal award for excellent and innovative management from the National Institute of Economic Development.

With the entry of world leaders in refining segment, the Company expects an increase in the number of projects in the domestic market. The Company also foresees good potential for integrated engineering jobs during the ensuing year, both on the domestic and overseas fronts.

L&T-Ramboll Consulting Engineers Limited
The Company, which is a joint venture with Ramboll A/S, and IFU (the Danish Industrialization Fund for Developing Countries) of Denmark, offers international quality engineering and project consulting services in the infrastructure and transportation sector, especially for projects relating to ports and harbours, roads and bridges, railways, tunnels, airports and environmental engineering. Additionally, the Company also pursues emerging opportunities in privatisation studies in infrastructure, urban planning, tourism development and development & implementation of technical software systems.

During the year under review, the Company reported a higher total income of Rs.9.1 crore (previous year : Rs.7.8 crore) and a profit after tax of Rs.0.2 crore (previous year : Rs.0.02 crore) With increased Government spending and tax concessions in the infrastructure sector and a healthy order backlog position, the Company is optimistic about its future. The Company is looking to work closely with L&T on a number of infrastructure related projects with private sector participation. The Company is also exploring export opportunities in identified regions.

During the year, the Company received the “Most Outstanding Bridge Award” from the Indian Institute of Bridge Engineers for ‘Watrak Bridge’ and ‘Cochin Pipe Bridge’.

L&T-Demag Plastics Machinery Private Limited
The Company, which is a joint venture between LTM Limited and Demag Ergotech GmbH, Germany, manufactures and sells Injection Moulding Machines for the plastics industry.

The Company has established a leadership position in the organized sector, but however, faces strong competition from imports of reputed international brands.
The Company’s exports are channelled through Ergotech’s global marketing network. During the year, the Company’s products were exported to Israel, Australia, Iran and Malaysia. The Company plans to introduce new models of Injection Moulding Machines with latest technology of Ergotech to cater to domestic as well as overseas demand.
The Company secured orders from major players in various segments of the plastics industry in India. Important orders executed include orders for packaging industry, writing instruments and automobile industry.

During the year under review, the Company reported a 48% increase in its total income at Rs.48.0 crore (previous year Rs.32.5 crore) and a higher profit after tax of Rs.1.5 crore (previous year Rs.0.8 crore). The Company expects improved order booking during the ensuing year.

L&T-Niro Limited
The Company is a joint venture with Niro A/S, Denmark, and is engaged in EPC business specific to the dairy, chemical, fertilizer and pharmaceutical industries. The major activities involve setting up of powder producing and processing plants based on the world renowned technologies from Niro A/S and its group companies.

The continued slow-down in the domestic economy affected the order booking and the turnover of the Company. The Company, however, executed contracts through Barr-Rosin in international markets. During the year under review, the Company reported a total income of Rs.21.1 crore (previous year : Rs.21.8 crore) and a profit after tax of Rs.1.5 crore (previous year loss : Rs.3.1 crore).

In addition to its conventional line of business, the Company is also exploring new lines based on technologies from GEA Kestner, Barr-Rosin, UK and from GEA-Wiegand for Ethanol. In view of dyestuff production and handling norms becoming stringent in many developed countries the prospects for granulated non-dusty product, for which Niro technology has an edge, are becoming brighter. The Company expects growth of business opportunities in polymer sector, automated powder plants in the dairy industry and formulation plants in the pharmaceutical industry.

L&T-John Deere Private Limited
The Company, which is a joint venture with Deere & Company, USA, is engaged in the manufacture and sale of agricultural tractors. The manufacturing facility located at Sanaswadi, Pune has an installed capacity of 30,000 tractors per annum.
The Company enjoys market leadership in 55 HP tractor segment. The product range has been expanded to include 42 HP and 47 HP models, and these have been well received in the market.
The Company continued to expand its distribution network and has appointed 139 dealers covering 19 States in India and in Nepal.
The thrust on overseas markets enabled exports contributing 40% of the gross turnover. Despite drought conditions
prevailing in large parts of the country and 22% decline in demand for tractors during the year under review, the Company increased its domestic turnover as well, resulting in the aggregate turnover more than doubling to Rs.185.8 crore (previous year: Rs.77.5 crore). Cost reduction efforts like indigenisation and local purchase of key component parts continue to be pursued and the favourable impact is likely to be felt in the coming years. The Company has recast its business strategy to improve its market share in domestic and overseas markets. The revised strategy is expected to enhance utilization of plant capacity and improve the financial performance in the coming years.

**L&T-Komatsu Limited**
The Company, which is a joint venture with Komatsu Limited, Japan, manufactures hydraulic excavators and high pressure hydraulic systems & components.

During the year under review, activities in manufacturing, mining and construction sectors showed an increase which resulted in an improved market for Hydraulic Excavators and Construction Equipment. The Company expects this trend to continue in the ensuing year as well. The Company reported an increase of 38% in its income at Rs.237.3 crore (previous year: Rs.171.6 crore) and a lower loss of Rs.1.7 crore (previous year loss: Rs.5.4 crore).

The Company entered into a long-term settlement with the unionised employees at its Bangalore Works which resulted in increase in wages to the employees apart from reduction in manpower and substantial increase in productivity. The Company made considerable improvements in the indigenously designed 35-Ton class (180 CK) and 7-Ton PC-71 machine to enhance product reliability. A new product from Komatsu range is planned for launch during 2003-2004.

The continuing emphasis on infrastructure development is expected to contribute to the demand for the Company’s products. The Company also plans to increase export business.

**L&T-Case Equipment Private Limited**
The Company, which is a joint venture with Case Corporation, USA, is engaged in the manufacture and sale of earthmoving machinery. The main product lines comprise Loader Backhoes and Vibratory Compactors. The Company’s products are marketed by L&T.

During the year under review, the Company reported a total income of Rs.111.1 crore (previous year: Rs.104.6 crore) and a profit after tax of Rs.1.1 crore (previous year: Rs.4.1 crore). The Government’s initiative to encourage investment in the infrastructure sector, particularly in roads, is expected to result in increased demand for the Company’s products. The introduction of the new model of loader backhoe with the CNH technology will also enable the Company to face competition effectively.

**Larsen & Toubro (Saudi Arabia) LLC**
The Company, which is a joint venture with a local partner in Saudi Arabia, was formed to take advantage of the construction project opportunities in Saudi Arabia. The Company offers turnkey solutions in civil, mechanical and electrical engineering relating to the specialized fields of oil & gas, petrochemicals, fertilizers & chemicals, infrastructure, buildings, factories, power transmission, distribution and telecommunication projects. During the year under review, the Company earned a total income of Saudi Riyal (SR) 47.0 million (previous year: SR 34.1 million) and a profit of SR 0.9 million (previous year: SR 1.7 million).

**International Seaports Pte. Limited**
The Company, which is a joint venture with Precious Shipping Public Company Limited, Bangkok and SSA Inc., USA, was formed to provide integrated services with respect to design, development, building and operating seaport terminals in the Middle East and South East Asia.

The Company, through its project management subsidiary in India, International Seaports (India) Pvt. Ltd., has successfully bid for port projects in Orissa, Andhra Pradesh and West Bengal, which are being developed through separate project companies.

The projects in Orissa and Andhra Pradesh are being developed through the Dhamra Port Company Limited & Kakinada Seaports Limited respectively. These ventures are still at developmental stage and financial closures are yet to be completed. The project in West Bengal is being developed through International Seaports (Haldia) Private Limited and the project has achieved financial closure during the year.