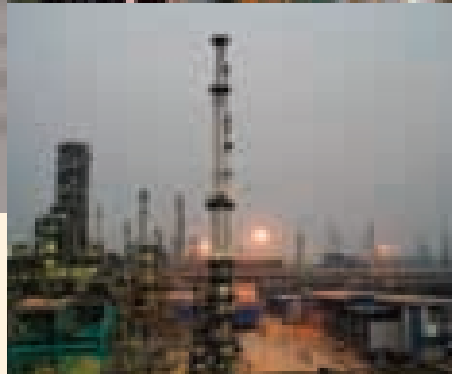
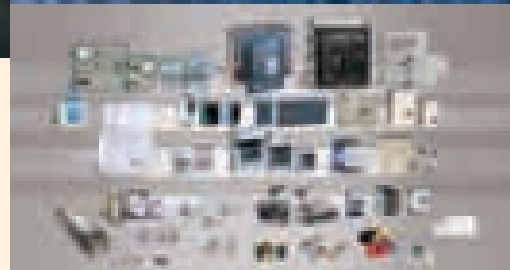
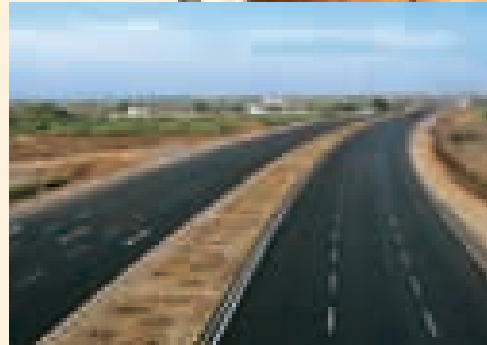
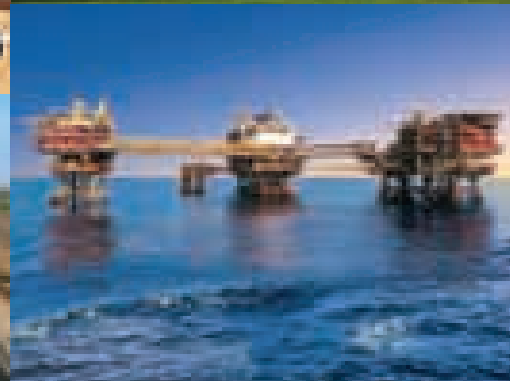
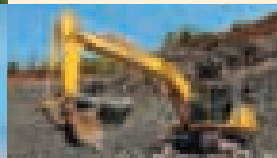


# ANNUAL REVIEW 2009-2010



## VISION

L&T shall be a professionally-managed Indian multinational, committed to total customer satisfaction and enhancing shareholder value.

L&T-ites shall be an innovative, entrepreneurial and empowered team constantly creating value and attaining global benchmarks.

L&T shall foster a culture of caring, trust and continuous learning while meeting expectations of employees, stakeholders and society.



L&T won the 'Company of the Year Award' instituted by Business Standard - a leading financial newspaper. The award was presented to Mr A. M. Naik, Chairman & Managing Director of L&T by the Union Home Minister, Mr P. Chidambaram.

## Sustainability Policy

We are committed to fulfilling our economic, environmental and social responsibilities while conducting business.

We will conserve natural resources, build social equity and achieve sustainable growth, through a culture of trust and caring, to serve all our stakeholders.



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A. M. NAIK  
CHAIRMAN & MANAGING DIRECTOR

ENGINEERING & CONSTRUCTION

ELECTRICAL & ELECTRONICS

MACHINERY & INDUSTRIAL PRODUCTS

IT & ENGINEERING SERVICES  
CIO

FINANCE & HR

DEVELOPMENT PROJECTS & FINANCIAL SERVICES

K. V. RANGASWAMI  
CONSTRUCTION

K. VENKATARAMANAN  
E&C PROJECTS

M. V. KOTWAL  
HEAVY INDUSTRY

R. N. MUKHIJA

J. P. NAYAK

V. K. MAGAPU

Y. M. DEOSTHALEE

A.K. CHHATWANI

RAVI UPPAL

- OPERATING Cos.**
- Buildings & Factories
    - Institutional & Commercial Buildings
    - Residential Projects
    - Townships & SEZ
    - Airports
    - Hotels & Hospitals
    - System Housing
    - Industrial Plants
    - Formwork & Building Products
  - Infrastructure
    - Ports & Harbours
    - Bridges
    - Roads & Runways
    - Metro Transportation
    - Hydroelectric
    - Nuclear Power
    - L&T Rambøll – Engineering Services
  - Metallurgical, Material Handling & Water
    - Minerals & Metals
    - Bulk Material Handling
    - Water Treatment & Distribution Projects
  - Electrical Projects
    - Transmission Lines
    - Substations
    - Industrial Electrification & Instrumentation
    - Railway Construction

- OPERATING Cos.**
- Upstream
    - Oil & Gas EPC Projects
    - Modular Fabrication & Drilling Rigs
    - Floating Production Systems
    - Installation Services
    - Subsea Systems
    - L&T Valdel - Engineering Services
  - Mid & Downstream
    - Refineries
    - Petrochemical & Fertilizers
    - Gas Processing
    - L&T Chiyoda - Engineering Services
  - Process Plant Construction
  - Pipelines
    - EPC - Cross-country Projects & Construction
    - L&T-Gulf Pipeline Engineering

- OPERATING Co.**
- Power Development & Construction
    - Power Development
    - Fuel Source Management
    - O&M
    - Development & EPC for Alumina Project
    - Water Process Technology

- OPERATING Co.**
- L&T Power Limited
    - Coal-based Supercritical Projects
    - Gas-based Projects
    - Boiler Island
    - STG Island
    - Boiler Manufacturing Facilities
    - Pulverizing Mills (VRM)
    - Turbine Manufacturing Facilities
    - Heavy Foundry
    - HP Piping
    - HP Manufacturing Facilities
    - Axial Fans & Air Preheaters Manufacturing Facilities
    - Electrostatic Precipitators Manufacturing Facilities
    - Thermal Power Plant Construction
    - L&T Sargent & Lundy - Engineering Services

- OPERATING Cos.**
- Heavy Engineering
    - Coal Gasifiers & Thermal Plant Equipment
    - Fertilizer & Petrochemical Equipment
    - Refinery, Cracker Plant and Oil & Gas Equipment
    - Weapon Systems
    - Nuclear Power Equipment
    - Aerospace & Aviation
    - Strategic Electronics Avionics
  - Shipbuilding & Marine Systems
    - Naval
    - Merchant
    - Repair & Refit
  - Heavy Forging Facilities

- OPERATING Co.**
- Electrical & Automation
    - Electrical Standard Products
    - TAMCO – Medium Voltage Products
    - Electrical Systems & Equipment
    - Control & Automation
    - Metering & Protection Systems
  - SBU**
    - Medical Equipment & Systems

- OPERATING Cos.**
- Industrial Products & Machinery
    - Industrial Machinery for Paper, Steel, Bulk Material Handling
    - Rubber Processing Machinery
    - Plastics Processing Machinery
    - Industrial Valves
    - Welding Products & Cutting Tools
    - Foundry Products
  - Heavy Structure Fabrication
  - Construction Machinery
    - Construction & Mining Machinery
    - Hydraulic Equipment
    - Undercarriage and Material Handling Systems
    - Spares & Service

- OPERATING Co.**
- L&T Infotech IT Services
  - Verticals**
    - Manufacturing
    - Energy, Oil & Gas & Process Industries
    - Product Engineering Services
    - Insurance
    - Banking & Financial Services
  - Horizontals**
    - ERP – SAP, Oracle
    - Infrastructure Management Services
  - SBU**
    - Integrated Engineering Services
    - Mechanical & Mechatronics Services
    - Embedded Systems & Software

- Financial Services
- Infrastructure Finance
    - Equipment Finance
    - Trade Finance
    - Microfinance
    - Mutual Funds
    - General Insurance
  - Infrastructure Development Projects
    - Roads & Bridges
    - Ports & Harbours
    - Railways
    - Hydro Power Projects
    - Transmission Projects
    - Water Projects
    - Gas Pipelines
    - Solar Energy
  - Urban Infrastructure Development

- Railway Projects
- Turnkey Solutions
  - Mass Transport Systems
  - Rolling Stock - Engineering & Manufacturing

INTERNATIONAL BUSINESS: L&T is consolidating its presence in the Middle East, Africa and South East Asia by ramping up capabilities in EPC, Construction and Manufacturing.

# Leadership Team



A. M. Naik  
Chairman &  
Managing Director



J. P. Nayak  
President  
(Machinery & Industrial  
Products)



Y. M. Deosthalee  
Chief Financial Officer



K. Venkataramanan  
President  
(Engineering & Construction  
Projects)



R. N. Mukhija  
President  
(Electrical & Electronics)



K. V. Rangaswami  
President  
(Construction)



V. K. Magapu  
Senior Executive  
Vice President  
(IT & Technology Services)



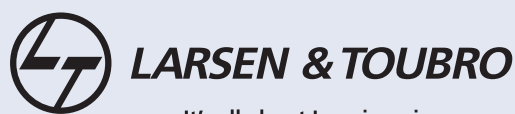
M. V. Kotwal  
Senior Executive  
Vice President  
(Heavy Engineering)



Ravi Uppal  
CEO & MD  
L&T Power Limited

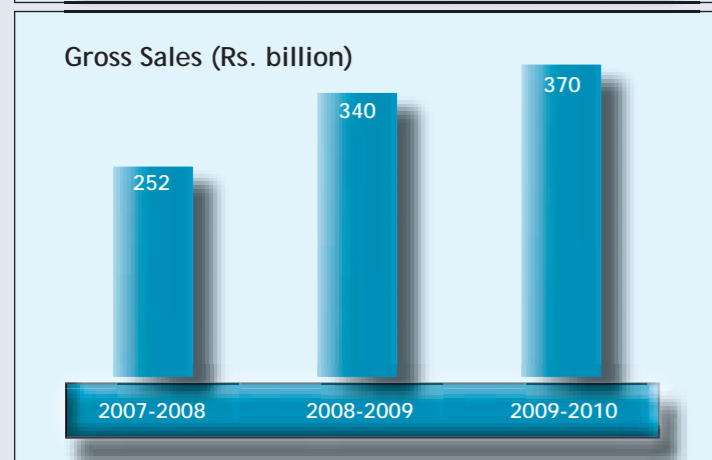
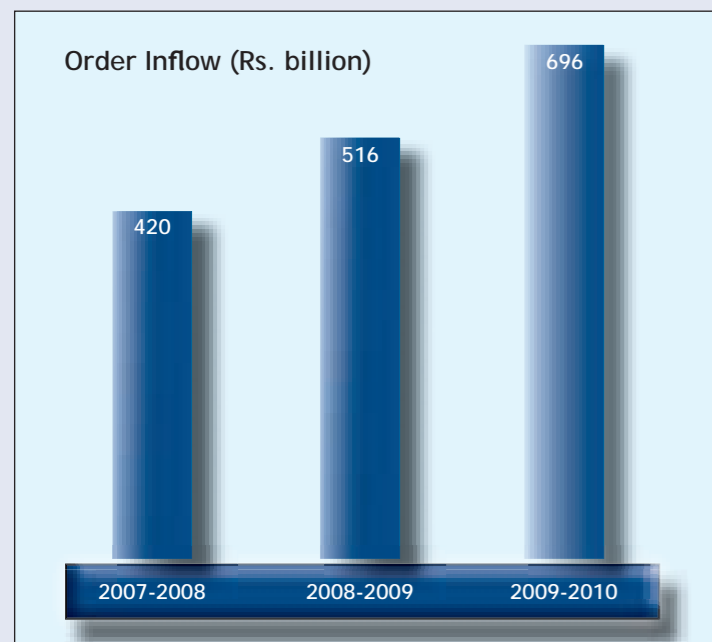


A. K. Chhatwani  
Senior Executive  
Vice President  
(Power Development)



**LARSEN & TOUBRO**

It's all about Imagineering



**Larsen & Toubro is a technology, engineering, construction and manufacturing company. It is acknowledged as one of the leading companies in the region, reputed for its engagement in key growth sectors, its ability to respond positively to challenging requirements, and its excellent value system.**

**A strong, customer-focussed approach and the constant quest for top-class quality have enabled L&T to attain and sustain leadership in its major lines of business across seven decades.**

**L&T has an international presence, with a manufacturing footprint in eight countries, a wide network of offices, and collaboration agreements with global majors. Within India, L&T has a presence in virtually every district with a number of offices, factories and distribution outlets.**

#### History

The evolution of L&T into the country's largest engineering and construction organisation is among the more remarkable success stories in Indian industry. The company was founded in Bombay (now Mumbai) in 1938 by two Danish engineers, Henning Holck-Larsen and Soren Kristian Toubro – both of whom were strongly committed to developing India's engineering talent and enabling it to meet the demands of industry. Beginning with the import of machinery from Europe, L&T rapidly took on engineering and construction assignments of increasing sophistication. Today, the company sets engineering benchmarks in terms of scale and complexity.

**Year 2009-10 at a Glance**

**L&T**

- New Order inflow at Rs. 695717.60 million in CY as against Rs. 516215.20 million in PY: 35% growth y-on-y
- Order Book as at March 31, 2010: Rs. 1002393.40 million as against Rs. 703191.40 million as at March 31, 2009: 43% growth y-on-y
- Gross Sales at Rs. 369959.35 million in CY as against Rs. 340450.41 million in PY: 9% growth over 08-09
- Segment-wise composition of gross revenues:-  
Engineering & Construction Segment: 85.3% in CY as against 81.9% in PY  
Electrical & Electronics Segment: 7.9% in CY as against 7.9% in PY  
Machinery & Industrial Products Segment: 5.9% in CY as against 7.1% in PY  
Others: 0.9% in CY as against 3.1% in PY
- PBDIT before exceptional and extraordinary items at Rs. 57258.07 million in CY as against Rs. 46619.60 million in PY – up by 23%
- PAT at Rs. 43755.15 million in CY as against Rs. 34816.57 million in PY – up by 26%
- Gross Debt Equity ratio of 0.37 : 1 (previous year 0.53 : 1)

**L&T Group**

- Gross Sales at Rs. 438542.43 million in CY as against Rs. 406078.69 million in PY – 8% growth over 08-09
- PAT at Rs. 54507.40 million in CY as against Rs. 37894.60 million in PY – up by 44%

L&T is regarded as the preeminent infrastructure major - often referred to as the 'builder of the India of the 21st century'. Its achievements across sectors include:

- Hydrocarbon projects executed in India, the Middle East and South East Asia
- Power projects executed in India, the Gulf and Sri Lanka.
- The world's largest coal gasifier made in India and exported to China
- The world's biggest EO reactor for a petrochemical complex in the Gulf
- The world's largest FCC regenerator for a refinery
- Asia's highest viaduct
- Infrastructure projects in Jordan, U.A.E. and South East Asia
- The world's longest limestone conveyor
- India's widest range of switchgear
- A wide range of construction and mining equipment

This publication presents an overview of the Company's capabilities in different business sectors, and an account of its performance over the last financial year. The contents have been structured in keeping with the Operating Divisions of the Company:

- Engineering & Construction Projects
- Power
- Heavy Engineering
- Construction
- Electrical & Electronics
- Machinery & Industrial Products
- IT and Integrated Engineering Services
- Financial Services

## Balance Sheet as at March 31, 2010

	Rs. million	
	As at 31.3.2010	As at 31.3.2009
<b>SOURCES OF FUNDS:</b>		
Shareholders' funds	183116	124597
Loan funds	68008	65560
Deferred tax liabilities	3893	4352
	255017	194509
<b>APPLICATION OF FUNDS:</b>		
Fixed assets:		
Tangible assets	62231	50538
Intangible assets	1427	1408
Investments	137053	82637
Deferred tax assets	3119	3867
Net current assets	51187	56056
Miscellaneous expenditure	0	3
	255017	194509

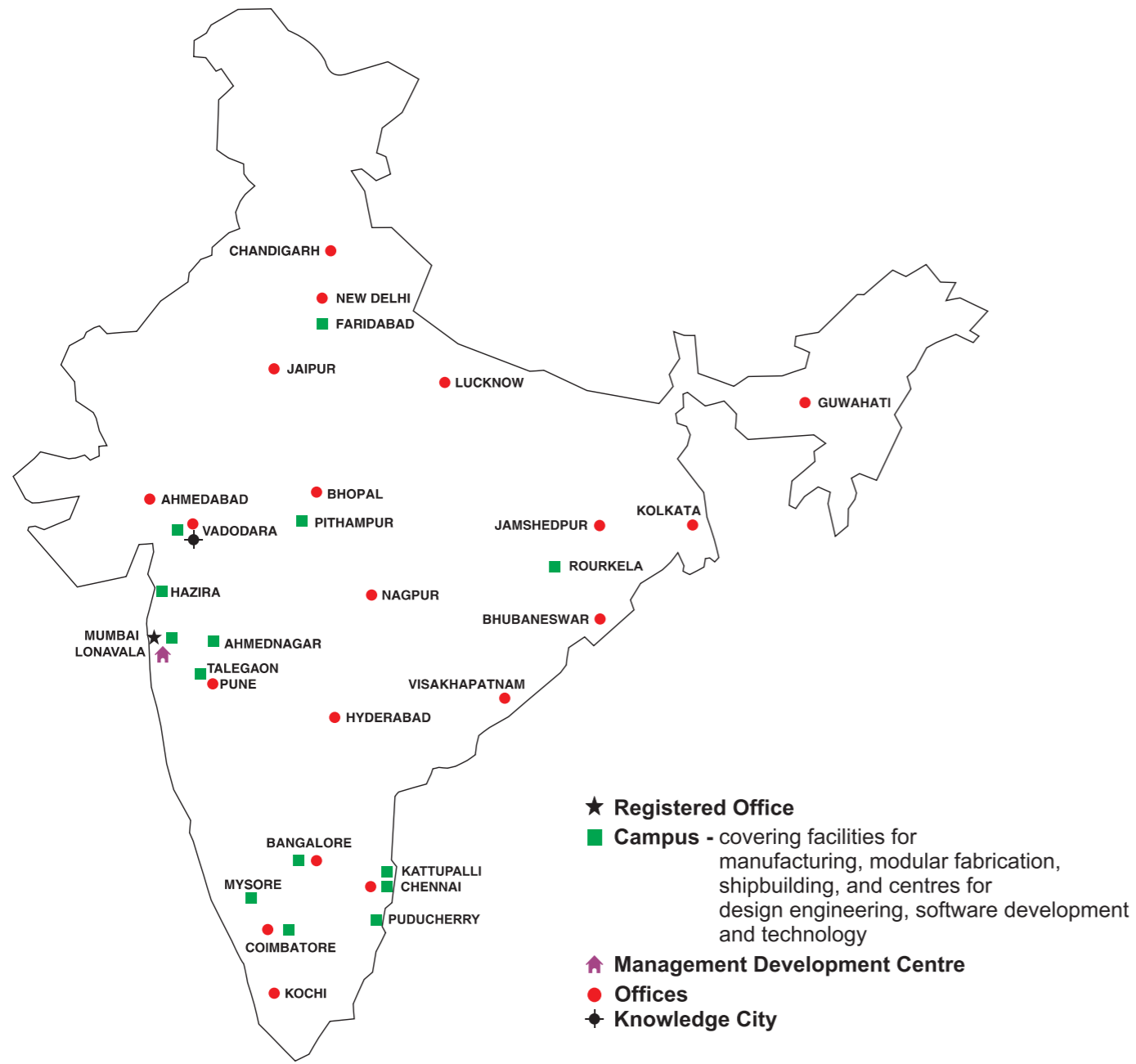
Note: Figures in the previous year have been regrouped / reclassified wherever necessary.

## PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED MARCH 31, 2010

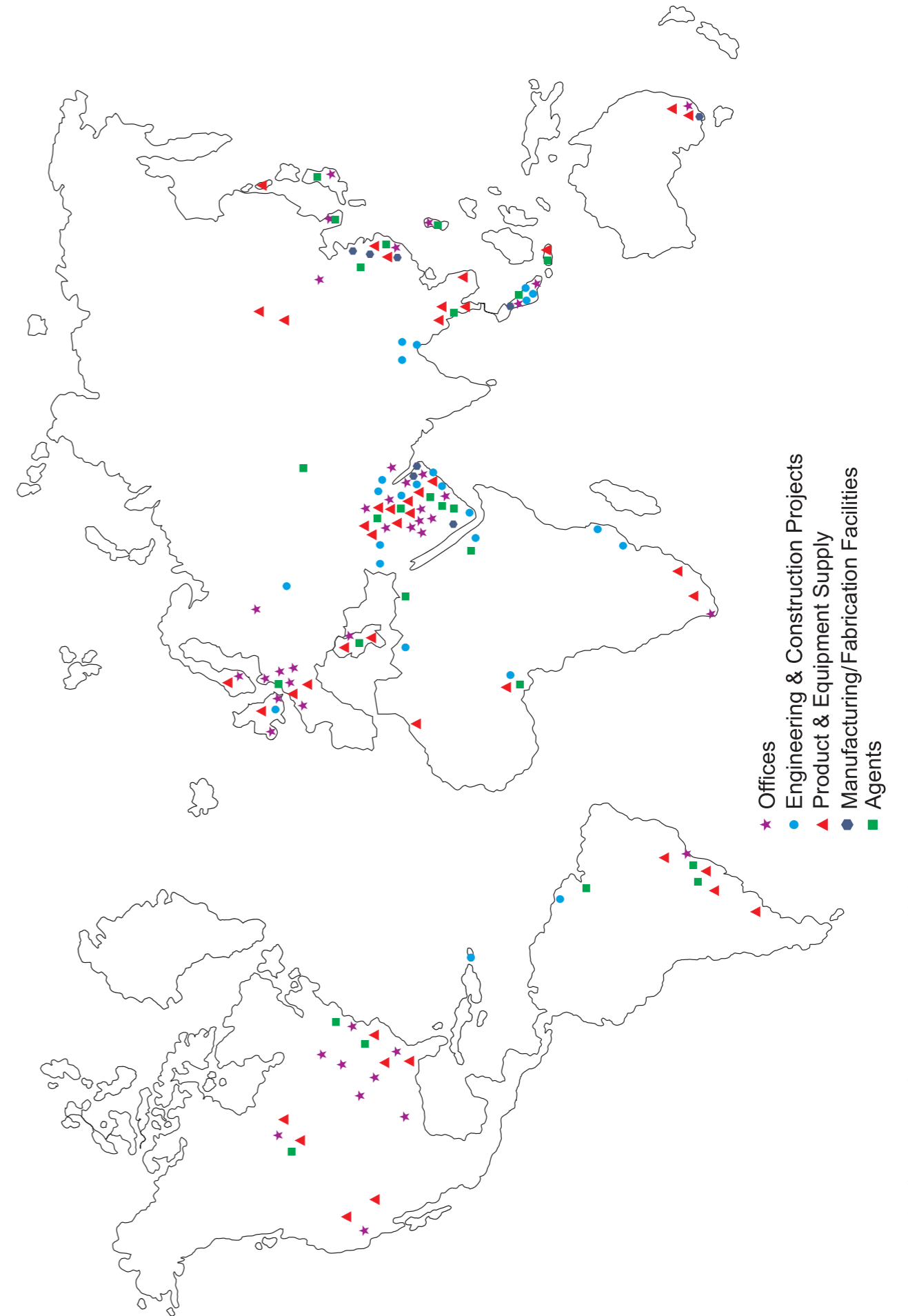
	Rs. million	
	2009-2010	2008-2009
Sales & service (net)	366751	336466
Operational / other income	23846	10317
	390597	346783
Less: Expenditure:		
Manufacturing, construction and operating expenses	284535	262716
Staff expenses	23791	19745
Sales, administration and other expenses	14265	17703
Interest expenses and brokerage	5053	4155
Depreciation, amortisation and obsolescence	4146	3060
Profit before taxes before extraordinary items	58807	39404
Less: Provision for taxes	16409	12312
Profit after tax before extraordinary items	42398	27092
Gain on extraordinary items (net of tax)	1357	7725
Profit after taxes after extraordinary items	43755	34817
Basic earnings per equity share before extraordinary items (Rupees)	71.49	46.30
Diluted earnings per equity share before extraordinary items (Rupees)	70.15	45.68
Basic earnings per equity share after extraordinary items (Rupees)	73.77	59.50
Diluted earnings per equity share after extraordinary items (Rupees)	72.39	58.70
Face value per equity share (Rupees)	2.00	2.00

Note: Figures in the previous year have been regrouped / reclassified wherever necessary.

## Nationwide Network



## A Global Presence





## Hydrocarbon - Upstream

Process platform installation and pipeline modification at Heera Complex of ONGC (Capacity: 30,000 BPD oil, 20,000 BPD water, and 1.5 MMSCMD gas).

### Engineering & Construction (Projects)

L&T delivers world-class 'design to build' EPC solutions in the Oil & Gas, Petrochemicals, Fertiliser, Power and Water technology sectors. In-house expertise and experience is synergized with strategic partnerships. Single point solutions are offered for every phase of a project - right from front end engineering and design through fabrication, project management, construction and

installation up to commissioning. L&T's offerings are characterized by on-time delivery, cost-competitiveness, high quality standards with a focus on best in class HSE practices.

#### Design & Engineering Services:

The Engineering arm has qualified and experienced engineering talent, in-house engineering centers as well as robust IT infrastructure service complemented by engineering partners like L&T-Valdel Engineering

Limited, L&T-Chiyoda Limited, L&T-Gulf Private Limited. Engineering teams are located at various strategic locations - Mumbai, Faridabad, Vadodara, Bangalore, Chennai and Sharjah.

**Fabrication Capability:** The Modular Fabrication Facility in India has provided a competitive advantage. Located at Hazira, it is one of the largest of its kind in South Asia. Hazira Modular Fabrication Facility meets international quality standards and is



HA deck & building module for Maersk Oil - Qatar installed at Al Shaheen Field, off Qatar.



## Oil & Gas Projects

*A 290-man heavy-lift-cum-pipelay vessel (LTS 3000) is part of L&T's capability to offer total turnkey solutions to the upstream hydrocarbon sector, encompassing oil and gas production, processing and transportation.*

capable of meeting compressed delivery schedules. A new Modular Fabrication Yard at Oman is an all weather yard. It augments the capability to fabricate and supply a range of large-size complex modules up to 20,000 tonnes. The Yard has facilities for heavy fabrication, sophisticated equipment for testing and load-out facility.

A large Modular Fabrication Yard at Kattupalli near Chennai is at an advanced stage of development to cater

to the strategic market segments, both domestic East Coast and overseas South East Asia and Australian requirements.

**Installation Capability:** To cater to offshore requirement, a state-of-the-art heavy lift-cum-pipelay vessel (HLPV), 'LTS - 3000' has been developed in Joint Venture with Sapura Crest Petroleum Berhad (Sapura Crest) of Malaysia. It has capability of lifting 3000 tonnes & laying 6"-60" of sub-sea pipelines.

### International business development:

The Division has consolidated its presence in the international market, establishing itself as an emerging player in Middle East & South East Asia. Manufacturing, project execution capabilities and office establishments have been set up in select geographies. These offices are set up in UAE (Abu Dhabi & Sharjah) & Qatar (Doha).

### Key Strengths

- Multi-locational engineering,



*BCP-B2 Process Platform and Well-head Complex connected to the pre-existing BPB Complex of ONGC. It is located in the Bassein Gas Field, around 80 km north-west of Mumbai.*



## Hydrocarbon - Mid & Downstream

*Aviation Fuel Depot at KAFCO - Kuwait executed by L&T on EPC basis. L&T is rapidly enlarging its presence in the Middle East and has built a reputation for undertaking complex projects while meeting demanding schedules, to global standards.*

- technology and innovation centers.
- Stringent quality control parameters
- Compliance to highest standards of health, safety, environment and information security.
- Usage of web enabled technology in the complete cycle of execution of EPC projects.
- Knowledge management system for providing solutions.

**Hydrocarbon Upstream Operating Company (Upstream OC)**  
Upstream OC provides a range of EPC solutions for offshore oil and gas exploration projects such as Process Platforms, Wellhead Platforms, Subsea Pipelines, and Floating Systems. During the year, it has bagged largest ever project order over Rs.53000 million from ONGC for an integrated process platform complex.

**Hydrocarbon Mid & Downstream Vertical**  
A wide range of EPC solutions is provided for turnkey projects - green fuel / fuel quality up-gradation, residue upgradation; cracker complex, polyolefins & aromatics projects for petrochemical industry; hydrogen, fertilizers, gas processing, reformers & cracking furnaces; cross-country oil & gas pipelines, gas gathering stations and crude oil terminals.



*700 TPD Methanol & 100 TPD Carbon Monoxide Plant for Methanol Chemicals Company (Chemanol) at Al Jubail in Saudi Arabia.*





## Petrochemical Projects

*Cracking furnaces and associated units for IOCL at Panipat Naphtha Cracker Project. (Capacity : 800,000 TPA of polymer grade ethylene & 504,834 TPA of polymer grade propylene). L&T executed this project in consortium with Toyo Engineering, Japan.*

L&T successfully commissioned complex projects including the onshore gas processing terminal at Kakinada - the largest of its kind in India (80 MMSCMD) - and execution of a 592 km heated and PUF-insulated waxy crude oil pipeline from Barmer in Rajasthan to Salaya in Gujarat. This is reputed to be one of the world's largest insulated pipelines.

L&T bagged a large order from ONGC Mangalore Petrochemical Ltd. of

over Rs 20000 million and from the fertilizer sector projects of over Rs 30000 million.

### Outlook

The domestic economy has regained momentum and has shown positive signs of recovery in terms of industrial growth. India is emerging as a global refining hub thanks to the cost competencies over other countries. Gas demand in India is dominated by the power and fertilizer sectors, which are on the rise. This

coupled with the government's conducive policy and regulatory framework has made investment in the energy sector attractive.

The E&C Projects Division will focus on opportunities in key growth areas such as oil and gas extraction, floating systems in deepwater, subsea field development, gas processing, fertilizer, and petrochemical and onshore pipeline business. The Division is looking forward to building capabilities in an



*Motor Spirit Quality Upgradation Project executed by L&T for IOCL at Panipat. L&T also executed an MSQ project for IOCL at their Mathura Refinery.*



## Pipelines & Processing Terminals

*Mangala Process Terminal - one of several terminals built by L&T for Cairn Energy India Limited at Barmer in Rajasthan. L&T set up the terminal and associated structures including pipelines and substations.*

accelerated manner to harness upcoming business opportunities on the east coast of India, which has large potential for oil & gas production. It is also building comprehensive high-end FEED detailed engineering capabilities for these emerging areas by exploring various options including inorganic growth and entering into joint ventures.

The Division also plans to enter into new geographies, establishing new clientele and entering into strategic alliances.

Enhanced execution capabilities will drive performance in the coming years. Considering the positive business environment, strategic positioning and the various initiatives taken by the Division coupled with a healthy order book at the end of March 2010, the Division expects to perform well in the year ahead.



*24" dia. x 592-km heated and PUF-insulated waxy crude oil pipeline being laid, along with an 8" gas pipeline.*



## Power - Supercritical Coal-based, Gas-Based

*Power plant executed by L&T on an EPC basis at the complex of Indian Oil Corporation in Panipat.*

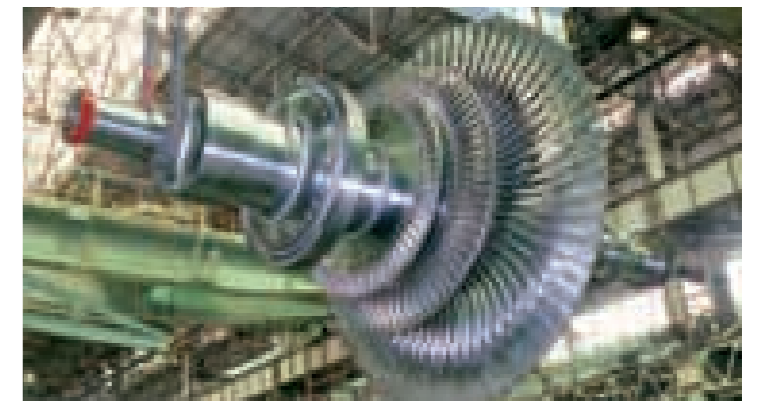
### EPC Power

EPC Power division has been organised as a separate Operating Company with effect from April 1, 2009. Financial year 2009/10 has been the first year of operation in pursuit of the Company's mega vision to become "the most preferred provider of equipment, services and turnkey solutions for fossil-fuel-based power plants and a leading contributor to the nation's power generation capacity".

EPC Power division's offerings comprise Supercritical Steam Generators, Steam Turbine Generators and Balance of Plant. The business organisation which includes the Joint Venture Companies with Mitsubishi Heavy Industries, Japan, is geared to address the opportunities whichever way tendered by the customers. The customer profile comprises State Utilities, Private Sector IPPs and large corporates seeking to build captive generation capacity.

The Company has strong engineering, procurement, construction and project execution capabilities built over the past few decades, which underpin the foray into EPC for thermal power plants, especially coal-based generation projects. L&T will also leverage its capabilities to execute, on an EPC basis, large combined cycle gas based plants up to 1000 MW.

Engineering capabilities come from L&T-Sargent & Lundy, a joint venture



*Supercritical turbine - part of the critical equipment for power plants - manufactured by L&T.*



## Power

*Coal-fired power plants are recognised as the most viable solution to India's energy deficit. L&T has the integrated capability, the experience and the expertise to execute complete superthermal power plants on an EPC basis.*

company. The upcoming manufacturing facilities at Hazira Complex will establish the capacities to build Steam Turbine Generators, Boiler pressure parts and Pulverisers based on MHI technology.

In addition, the Company will also manufacture Critical piping, Electrostatic precipitators, Air-preheaters and Axial fans. This would give the company comprehensive capabilities to offer world class thermal power plant solutions.

### Performance highlights

EPC Power Division secured new orders of Rs. 13,7965 million. New orders, which spanned the entire range of offerings, were received from prestigious customers such as; GMR Group, Maharashtra State Power Generation, Madhya Pradesh Power Generation, Jayaprakash Group, who are setting up mega power plants.

During the year, the Division progressed with the execution of its projects for

Indian Oil Corporation Limited at Panipat, Andhra Pradesh Power Development Company Limited at Krishnapatnam and GMT Rajamundhry Energy Ltd at Vemagiri.

### Business Environment

That India needs to build substantial power generation capacity is beyond question. It is also clear that the reliance on coal and natural gas as fuel for power plants will continue for several years. With coal-based plants continuing to

form a major share of fresh capacity addition, the division's offerings based on supercritical technology have huge potential.

The capacity addition target for the 11th five year plan ending in 2012 is 78,700 MW and for the 12th plan, the target is 100,000 MW. It is expected that a sizeable capacity will be in coal-based power plants with supercritical technology. The Power Ministry and the Planning Commission are expected



*L&T offers comprehensive construction services for building hydropower projects.*



## Power

*388.5 MW natural-gas-fired combined-cycle power plant built by L&T at Vemagiri. L&T sets up large gas-based utility power-generation projects and independent power projects on an EPC basis, with full compliance to international standards.*

to come up with policy measures to encourage investment in supercritical technology as well as local manufacture. It is also expected that the outlook for gas-based power plants would improve with the successful resolution of issues regarding supply from the east coast gas fields.

EPC Power Division faces aggressive competition from Chinese players whose faster deliveries and cost advantage pose a formidable challenge. Major

international power plant equipment producers are also setting up capacities in India. The leading established domestic players enjoy leadership position in the space of power plant equipment.

### Initiatives

The Division has undertaken several initiatives such as accelerated indigenization of manufacturing program for Steam Generators and Steam Turbine Generators, standardization of product designs, enlargement of vendor base

to improve price competitiveness and achieve reliability in project schedules. It has set clear targets in this regard to be realized over the next couple of years.

### Outlook

The Division expects the policy regime to decisively discourage sub-critical technology and support supercritical technology in coal-based generation. PSU-utilities already require establishment of local manufacturing capacities of power generation

equipment. This is in the national interest and should augur well for the Division. It is expected that the recourse to gas-based power plants to meet peaking demand shortfall holds good prospects for this sector.

With robust demand for power and resultant opportunities for power generation equipment infrastructure, EPC Power Division is confident of rapidly growing into a major business for the Company.



*Induced draft cooling towers - part of L&T's comprehensive offerings to the power sector.*



## Nuclear Power Plant Equipment

Steam generators for pressurised heavy-water reactors being despatched. L&T has been accredited by ASME to use 'N' and 'NPT' stamps for manufacture of equipment and systems including reactor vessels, reactor heads, steam generators, heat exchangers, control rod drive mechanism and fuel-handling machinery for nuclear power plants.

### Heavy Engineering

#### Overview

Heavy Engineering Division (HED) manufactures and supplies custom-designed & engineered critical equipment & systems to core sector industries like Fertiliser, Refinery, Petrochemical, Chemical, Oil & Gas, Thermal & Nuclear Power, Aerospace and Defence. The Division's Ship-building business covers construction of specialised commercial vessels, warships and submarines for

the Indian Navy as well as vessels for the Indian Coast Guard. The business will also include repair and refit of ships and submarines.

The Division has manufacturing and fabrication facilities at Mumbai in Maharashtra, Hazira and Vadodara in Gujarat, and Visakhapatnam in Andhra Pradesh.

A Strategic Systems Complex for integration & testing of weapon systems,

sensors and engineering systems is located at Talegaon in Maharashtra.

A Precision Manufacturing Facility at Coimbatore in Tamilnadu undertakes precision machined / manufactured components and assemblies.

Design and development of Electronics Systems, which form an integrated part of systems & equipment for Defence, is carried out at the Defence Electronics group in Mumbai and a dedicated



Piping for passive heat-removal system at Kudankulam Nuclear Power Plant.



## Refinery Equipment

*Chrome-Molybdenum-Vanadium Hydrocracker Reactor with 300mm-thick walls, weighing 1000MT, being exported to Greece from Hazira Manufacturing Complex. L&T offers a comprehensive range of critical equipment and systems, including high-pressure heat exchangers, to the hydrocarbon sector worldwide.*

Strategic Electronics Center at Bangalore in Karnataka.

Technology Development Centers have been established in Mumbai to concentrate on development of new products & technologies in the areas of Process Plant Equipment, Strategic Systems and Electronics.

The Division has a well-equipped ship-building yard at Hazira in Gujarat. In addition, construction of a large

and modern shipyard is in progress at Kattupalli in Tamilnadu.

A heavy fabrication facility set up as a joint venture in Oman was inaugurated in 2009-2010. It will manufacture equipment for the hydrocarbon & power sectors, mainly for the GCC countries.

The Division's operations are managed through two Operating Companies: Heavy Equipment & Systems Operating Company, and Ship-building Operating Company.

### Heavy Equipment & Systems Operating Company (HES OC)

#### Business Environment

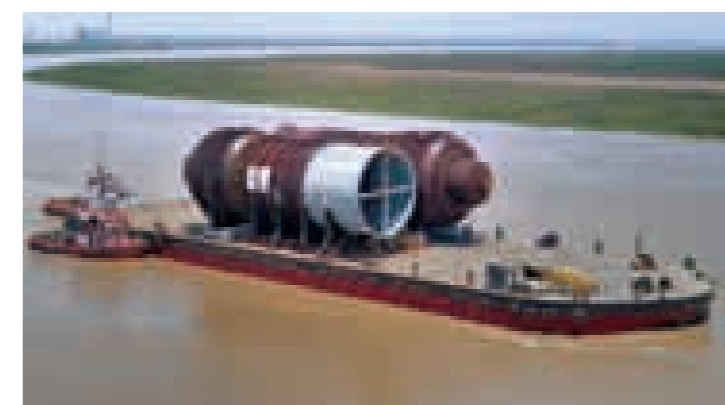
HES OC achieved a significant increase in sales in 2009-2010 on the back of a robust order book at the beginning of the year. However, new order inflow during the year, particularly for export, was adversely impacted due to the global economic meltdown.

The coal-gasification business from

China continues to show promise in the short to medium term. The domestic power plant equipment business shows significant potential for growth.

The fertiliser sector is expected to grow given the plans for new fertiliser plants and the expansion of old ones. New investment in fertiliser plants is also expected in Iran and Brazil.

If the announced policy intent of the government to encourage larger



*ACN twin reactors enroute to Thailand from Hazira Manufacturing Complex, which has a waterfront facility for despatch of over-dimensioned equipment.*



## Reactors & High Pressure Exchangers

*Cr-Mo HDS reactor manufactured at L&T's Sohar complex in Oman. The complex includes a captive jetty with direct access to the Gulf of Oman.*

participation by the private sector is backed by actual implementation, the Defence sector shows definite promise in the medium to long term. As of now, however, 70% of defence equipment continues to be sourced from outside India. Implementation of the offset policy has just begun and if made use of as designed, can generate significant business.

The global nuclear power renaissance offers growth potential in domestic and

international markets. New projects planned in India, USA, and Europe offer potential for supply of equipment & systems for new builds and for refurbishment of existing nuclear power plants.

### Significant Initiatives

HES OC launched initiatives to maintain leadership position in the global process plant equipment market and to gain an early-mover advantage in the Defence equipment sector.

### Capability Building

As a part of the Employee Engagement initiative launched earlier, a program called "Enterprise-wide Collaboration for Alignment with Strategy" (ECAS) enhances organisational excellence and enables optimal use of resources across the division in a collaborative environment. The Technology Development Centers focus on continuous development and adaptation of the latest technologies and development of new products as well as product up-gradation.

Selective acquisition of talent, including expat consultants, and developing a global mindset within the organisation by placement of individuals on a rotational basis in US, Europe, China, Russia, Korea and the GCC have helped in preparing the organisation for future challenges.

### Capacity Augmentation

Apart from the Heavy Fabrication facility recently commissioned at Sohar, Oman, the facilities at Hazira continue to be upgraded. The assembly-integration



*Urea Reactor weighing 210 MT being despatched to a fertiliser plant in Oman.*





## Reactors & Coal Gasifiers

*SGP Reactors for Qatar Shell gas-to-liquid project ready for despatch. L&T's Hazira Manufacturing Complex has its own roll-on-roll-off jetty, offering direct access to the Arabian Sea.*

capacity for weapon and engineering systems at the Strategic Systems Complex at Talegaon will be doubled by the first half of 2010-2011.

### Securing Supply Chain

During the year, a Joint Venture Agreement was signed with Nuclear Power Corporation of India Limited (NPCIL) to set up a fully integrated special steel and heavy forgings facility for the hydrocarbon & nuclear power sectors. The completion of work

on setting up this project will mark the entry of L&T into an exclusive global club of the very few companies capable of manufacturing ultra-heavy, alloy steel forgings required for the Nuclear, Hydrocarbon, Thermal Power & Steel industries.

### Productivity Improvement Initiatives

The OC continues its focus on operational excellence. The Critical Chain Project Management methodology based on the Theory of Constraints helps manage, plan

and execute a large number of projects and to improve delivery performance.

Automation of design & drawings in the case of Heat Exchangers has substantially reduced the cycle-time for engineering activities and improved the design process itself.

### Ship-building Operating Company (SHBD-OC)

Business Environment  
The international commercial ship-

building market is yet to come out of the trough. It has been adversely impacted by the decreasing demand for bulk cargo resulting in low freight rates, a drop in ship prices and negligible ordering activity. Shipyards globally were under constant pressure of order-cancellations.

By 2011-end, an upward trend is expected, depending on availability of financing for new builds. Last year, the Government of India granted a



*Section of a coal gasifier - one of many supplied to China. L&T has manufactured and supplied the world's largest coal gasifier to China.*



The photograph is for representational purpose only, and does not purport to be a photograph of the actual nuclear-powered submarine built by L&T.

## Shipbuilding - Merchant & Naval

*Pictorial representation of India's first nuclear powered submarine - the INS Arihant - engineered and constructed by L&T. A wide range of equipment and systems for the defence forces encompassing sea, land & air is offered by L&T.*

shipbuilding subsidy on all eligible orders for orders booked prior to August 14, 2007.

The Shipbuilders Association of India has requested the Government to continue the scheme so as to encourage the shipbuilding industry in India.

The domestic naval ship-building market is promising. The Indian Navy has major expansion programs, and the Indian Coast Guard is expected to accelerate its

fleet-expansion program. In 2009-2010, a maiden order to construct 36 high-speed interceptor boats was received. A unique feature of this order is that the boats have been designed entirely in-house.

### Significant Initiatives

The Warship & Submarine Design Center is being further strengthened to support in-house design of naval vessels. Cycle-time is being reduced by the use of latest 3D software and virtual reality facilities.

The design team for commercial vessels is being strengthened. Resources and facilities at Hazira for ship-building are being augmented.

### Outlook

Overall, the Division envisages good market opportunities and growth prospects in the medium to long term.



*Multi-barrel rocket-launch system for India's defence forces, designed and developed by L&T - largely through in-house R&D.*



## Hi-Rise Buildings (B&F OC)

*The Dubai Marina showcases L&T's capability in executing office, commercial and residential projects. In the Gulf Co-operation Council countries, L&T has executed several major building projects, switchyards and transmission lines.*

### Engineering, Construction & Contracts

#### Overview

L&T's Engineering, Construction and Contracts Division (ECCD) undertakes engineering design and construction of infrastructure, buildings, factories, water supply & metallurgical and material handling projects covering civil, mechanical, and electrical and instrumentation engineering disciplines. With many of the Country's

prized landmark constructions to its credit, ECCD, India's largest construction organisation, uses state-of-the-art design tools and project management techniques. Supported by a track record of over 65 years covering all types of buildings, industrial sectors and infrastructure development, the Division undertakes lump-sum turnkey construction with single-source responsibility. The Division secured 35th rank amongst construction companies across the globe [source: Engineering

News Record (ENR)]. The current year's performance of the Division reiterates the Company's global stature in construction.

ECCD consists of Buildings & Factories Operating Company (B&F OC), Infrastructure Operating Company (Infra OC), Rail Infrastructure business, Metallurgical Material Handling and Water Operating Company (MMHW OC) and Electrical & Gulf Projects Operating Company (E&GP OC).

### Buildings & Factories Operating Company (B&F OC)

B&F OC continues to maintain its leadership position in construction of major airports, IT parks, turnkey hospitals and residential buildings. Relentless business development initiatives along with focus on key account management and specific thrust on design-&-build projects helped the OC to secure significant order inflows during the year 2009-2010. 'Concept to Commissioning' is the theme which continues to drive



*Hospital in Puducherry built by L&T.*



## Airports (B&F OC)

*Terminal 3 of the Indira Gandhi International Airport, Delhi. The terminal was inaugurated by the Prime Minister of India in time for the Commonwealth Games 2010 hosted by India's capital. L&T is driving the airports revolution in India, building virtually every major new international airport in the country.*

growth. This unique capability along with focus on key account management helps the OC to retain its customers. B&F OC is technologically geared to undertake construction of tall towers and green buildings.

Creation of business-specific segments has further boosted the growth that helped secure high-value government projects (hospitals) and many residential projects especially in Mumbai during 2009-2010. Major orders bagged during

the year include India Tower, Mumbai, residential towers for leading promoters like Wadhwa Group, Oberoi Realty, Ahuja and DB Realty etc., ESI hospitals at Kollam, Coimbatore and Kolkata, IT Park and SEZ at Siruseri for Cognizant, JIPMER phase II, Puducherry and factory orders from Maruti, Honda, Nestle etc.

B&F OC has also reported significant growth in revenues during 2009-2010. A major highlight was the completion of Terminal 3 of the Delhi International

Airport. This prestigious project was widely covered by the media which described it as an exemplar of modern Indian infrastructure. At Mumbai International airport, Terminal 1C built on a Design & Build basis has commenced operations. On the backdrop of a healthy order book, B&F OC is again poised to register satisfactory growth on the revenues during 2010-2011.

## Infrastructure Operating Company (Infra OC)

Infra OC undertakes construction of roads, runways, bridges, metros, ports, nuclear / hydropower projects and defence projects. During 2009-2010, Infra OC has completed several prestigious projects, viz. the Vadodara-Bharuch Road in Gujarat, the Palanpur-Swaroopgunj Road in Gujarat & Rajasthan, a vessel project at Vizag, Alain Duhangan Hydropower project in Himachal, etc. Though India's



*L&T's offerings in the airports segment include civil, mechanical, electrical and instrumentation, including all associated structures and airport systems meeting passenger amenities.*



## Railways & Mass Rapid Transport

*The Delhi Metro. L&T's Infrastructure Operating Company provides comprehensive solutions in the urban mass transportation systems like metros, monorails and Light Rail Transport.*

Infrastructure Sector witnessed slower execution growth in 2009-2010, the second half of the year showed clear signs of recovery. This was visible in the transportation infrastructure segments like roads, metros and elevated corridors which saw a flurry of activity in de-bottlenecking of constraints in pre-qualification and bidding processes.

The year witnessed a resurgence of activities by Nuclear Power Corporation of India (NPCIL) in jet-setting India's

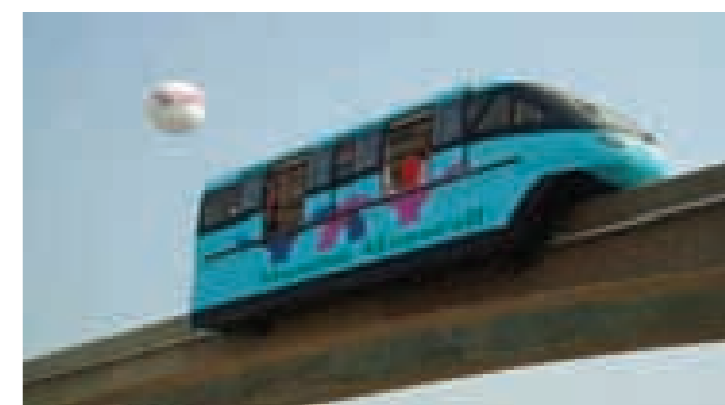
nuclear power programme. Infra OC has set a strong footprint by bagging the main plant civil package for the first-ever 2x700 MW nuclear power plant (Indigenous technology) at Kakrapar, Gujarat. Incidentally, this was also the largest-ever construction package configured by NPCIL in the nuclear power sector. In hydropower sector, Infra OC bagged an additional order at Subansiri HEP for surge-tunnel works.

Metro authorities also endeavoured to

speed up the implementation of various city metro rail projects in Bangalore, Chennai, Kolkata, Mumbai, etc and Infra OC has secured elevated packages of Chennai Metro and Bangalore Metro and underground works for DMRC. Infra OC is constructing L&T's own greenfield port-cum-shipyard - Kattupalli Port near Chennai.

Public Private Partnership Projects received a huge thrust with the roads sector witnessing a revival with the

grant of a large number of highway BOT projects and with B.K.Chaturvedi Committee recommendations speeding up highway development. The central government has announced aggressive targets of developing 20 km of roads per day vis-a-vis the current rate of 4-5 km. The Company secured two BOT projects - Krishnagiri Walajahpet in Tamil Nadu and Gandhidham Samakhiali in Gujarat - construction of which will be undertaken by Infra OC.



*Successful test run of India's first monorail project in Mumbai.*



## Steel Plants (MMHW OC)

*Vizag Steel Plant - where L&T carried out engineering, procurement, manufacture, supply, construction and commissioning of the entire project. L&T is also involved in major projects in ferrous and non-ferrous metals, mineral beneficiation and coal washeries.*

### Rail Infrastructure Business

The Company's Railways Business Unit (RLBU) caters to emerging rail infrastructure projects in urban mass transport systems, railway rolling stock facility, railway sidings and dedicated freight corridor systems. With the opening up of rail sector to private participation and the growing need for urban mass transport systems, RLBU sees tremendous opportunities for turnkey projects. Accordingly it has built a strong engineering base at Faridabad

and is leveraging on the Company's construction and project management skills while executing the current two mega projects in the rail infrastructure sector.

### Metallurgical Material Handling and Water Operating Company (MMHW OC)

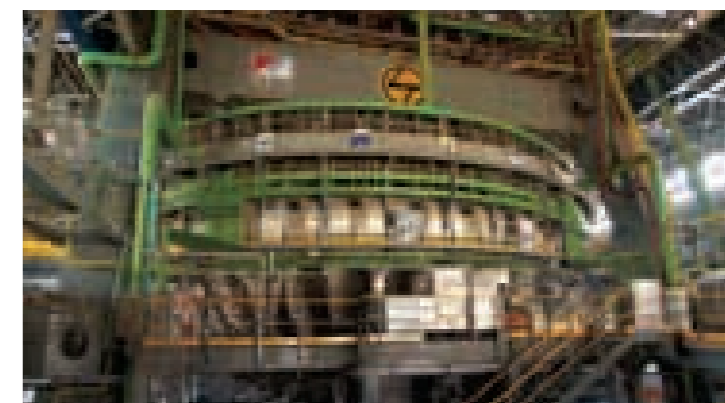
MMHW OC has sustained its growth and leadership position again during the financial year 2009-2010. The order book has increased significantly with major breakthrough orders received

from Tata Steel (coke oven and RMHS); Hindalco (coal-handling plant, pot shell and pot superstructure); BALCO (pot shells); UPRVUNL, Adani Power and NTPL (coal-handling plants); Bhushan Steel (RMHS packages); UP Jal Nigam (water and sewer projects); and BWSSB (water supply packages).

MMHW OC has proven its execution capabilities by successfully completing the projects ahead of time. MMHW OC is currently executing the largest pellet

plant for Tata Steel at Jamshedpur and concurrently executing a landmark eight coal handling plants. Its key success factors are high customer-retention, efficient project management and operational excellence.

High growth in the ferrous & non-ferrous area and the power sector and government commitment towards infrastructure spending are going to be the key drivers for the MMHW OC during 2010-2011. A healthy order book



*Blast furnace of Bhushan Steel plant, built by L&T.*



## Material Handling (MMHW OC)

*2730 cu.m.per hour capacity bucket-wheel excavator manufactured and supplied by L&T for the Mines II Expansion Project of Neyveli Lignite Corporation. L&T's product profile in this segment includes wagon loading systems, stockyard equipment and port-handling equipment and conveyor systems.*

gives MMHW OC visibility on the revenue growth for the year 2010-2011.

### Electrical & Gulf Projects Operating Company (E&GP OC)

The demand and supply gap in power drives the business growth of E&GP OC. "Power for all by 2012" is the mission statement of the National Electricity Policy, and 11th Power Plan creates ample power development opportunities in India. In addition technological developments help transmitting quality

power over long distances with minimum transmission losses. This has given a fillip to HT transmission line projects and RAPDRP projects in the country.

This OC is focussing on sub-stations, industrial electrification, transmission line projects and railway construction on the domestic front, and power transmission and distribution projects in Gulf countries.

E&GP OC has successfully completed /

commissioned various projects in India and the Gulf.

Securing repeat orders from clients like PGCIL, State Electricity Boards, RVNL, ADWEA in Abu Dhabi, OETC in Oman, DEWA in Dubai, and KAHRAMAA in Qatar, testifies to the OC's superior project execution capabilities and timely delivery. Breakthrough orders bagged during the year include construction of first-of-its-kind 1200 kV substation for PGCIL, EHV cabling packages in Delhi



*Giant bucket wheel excavator - part of L&T's capabilities in bulk material handling.*



## Water Systems (MMHW OC)

*Effluent treatment plant at Ankleshwar. Water constitutes a thrust area for L&T. Advanced technology is adopted by L&T for water/sewage treatment and distribution including desalination.*

for DTL, 765 kV substations for PGCIL & UPPCL, and two 800 kV HVDC TL for PGCIL. Gulf Projects include the first 400 kV OHL with Transco - 96km, three 33 kV S/S & cabling works for Abu Dhabi Ports Company, a breakthrough job in Qatar Petroleum - 132/11 kV S/S and associated cabling.

With the addition of the third bay in its Puducherry facilities, the installed capacity of the transmission line manufacturing facility has crossed

1,00,000 MT per annum. The OC has put up a Transmission Line Research & Testing Center (L&T TLRTC) in Kanchipuram to test the prototypes faster thereby bringing down the overall project duration. Gulf operations have also reported significant growth in revenues. The key success factor for E&GP OC continues to be superior project execution capability.

### Business Environment

The year 2009-2010 has been quite

challenging for the construction industry as a whole. The overall order inflow to the industry has come down by about one-fourth in comparison to the previous year. However, the Government's focus on Infrastructure is quite apparent and the initial delays in awarding of projects are considered to be more of a temporary phenomenon. Corroborating this, order inflows started showing steady improvement towards the end of 2009-2010.



*Desalination plants are part of L&T's capability spectrum.*





## Ports & Harbours (Infra OC)

*Dhamra Port on India's east coast is one of the most modern port complexes in the country, built on PPP model for accelerated turn-around of vessels. L&T carried out complete civil, electrical and mechanical construction for this port. Other maritime structures built by L&T include a port at Mundhra, a breakwater at Karwar and open-sea jetties at Karaikal and Ratnagiri.*

For the construction industry, the primary drivers of growth remain robust in many areas. The most important drivers are (a) infrastructure development; (b) core sector capacity enhancement; and (c) urbanization. These growth drivers are irreversible and are underpinned by India's domestic demand and the existing social and physical 'infrastructure deficit'.

The construction industry is by nature pro-cyclical. Even with the cyclical downturn in India, construction sector

grew by 6.5% in 2009-2010 on top of a growth of 5.9% in 2008-2009.

The Union Budget 2010 lays increasing emphasis on infrastructure development with huge budgetary allocation and increased focus on promoting the private-public-partnership route for financing of infrastructure projects. Therefore, the demand for infrastructure - especially in areas relating to urban infrastructure, power, roads & water - appears sustainable.

With the manufacturing sector rebounding, there is an increasing demand of ferrous and non-ferrous metals and chemicals. Capacity addition is thus again in focus. The construction industry, especially the larger firms, is set to gain from this. Power remains the cornerstone for social and economic development in a country like India. Thus, the strong focus on power would continue. Investment flow into this sector is less sensitive to economic fluctuations and forms a stable source of business.



*Material-handling systems at the Dhamra Port.*



## Transmission & Distribution (E&GP OC)

*400 kV switchyard at a power plant. L&T has excuted a host of such projects in India and the GCC countries. Capabilities cover design, survey, manufacture, supply, erection, testing and commissioning of switchyards and transmission lines for power grids and utilities.*

Though real estate in the Middle East has considerably slowed down, the planned investments in infrastructure and oil & gas are set to continue and therefore GCC would continue to offer good potential for the Division's international business particularly in power transmission & distribution and infrastructure.

The construction market shows a mixture of optimism and a few concerns. Owing to reduced demand, some sectors like realty (especially premium housing)

and capacity augmentation in a few manufacturing sectors are expected to move a bit slower. However, with increasing urbanisation, the housing sector will continue to present growing opportunities. Affordable mass-scale housing is one such opportunity to be harnessed.

As per the mid-term appraisal of the Eleventh Five Year Plan, the Government plans to rely more on private sector infrastructure investment as the

revised target for private investment contribution is 36% in Eleventh Plan as compared to 30% in original projections and 25% in Tenth Plan. The opportunities in different sectors / geographical locations implicitly offer tremendous market potential to all our business units.

### Significant Initiatives

The Engineering & Construction business has started witnessing the benefits of creating Operating Companies (OCs),



*400 kV tranmission line projects executed by L&T at Fujirah-Dhaid, UAE.*



## Solar Power (E&GP OC)

L&T has embarked on multiple initiatives in the field of renewable energy and in the development of solar photovoltaic power. Picture shows farm of solar panels at L&T's Engineering Design & Research Center in Chennai.

particularly in business development initiatives. The OCs have identified Business Development Managers to improve the market share in these difficult times. This initiative very much aligns with the vision of enhancing customer relationships by engaging with clients at the early stages of project proposals.

Focus on multi-skilling / job rotation will get renewed attention and the Division's initiative to train and retain workmen across India has been strengthened by

building training centers in all the regions.

### Outlook

All Business Units are engaged in developing the Strategic Plan for the next five years with clear focus on increasing the market share, improving competitiveness and expanding beyond presently operating geographies. Countries such as South Africa, Saudi Arabia, Qatar and Vietnam offer plenty of opportunities for many of the Division's businesses, and therefore the business

units concerned are carefully monitoring the developments in these countries and will pitch in at the appropriate time.

Overall, the outlook for the Engineering & Construction business remains good owing to robust order book and diversified business portfolio. The Government's commitment to revitalize the economic scenario through investment in infrastructure provides immense scope and opportunities to our business units.



L&T manufactures large telescopic windmill structures, aiding the exploration of alternative energy solutions.



## Switchgear - Low & Medium Voltage

L&T offers a broad range of electrical and electronic solutions. The product spectrum encompasses an array of low voltage switchgear and automation products, catering to the industrial and agricultural sectors as well as the segment of buildings and commercial complexes.

### Electrical & Electronics (EBG)

#### Overview

Electrical & Electronics Division (EBG) comprises Electrical and Automation Operating Company (EAOC) and stand alone business unit, Medical Equipment & Systems (MED).

The four Strategic Business Units under EAOC are Electrical Standard Products (ESP), Electrical Systems & Equipment

(ESE), Control & Automation (C&A) and

Metering & Protection Systems (MPS).

ESP and ESE have manufacturing facilities at Powai and Ahmednagar in Maharashtra. ESE also has a manufacturing facility in Coimbatore, Tamil Nadu. C&A operates from its Automation Campus at Navi Mumbai and MPS has its base at Mysore, Karnataka. MED operates from a new manufacturing facility in Mysore.

EBG has four subsidiary companies -

L&T Electricals Saudi Arabia (LTESA) based at Dammam, Saudi Arabia; L&T Electrical Automation Free Zone Enterprise (LTEAFZE) based at Jebel Ali, UAE; L&T Wuxi (LTW) at Wuxi, China and TAMCO Switchgear with manufacturing facilities in Malaysia, Indonesia, Australia and China.

The Division won many awards during 2009-2010 including the prestigious 'Sword of Honour' from the British Safety Council. ESP won the Golden



Medium voltage switchgear, made at L&T's TAMCO facility.



## Electrical Systems & Medical Equipment

*L&T offers custom-engineered switchboards equipped with both conventional and intelligent protection, control and communication systems.*

Peacock National Quality Award 2010, RamKrishna Bajaj National Quality Award 2009 and the best product prize for its U-Power Omega Air Circuit Breaker at ELECRAMA 2010.

### Significant Initiatives

The Division gave thrust to a pan-India advertisement campaign that was aimed at improving the visibility of its switchgear products. It signed a preferred integrator agreement with Toshiba Mitsubishi Electric Industrial Systems Corporations

for control system solutions in the metal sector and paper industry.

### Process Improvement

Business operations across the Division were integrated with SAP ECC 6.0 in 2009-2010 to achieve significant improvement in process capability.

Furthering the Division's Six-Sigma program, an initiative was taken to monitor and improve 'product sigma' for all the products in order to elevate the

quality of products. Going through the LEAN journey, it has focused on Value Stream Mapping (VSM) as well as Value Engineering (VE) that will help improve the bottom line.

### New Product Development

Development of new products and technologies continued to be top priority for the Division. ESP completed the development of U-Power Omega series Air Circuit Breakers in 2009-2010 which won the 'best product prize' award in



*Medical equipment manufactured by L&T meet international standards and carry the CE mark.*



## Automation Systems & Energy Meters

*Supervisory Control And Data Acquisition system designed, supplied and commissioned by L&T for Onshore Control Centers (OCCs) for offshore operations of Oil & Natural Gas Corporation. The system connects 133 wellhead platforms, 13 process complexes and nine drilling rigs to OCC.*

ELECRAMA 2010. Development of D-sine Moulded Case Circuit Breakers with new protection release was also completed. Development of new frames of changeover switch, complete range of MO contactors and new thermal overload relays, further enhanced the product basket.

ESE unveiled a new range of Low Voltage distribution board, T-ERA. It offers increased safety, reduced maintenance time and environment-friendly design.

MPS launched two new platforms for single-phase and four new platforms for poly-phase meters.

An Advance Traffic Management System (ATMS) along with its toll management system has been developed by C&A.

In 2009-2010, MED completely revamped its product basket, offering new products in the segments of patient monitoring system and surgical diathermy.

### Intellectual Property Rights (IPR)

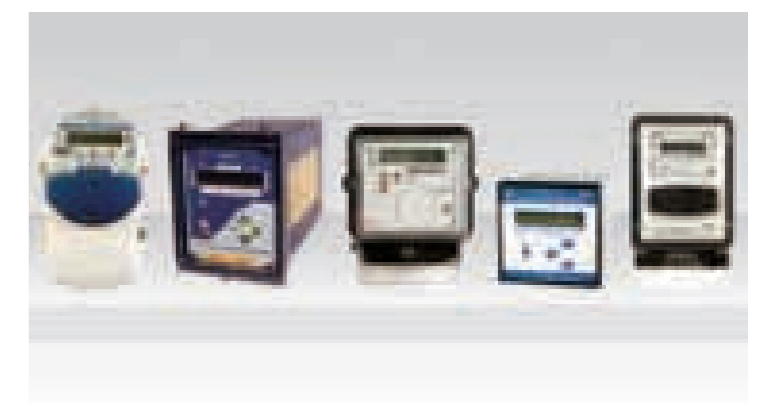
This Division has continued its commitment towards intellectual property. In 2009-2010, EBG filed 128 patents, 22 trademarks and 22 design registrations. 2009-2010 is the third consecutive year where the division filed more than 100 patents, taking total number of live patents to 560.

### Outlook

EBG is upbeat on the recovery of Indian economy and investments in

infrastructure and power sectors. It seeks to comprehensively address the industry, utility and building segments with its products and system solutions. On international business front, Gulf market is expected to show signs of recovery in 2010-2011.

The Division aims at expanding its products and service offerings in the domestic market, enhancing its capability to serve power sector and focusing on new geographies outside India.



*L&T's range of electronic energy meters and relays.*



## Industrial Products

*A section of the wide variety of industrial valves marketed by L&T. With manufacturing facilities in India and China, and a global marketing network, L&T offers flow control solutions to oil & gas, refining, petrochemical, thermal and nuclear power sectors worldwide.*

### Machinery and Industrial Products (MIPD)

L&T's Machinery and Industrial Products Division (MIPD) consists of Industrial Products & Machinery Operating Company (IPM OC) and Construction Machinery Business Sector (CMBS).

#### Industrial Products & Machinery (IPM OC)

IPM OC has two distinct business streams - Industrial Products and Industrial

Machinery. Industrial Products comprises Industrial Valves, Welding Products and Cutting Tools. Industrial Machinery consists of Machinery for Pulp & Paper, Crushing, Mining, Mineral Processing, Steel and Rubber & Plastic Processing Industries. IPM OC also contains the following Strategic Business Units and Joint Venture Units:

#### Industrial Products

##### Valves Business Unit (VBU)

This unit markets industrial valves and

allied products manufactured by Valves Manufacturing Unit (VMU), Audco India Limited (AIL) and Larsen & Toubro (Jiangsu) Valve Company Limited, China, besides a few Indian and overseas manufacturers. VBU is one of the few select suppliers for global oil majors.

AIL, a 50:50 JV with Flowserve Corporation, USA, manufactures a wide range of industrial valves at its three factories in south India. Larsen & Toubro (Jiangsu) Valve Company Limited, a 100%

owned subsidiary of LTIFZE, in Yancheng in Jiangsu province, China, manufactures industrial valves for global markets.

VMU's Coimbatore plant manufactures valves for the power sector, markets valves supplied through contract manufacturing in ranges not fully supported by AIL, and provides technology support for new product development.

#### Welding Products Business (WPB):

WPB markets products manufactured by



*L&T offers a range of advanced application-engineered Eutectic welding alloys, patented processes and systems that help to reclaim critical machine components.*



## Industrial Machinery

A 46" Hydraulic Tyre Curing Press (Tie-Rod design) for passenger car radial tyres. The machine is part of the wide range of rubber-processing machines manufactured by L&T.

EWAC Alloys Limited (a 50:50 joint venture of L&T and the Messer Eutectic + Castolin Group of Germany - market leader in R&M and welding), inverter-based welding machines from Fronius, Austria, oxy-fuel equipment from Messer, Germany, indigenously-developed MIG welding machines and inverter welding machines and provides comprehensive solutions in R&M of critical industrial components.

**Industrial Cutting Tools (INP) Business:** INP provides metal cutting solutions to

the domestic manufacturing industry covering automobile, engineering and machine tool segments through marketing of industrial cutting tools manufactured by ISCAR Limited, Israel.

### Foundry Business:

L&T's casting manufacturing unit at Coimbatore has an annual capacity of 30,000 tonnes to manufacture large-size SG iron and special iron castings for wind power and other engineering sectors. The Foundry has the capacity to produce

castings in the 3T to 28T range.

At its Kansbahal Plant in Odisha, L&T manufactures steel, alloy iron, SG iron and grey iron castings, as well as large wear- and abrasion-resistant castings for the power and cement sectors.

### Industrial Machinery:

#### Rourkela Campus:

L&T's Rourkela Campus, which includes its Kansbahal Plant, designs, manufactures and markets mineral crushing solutions

(e.g. limestone, coal), surface miners and specialised equipment for steel plants (such as torpedo ladle cars) and machinery for pulp & paper.

### LTM Business Unit (LTMBU):

LTMBU manufactures and markets Rubber Processing Machinery for the tyre industry worldwide. It has manufacturing facilities at Manapakkam, Chennai and Kancheepuram near Chennai.



Ace 250/630 - 1450 GenXt. L&T manufactures a range of plastics processing machines.





## Construction & Mining Equipment

L&T-Komatsu PC200-6 Hydraulic Excavator at a work site in Lavassa in western India. The PC200-6 is India's largest selling Hydraulic Excavator in the 20-ton class. L&T markets construction and mining equipment manufactured by L&T-Komatsu Limited as well as equipment supplied by Komatsu Limited, worldwide.

### L&T Plastics Machinery Limited (LTPML)

LTPML, located at Chembarambakkam in Tamil Nadu, manufactures and markets injection moulding machines and auxiliary units for the plastics industry. Its products are used in industries like automobile, electrical goods, packaging, personal care products, writing instruments & white goods.

### Product Development Center (PDC)

Based at Coimbatore, the PDC renders

engineering and product development support to all MIPD businesses.

### Construction Machinery Business Sector (CMBS)

CMBS markets and renders support for Construction & Mining Equipment. The sector comprises:

- Construction & Mining Business Unit (CMB) which markets equipment manufactured by L&T-Komatsu Limited, India and Komatsu's worldwide range, as well as Scania

Mining Tipper Trucks.

- L&T-Komatsu Limited (LTK), the 50:50 JV with Komatsu that manufactures Hydraulic Excavators and Hydraulic Components, distributed in India by CMB;
- L&T-Case Equipment Private Limited (LTCEPL), a 50:50 JV with CNH Global N.V., which manufactures and markets loader backhoes and vibratory compactors;
- Tractor Engineers Limited (TENGL),

a wholly-owned subsidiary, which manufactures and markets under-carriage systems for excavators and material-handling systems like apron conveyors, etc.

### Outlook

The Indian economy has shown consistent growth and remarkable resilience after the slump in 2008-2009 and early 2009-2010. India's power and infrastructure sectors are set to witness strong growth in the coming year with



Scania Tipper Truck Model P380 at an excavation site. These multi-axle trucks manufactured by the Swedish heavy vehicle major are distributed in India by L&T.



## Earthmoving & Road-building Equipment

*L&T-CASE 770 loader-backhoe is widely used in infrastructure development projects. The machines incorporate improved kinematics and high-powered hydraulics.*

a boost from policy measures and budgetary allocations.

India is emerging as the world's refining hub, with capacity additions planned. The valves business has promising medium-term prospects due to the government's focus on exploration and production to meet India's growing energy needs through NELP, discoveries natural gas on the East Coast and oil in Rajasthan and Gulf of Cambay and cross-country pipeline plans.

Demand for machinery from mineral processing industries is expected to grow in 2010-2011 backed by huge infrastructure requirements.

The outlook for windmill castings is positive, driven by demand and backed by readiness of L&T's world-class foundry facility in Coimbatore.

Global tyre manufacturing facilities are moving more towards Asia due to lower manufacturing costs.

The demand for construction equipment is expected to improve due to the increase in spending on urban infrastructure and general construction. The gap between demand and supply of coal provides growing opportunities for mining equipment.

Overall, the Division envisages improvement in industrial trends in the coming year and a return to better growth trends in the second half of the year.



*L&T-CASE Vibratory Compactor model 1107 - part of the range of field-proven machines.*



## Information Technology

*L&T Infotech - a subsidiary of L&T - leverages the domain knowledge of the parent company to offer end-to-end software solutions and services to clients across the globe.*

### LARSEN & TOUBRO INFOTECH LIMITED (L&T Infotech)

L&T Infotech, a wholly owned subsidiary of L&T, is a global IT services and solutions provider to various industries. The Company offers its comprehensive, end-to-end software solutions and services in industry verticals like banking & financial services, insurance, energy & petrochemicals, manufacturing and product engineering services (Telecom). The Company's key

service areas are application maintenance & development, application outsourcing, legacy modernization, package implementations in SAP/Oracle, infrastructure management services and specialized services like data warehousing and business intelligence. These have been augmented by newer offerings like testing services, consulting services, business analytics and system integration.

In the wake of global recessionary condition, some large clients have had

to curtail their discretionary IT spend. However, with increased focus on building better offsite ratio and taking adequate financial risk mitigation measures, L&T Infotech was able to improve operating margin during 2009-2010.

L&T Infotech has achieved total revenues of Rs.18117 million during the year 2009-2010 compared to Rs.17986 million (on a comparable basis excluding revenues from engineering services achieved last

year, registering an increase of 1%. On a consolidated basis including subsidiaries in Canada, Germany and GDA Technologies Inc., the total income stood at Rs.19150 million in 2009-2010.

Profit after Tax at Rs.2811 million grew by 6% as compared to 2008-2009.



*Headquarters of L&T Infotech at Mumbai.*



## Integrated Engineering Services

*Knowledge City at Baroda houses several engineering centers. L&T provides integrated design engineering facilities for process engineering, products development, mechanical design and analysis, process evaluation and technology adaptation.*

Integrated Engineering Services has over 3,000 employees delivering high-quality engineering and design solutions. The end-to-end services portfolio comprises product design, analysis, prototyping & testing, embedded system design, production engineering, plant engineering, buildings & factories design, asset information management & sourcing support using cutting-edge CAD/CAM/CAE technology in the engineering domains of Automotive, Aerospace, Off-highway Machinery, Railway, Industrial

Products, Consumer Electronics, Medical Devices, Consumer Packaged Goods, Pharmaceuticals, Minerals & Metals, Oil & Gas and Utilities. With an increase in the volume of work and a challenging business environment, IES is keeping ahead of the competition by leveraging the rich engineering heritage of L&T.

### Significant initiatives

- A Center of Excellence (CoE) of Aerospace has been set up at Bangalore in which about 70+

engineers from Mechanical and Avionics domains have come together to set up a one-stop shop for aerospace clients.

- IES has realigned its mechanical engineering and embedded systems engineering services in line with the industry domains, known as Vertical Business Units. VBU ensures that a customer from its domain gets all its engineering services needs met from a single window.

- The Sales force has been organised geographically with special emphasis on North America, Europe, Asia Pacific, Middle East and Africa.

Through these and other actions, IES continues to reaffirm its commitment to customer satisfaction and its desire to propel itself on the fast track to growth.



*L&T IES draws engineering talent from India's premier academic institutions.*



## Infrastructure Financing

*The Baroda-Bharuch Highway built by L&T on a BOO basis. Development projects executed by L&T in the Public-Private partnership model include highways, ports, hydroelectric projects and thermal power plants.*

### FINANCIAL SERVICES

#### L&T Capital Holdings Limited (L&TCHL)

##### Overview

L&TCHL, a wholly owned subsidiary of L&T, consolidates L&T's investments in financial services and gives a distinct identity to the business segment. L&T CHL is the holding company for L&T's investments in non-banking financial companies, mutual funds and a few other

strategic investments in the sector. It is registered with the Reserve Bank of India as a non-banking financial company.

##### Operations & Performance

The Company's investments in its subsidiaries and strategic investments increased from Rs.10765 million as at March 31, 2009 to Rs.16293 million as at March 31, 2010. During the year, the Company has reported dividend income of Rs.51 million and Profit after Tax of Rs.28 million.

#### L&T Finance Limited (LTF)

##### Overview

LTF, a wholly owned subsidiary of L&T Capital Holdings Limited, is a diversified non-banking financial company with product offerings catering to diverse segments of the corporate and retail sectors. LTF has a growing presence in microfinance and is also engaged in the distribution of various financial products.



*Bridge over the Narmada - built by L&T on a Build-Own-Operate basis.*

With its pan-India presence backed by a robust credit appraisal, operational and credit delivery model, LTF is well equipped to cater to customers across the country.

#### Operations & Performance

LTF recorded significantly improved performance during the financial year 2009-2010, in comparison to the preceding financial year. This was facilitated by the growth in India's economy, increased investment in infrastructure and higher rural incomes. The positive environment for raising resources was also a contributor to the improved performance. The highlights of the Company's financial performance are as below:

- Total assets grew to Rs.75672 million on March 31, 2010 from Rs.53274 million on March 31, 2009;
- Total income grew to Rs.9657 million in 2009-2010 vis-a-vis Rs.8303 million in 2008-2009;
- Profit After Tax grew to Rs.1565 million in 2009-2010 vis-à-vis Rs.988 million in 2008-2009.

#### Outlook

With India's economic growth likely to gain further momentum in financial year 2010-2011 and with the Government's continued thrust on infrastructure, credit growth off-take is expected to be robust. Growth of the agricultural sector will lead to higher disposable rural incomes which, in turn, would offer continued demand for rural credit. However, continued inflationary pressures may lead to monetary tightening, leading to higher interest rates and pressure on net interest margin.

### L&T Infrastructure Finance Company Limited (LTIFCL)

#### Overview

LTIFCL, a wholly owned subsidiary of L&T Capital Holdings Limited is a non-banking finance company focused on financing of infrastructure projects, covering various sectors. LTIFCL leverages L&T's domain knowledge in the engineering and construction fields to provide infrastructure financing solutions through a mix of debt, sub-debt, quasi-equity and equity participation. It also offers project advisory and loan syndication services.

#### Operations & Performance

LTIFCL recorded improved performance during 2009-2010, on the strength of the growth momentum of the Indian economy and investment flow into infrastructure projects, supported by a positive environment for resource raising. The highlights of its financial performance are as below:

- Total assets grew from Rs.23978 million on March 31, 2009

to Rs.42493 million on March 31, 2010.

- Total income grew from Rs.2960 million in 2008-2009 to Rs.4504 million in 2009-2010.
- Profit After Tax (PAT) grew from Rs.765 million in 2008-2009 to Rs.1109 million in 2009-2010.

#### Outlook

The increased focus on infrastructure investment through the public private partnership model on the back of strong economic fundamentals would provide the required growth impetus to LTIFCL. Notwithstanding the increasing competition, LTIFCL, with its ability to offer timely and appropriate solutions to the customer, is positive about its growth outlook. While inflationary trends may lead to tightening of credit and money supply, it is expected that the demand for infrastructure and the Government's focus on the sector would provide the required drivers for continued growth.

### L&T Capital Company Limited (LTCCL)

#### Overview

LTCCL, a fully owned subsidiary of L&T, is a portfolio manager registered with the Securities and Exchange Board of India, with over Rs.16500 million under its fund management. It is also a mutual fund distributor / advisor. LTCCL holds and monitors a significant portion of the L&T Group's strategic investments.

#### Operations & Performance

Mutual fund markets were buoyant in 2009-2010. Major stock market indices and net asset values of most equity mutual funds improved. The improved capital market had its positive impact on LTCCL's income and profits.

During 2009-2010, the company's gross income clocked at Rs.201 million, registering a jump of 215% over 2008-2009. The Profit After Tax was significantly higher at Rs.137 million, an increase of 292% over 2008-2009. The company declared an interim dividend of Rs. 4 per share during the year.

## Commitment to Corporate Sustainability

Corporate Sustainability at L&T is not prescriptive but participative - it is not a set of rules that have been laid down by the management but rather a responsibility that is shared by all. The concepts of reducing waste, protecting the environment and contributing to social good therefore find ready champions across the company.

Building on our long record of fostering development with a human conscience, we have adopted policies and implemented measures that put us at the vanguard of the sustainability movement within Indian industry.

We were among the first corporates to codify policies covering human resources, environment, health and safety. We maintain the highest standards of corporate ethics, with a transparent governance structure, and we contribute significantly to the sustainable growth of our neighbouring communities.

We proactively follow the voluntary guidelines on corporate social responsibility issued by the Ministry of Corporate Affairs in December 2009. In fact, L&T was one of the first engineering & construction companies in India to report on Corporate Sustainability performance. L&T's full Corporate Sustainability Report can be viewed on [www.larsentoubro.com](http://www.larsentoubro.com)

#### Employee Engagement

Our HR programme covers every aspect of an employee's engagement with the company. Opportunities are created to widen their horizons in many ways. Cross-over careers give people the chance to enrich different operational areas with their experience and expertise. Continuous in-house training opportunities - both classroom and online - keep them abreast of the latest trends in their sphere of operation as well as impart the soft skills so crucial for accomplishing goals in a socially complex environment. Occupational health and safety continues to receive focus.

#### Corporate Wellness

L&T's efforts in promoting workplace wellness and the sustainable enhancement of health and safety standards have received peer recognition. The Confederation of Indian Industry has honoured L&T with its prestigious Corporate Wellness Award for best health practices.

Care extends beyond careers. L&T encourages all-round growth of its people as well as their families. Personality development is enhanced through classes ranging from transactional analysis to interpersonal relationships. An engineering institute has been set up exclusively for the children of employees.

#### Social Initiatives

Working closely with community leaders and local NGOs to assess pressing community needs, we undertake long-term programmes in health, education and vocational training.



Health measures include immunization, mother and child care, periodic health camps, and HIV/AIDS prevention. Educational and vocational programmes focus on building self-sustenance and minimizing dependence. We also minimize adverse social impacts at project sites. Through the L&T Charitable Trust, we reach out to rural communities at remote locations.

#### Vocational Training

It is accepted that rapid economic growth will expand job opportunities for India's youth. But in our view, this alone is unlikely to resolve the problems facing the country's growing population. To remedy this calls for solutions of a different kind. We on our part have done our bit by initiating and facilitating the training of youth. We chose the less privileged as our core target group. (The paradox of circumstances making the rich richer and the poor poorer applies to education as well: the qualified seek and secure super specialized training while the unqualified find themselves pushed further behind in the race). We see the vocational training imparted by the Larsen & Toubro Charitable Trust and our role in several Construction Skills Training Institutes (CSTI) as critical in helping society and in sustaining industry.

#### Industry vis a vis the Environment

At L&T, we do not regard the earth and industry in adversarial roles. Indeed, our whole concept of sustainability is built upon the premise that an industry which is responsible and conscientious can answer the energy intensive needs of growth without compromising the earth or its future.

We are committed to incorporating eco-efficiency into the core of our business operations. We are also proactively monitoring how our operations interact with the environment

THRUST AREAS	ACTIVITIES
Education	Constructing schools and classrooms, providing teaching aids, conducting enrichment activities, setting up computer and science laboratories and supporting pre-school centres. Establishing vocational training institutes.
Employee volunteering	Initiatives include blood donation, rallying support during natural calamities, fund-raising, imparting knowledge to youth.
Mother & child health	Conducting health check-up camps in collaboration with other organizations for women and children, setting up health centres focusing on reproductive health for the underprivileged sections, camps on cataract, anemia, health awareness, malnutrition mitigation, etc.

and intervene wherever it is required to implement measures that reduce or mitigate any potential adverse impacts.

This year we have looked at ways to:

- Minimise energy consumption
- Follow lean manufacturing practices
- Design for minimizing waste
- Conserve water resources
- Propagate 'Green Buildings'

#### The Environment - a hot button issue

Every aspect of environmental protection receives close and continuing attention:

#### Carbon Footprint mapping

L&T carried out carbon footprint mapping of its facilities, caused by direct, indirect and travel emissions.

#### Energy Consumption

In 2009, direct energy consumption was reduced by 11.75 per cent. Indirect energy consumption was reduced by 10.98 per cent.

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*'A watt saved is 3 watts generated'*

At L&T, we recognise that small steps go a long way in conserving energy. We are therefore promoting an energy conscious culture among all employees.

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#### Renewable Energy

Around 13 per cent of L&T's electricity requirement is sourced through wind energy. Solar energy is being tapped at campuses in Powai, Hazira and Mahape.

#### Emissions

L&T has achieved a decline in the emission of Green House Gases on indirect emission by 16.15 per cent and in direct emission by 7.25 per cent.

#### Water Management

Virtually every water outlet across L&T's campuses - coolers, water fountains, washrooms and basins - carry graphic messages urging minimal usage. The results have been encouraging. The company has set for itself a target of reducing per capita water consumption by 10 per cent. All L&T campuses are targeting a zero discharge goal .

#### Material Efficiency

We are working with our suppliers and contractors to achieve a greener footprint and minimize the chances of accidental waste. The concept of 'Reuse, Recycle, Recover' is being communicated to all our constituents.

ENERGY CONSERVATION INITIATIVES	
Initiatives/Interventions	Total Energy Conserved during FY 2008-2009(GJ)
Process redesign	3,328
Optimisation / operational control & efficiency	6,869
Conversion and retrofitting of equipment	6,682
Change to CFL lamps	396
Change in maintenance / operation schedule	151
Rationalisation of lighting patterns	3,051
Others	56



*L&T's Management Development Center is in rapid expansion mode - to keep pace with the growth of the Company and the challenges thrown up by the emerging business environment.*

