

Future ready.

Annual Report 2016.



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Chairman's message.



Dear Shareholders,

The year gone by has been another year of global upheavals with the Brexit vote, the US elections and geopolitical tensions in different parts of the world, all contributing to uncertainty in the global economy. The major economies of the world have, therefore, witnessed weak growth, feeble investment, low commodity prices and sluggish demand in industries. Unfortunately, the situation is likely to remain uncertain and volatile in the foreseeable future. Against this backdrop, the Indian economy offered some hope as it emerged as one of the fastest growing economies in the world during 2016. Despite an uncertain global environment, I am hopeful that the Indian economy will continue to offer opportunities for growth in the medium to long term led by domestic demand.

During the year 2016, your Company's strategy of focusing on its customers, generating opportunities for growth and following stringent operational discipline enabled it to achieve a satisfactory operating performance. The Company achieved its highest ever turnover during the year as the gross revenue from operations amounted to Rs.19910.94 million as compared to Rs.17023.47 million in 2015, recording a growth of about 17%. While the revenues of the Gases business recorded growth of around 14% over 2015, the revenues of the Project Engineering businesses grew by around 44% over that of the previous year.

The growth in the gases revenues of your Company was mainly driven by earnings

from our newly commissioned 2X1200 tpd air separation (ASU) plants at Kalinganagar and the ramp up of other plants commissioned in recent years. The Onsite business, which accounts for a substantial part of the Gases business, recorded a growth of 12% over 2015. Merchant and Packaged Gases revenues comprising bulk and packaged gases including special products recorded a robust growth of 18% over 2015. While the merchant revenues in bulk was largely driven by opportunity demand from steel sector, growth in shielding gases in automotive industries, welding gas mixtures and special products contributed to higher revenues in Packaged Gases. Healthcare revenues grew 11% over 2015. The Project Engineering Division (PED) achieved higher revenues of Rs.2741.62 million over 1903.65 million in 2015, on the back of execution of several new third party projects. The Division also secured new orders worth Rs. 3413 million from third party projects during 2016.

Although the operating profits of the Company increased from Rs.2614.64 million in 2015 to Rs.3186.15 million in 2016, the increase in EBITDA margins during 2016 has been marginal. Therefore, stringent cost reduction in operations and productivity enhancements are key focus area for your company. With the commissioning of new plants, your company continues to feel the pressure of depreciation and interest costs. The depreciation charge for the year increased to Rs. 1988.73 million as compared to Rs. 1615.25 million in 2015. Similarly, the finance cost during the year

under review also increased to Rs. 1146.33 million due to higher burden of borrowings.

The business environment in the future is likely to remain dynamic and challenging. This makes it imperative for your Company to be 'future ready' to meet the challenges in its core focus areas such as distribution, customers, people and safety. Your company is actively leveraging technology and innovation as an enabler for future growth, market leadership and continued success.

Your Company continues to leverage newer applications-led technology to penetrate new markets and increase demand for gases. Your Company is also working on technology to derive benefits of digitisation towards improving customer experience and automate business processes. Some of these initiative include SMS notifications about order and expected delivery status to PGP customers, capturing of customer feedback in Customer Service Centre through automated IVR system, bar-coding of cylinders, etc. At Linde India, people are key to our continued success and our HR strategy is geared to meet the needs and aspirations of a future ready organisation. We have been continuously focusing on our talent management and organisational development systems to attain excellence in this area.

As a good corporate citizen, your Company endeavours to partner communities in which we live and operate. In 2016, our Corporate Social Responsibility programme reached out to a wide section of the community across several parts of our footprint in the country, both directly and in association with the implementing agencies.

Looking ahead, the state of future readiness at Linde India will ensure that we are well prepared to meet the challenges of tomorrow and continue to create wealth for all its stakeholders.

Warm regards,

Sanjiv Lamba
Chairman

Linde India: Future ready.

Operating in an environment characterised by volatility, uncertainty, complexity and ambiguity (VUCA), businesses that thrive in the long term are those that successfully read tomorrow's demands today and equip themselves accordingly. At Linde India, we do so through a sustained focus on plants, technology, systems, distribution and people.



The road to future is characterised by VUCA

Future ready plant: Kalinganagar ASUs.

The operational highlight for Linde India in 2016 was the commissioning of two large state-of-the-art air separation units (ASUs), built by Linde India for Tata Steel Limited and located at the latter's integrated steel complex at Kalinganagar in Jajpur District of Odisha.

This Linde ASU plant supplies gaseous oxygen, nitrogen and argon to Tata Steel. The plant also produces liquefied gases for the local merchant market.

Located at a distance of just over 100 Kms from the state capital of Bhubaneswar, Jajpur is often referred to as the emerging new "steel city" of India and is home to nearly 15 steel production units.

The Kalinganagar ASUs involved an investment of around EUR 80 m. The first of the two ASUs was commissioned on 28 February 2016 with the second unit coming online on 31 March 2016. Linde India has a long-term gas supply contract with Tata Steel Limited, a relationship that stretches back decades to Tata Steel's first ever integrated steel complex in Jamshedpur in neighbouring Jharkhand.

With Tata Steel recently announcing plans to expand capacity at Kalinganagar from its current three metric tonnes per annum (mtpa) to a planned eight and a planned local network of pipelines to supply other steelworks in the area, the Linde Kalinganagar ASUs are prepared for future growth.



Linde India Kalinganagar ASUs

Future ready plant: Kalinganagar ASUs.

Kalinganagar: one plant, many firsts.

- First Linde India plant to supply compressed dry air to customer
- First plant in India with specially designed containers instead of civil buildings to accommodate all electrical switch gears and panels
- First Linde site in India to have SALSA Systems implemented for tanker filling purpose
- First Linde site in India with Gas Insulation Substation (GIS) supplying incoming power to ASUs

How ASUs work.

A Main Air Compressor (MAC) feeds air to downstream warm end equipment comprising of Direct Contact Air Cooler, Evaporation Cooler and Molecular Sieve Adsorber. A Direct Contact Air Cooler cools the hot air from MAC while the Molecular Sieve Adsorber removes water, carbon dioxide and hydrocarbon, from the feed air to make it "Bone Dry" feed air. A part of this air gets into Cold End. Other part gets further compressed by the Booster Air Compressor (BAC) and, thereafter, gets expanded in the Expansion Turbine to produce "Cold". In turn, the generators coupled with respective turbines also produce some power.

The Cold End Equipment comprising cryogenic equipment i.e., High Pressure Column, Low Pressure Column, Argon Column, Main Heat Exchanger, Expansion Turbines and Cryogenic Pumps are housed in a vertical steel structure box, popularly termed as "Cold Box" in the Air Separation Industry. The Cold Box is filled with insulation material to avoid cold loss.

The feed gets Cold in Main Exchanger and enters at lower part of High Pressure Column where it gets liquefied. This liquid air is further distilled in High Pressure / Low Pressure Columns and Argon Column to produce the Industrial Gases in Liquid Form – Liquid Oxygen

(LOx), Liquid Nitrogen (LIN) and Liquid Argon (LAr). Part of the liquid product is pumped using Internal Compression (IC) Pumps through the Main Heat Exchanger where it gets converted into respective gaseous products. This, in turn, cools down the incoming feed air. Other parts of liquid products pass to respective Storage Tanks where these are stored in liquid form.

A Back-up System comprising of high capacity High Pressure LOx / LIN Pumps and Steam Bath Vaporizers ensure continuity of product supply, in case of plant outage, using the product kept stored in respective Storage Tanks.

Future ready systems: Remote Operating Centres (ROCs).

In a future-ready world, technology helps overcome physical and national boundaries to ensure control and efficiency in large businesses with production locations spread across countries and regions. At Linde, this is not a concept for the future but a reality already.

Around the world and closer home in Asia Pacific, Linde Remote Operating Centres (ROCs) maintain unyielding control over the company's production units that are spread across countries and continents.

Deep inside the high-technology Linde ROC in Hicom, Malaysia, is an Indian 'corner', of sorts. Of the seven 'stations' that manage more than 70 Linde plants across 10 countries, Stations Four and Five are mostly dedicated to the Linde India plants, including the Kalinganagar ASUs.

Combining cutting edge technological tools with highly-trained human resources, the

ROCs in Asia Pacific and elsewhere in the world operate round the clock to ensure Linde plants function with clockwork precision and efficiency throughout the year.

Accelerated know-how transfer, uniform work processes and rapid alignment with customer needs have enabled Linde ROCs to raise efficiency and safety levels at the plants it manages. Efficiency gains also translate into optimum energy consumption which is a key parameter of success for air separation units.

Centralised control through the ROCs has allowed Linde to bundle exceptional depth and breadth of expertise at a single location.

Each Linde ROC is a centre of process excellence with full board of operations and performance engineers for industrial gases products. It performs the role of a control centre, operated by a team of skilled engineers, that keeps a close eye on plant condition.

This team reviews and analyses plant efficiency and performance to ensure that best operating practices are achieved on all production assets. This, in turn, enables the existing Linde Gas team based at the production facility to focus on safety and reliability with operational backup support.



An engineer at work in a Linde ROC

Future ready products: Linde Integrated Valve (LIV™).

LIV™ is a new package for medical oxygen that comes in a lightweight aluminum cylinder with a state-of-the-art Linde Integrated Valve (LIV™), and is manufactured strictly according to Indian Pharmacopeia standards. Weighing under 6 Kgs, LIV™ is the lightest medical oxygen cylinder available in India, for its capacity.

In May 2016, Linde India launched the Linde Integrated Valve (LIV™), a lightweight, ready-to-use mobile gas solution with an integrated valve that regulates the pressure. It is designed to help medical staff work more effectively. Because there is no change of regulators and no setup or handling of high filling pressure, there is no interruption to patient care. Pressure is precisely released and controlled.

LIV™ is a new package for medical oxygen that comes in a light-weight aluminium cylinder with a state-of-the-art Linde Integrated Valve (LIV™), and is manufactured strictly according to Indian Pharmacopeia standards.

Weighing under 6 kg, LIV™ is the lightest medical oxygen cylinder available in India. It is ergonomically designed with two handles for easy lifting and carrying, and for mounting onto a hospital bed hanger. These features make LIV™ highly mobile and an ideal solution for continuous oxygen therapy both at the hospital and at home. For patients who have been prescribed oxygen therapy, this is critical as the therapy needs to be continued at all times, including during transportation to the hospital or between departments at the hospital.

Another innovative feature is the LIV™ with the built-in gas regulator which enables a

caregiver to dispense oxygen to the patient safely and with ease. With the integrated valve, the caregiver no longer needs to attach separate equipment such as a wrench and a regulator (to regulate the flow of the oxygen) that are required to dispense medical oxygen in the case of traditional steel cylinders. The LIV™ has an active gauge which shows the content of gas in the cylinder at all times. This eliminates any ambiguity on how much oxygen remains in the cylinder and enables the caregiver to dispense the right amount of oxygen to the patient with confidence.

The unique LIV™ has a gas flow selector with 12 flow positions. The flow rate can be pre-set and is clearly displayed, allowing the caregiver to dispense the oxygen with just a twist of the knob.

LIV™ is also MRI (magnetic resonance imaging) conditional and can be placed as close as 30 cm to the opening of a 3.0 Tesla magnet without posing any known hazards to the patient. LIV™ is manufactured according to Indian Pharmacopeia, 2014 standards. The entire supply chain – from production, quality control, packaging, storing and distribution – complies rigorously with the Drugs and Cosmetics Acts, 1940 and Rules, 1945 standards, ensuring gas quality and reliability, and patient safety. To ensure strict product quality control and safety, Linde has dedicated LIV™ filling stations at its production plant, as well as special storage facility. Another safety feature is its anti-rollover mechanism keeping it stable even when accidentally tipped over.

In India, LIV™ is currently available to institutional customers.



Linde Integrated Valve (LIV™): Lightweight and easy to use

Future ready safety.

Safety is the corner stone of all that we do at the Linde Group. Safety is one of the guiding principles of the Linde Spirit, which delineates the very core culture of the organisation.

At Linde, our aim is to avoid causing any harm to people or the environment. We continually strive to improve the quality and safety of our products and services. The occupational health and safety of our employees and environmental protection in general are of primary importance to us. Our global, integrated management system helps us achieve these goals by embedding health and safety into our daily operations.

Major Hazards Review Programme (MHRP)

At Linde, we systematically identify potential risks at our workplace. The Major Hazards Review Programme (MHRP), which is a process for identifying and assessing large-scale site hazards that may pose risks to our employees or the off-site public, continue to be a high focus area with all major operational sites accredited with relevant MHRP certificates.

Process Safety

Globally and at Linde India, a set of cutting edge technology tools and systems have been deployed to maintain world class levels of process safety that are second to none. Global Data Management System. The lists of Safety Critical Instruments for ASUs, CO² and Hydrogen plants and scheduling/ tracking/ records are kept in the Maintenance Management System. This allows ease of access to relevant documents of any plant across the world, internally within Linde.

Operations Safety

At Linde India, we are committed to ensuring that our operations are aligned to the high standards of The Linde Group. To identify the different kind of risks and evaluate the existing system in line with Linde standards, comprehensive audits based on the risk ratings are planned and executed on an annual basis. Accordingly process safety audits, engineering

audits, electrical audits, transport safety audits and MHRP assessments are carried out to identify non-compliance to standards and procedures. This helps avoid risk factors that may arise out of such cases of non-compliance. The objective is to complete all corrective actions on time and eliminate overdue actions, which is a key SHEQ KPI.

No-permit-no-work is the norm at all Linde India operations sites. All hazardous job are carried out under stringent permit to work control system, only after thorough risk assessment, job safety analysis and ensuring all risks are adequately mitigated. Both the permit issuer and acceptor are duly trained and authorised to carry out such work.

Transport Safety

Our transport safety management system covers driver risk categorisation, installation of tracking systems on all vehicles, 24x7 fleet control room for vehicle and driver monitoring, route and site risk analysis, and modern driver rest rooms at location for drivers.

At Linde India, we have installed state-of-the art digital video recording systems in all our tankers and cylinder trucks. This is a DVR-cum-GPS device with four channels video input and higher storage capacity. Additional features include driver identification with IC cards for driver-wise driving hour identification, live video streaming in 3G environment and separate storage facility on SD cards for exceptional event-based video.

Construction Safety

At Linde India, we carry out large scale complex engineering projects. During the construction phase of such projects, as many as 25 leading indicators are implemented to achieve a ZERO accident posture. The HSE procedures of Linde Engineering are followed at our project sites. Continuous training, motivational activities, audits and reviews

are carried out. Special training on different hazardous scenarios such working at height, lifting, and confined space are executed during the construction phase. To establish best practice, a Behavioral Safety Programme named "Be Safe", has been launched at key sites. Engineers actively participate in tool box talk, site safety walk, observation on unsafe act condition and proactive engagement with workers.

Quality and Environmental Management

Conservation of water is an important element of Linde's commitment to environment protection. A number of initiatives involving rain water harvesting and water recycling have been initiated across India. With an eye on energy efficiency and reduced consumption, an intensive programme to replace existing CFL light fittings with LED counterparts is under progress across sites in India.

All Linde India ASU sites have received ISO 9001 and ISO14001 certification. In 2016, the Hyderabad and Bellary sites have obtained the certifications to the latest 2015 standards for Integrated Management Systems, ISO 9001:2015 and Environment Management Systems ISO14001:2015. The key Linde India sites have also been externally benchmarked through OHSAS 18001 certification.

New Product Introduction (NPI)

Linde has a well-entrenched process that enables Special Product and Chemicals Business Units to ensure that before new products reach the market, the organisation is well aware about the products' usage and applications. It ensures that such new offering meet all applicable product legislation and Linde's internal standards and new product introduction is carried out as a part of product stewardship.

Future ready people.

At Linde India, we are proud of our people. We attract and retain exceptionally talented people to work in our organisation. Our growth as a company is determined by our ambition to become the leading gases and engineering group, admired for its people.

During the year, Linde India has made significant progress in creating a talent ready business. Based on the findings of an employee engagement survey, the organisation has provided enhanced growth and development opportunities for its employees while boosting engagement levels at the same time. This has been achieved through a robust Performance Management System (PMS), an intensive high potential talent development plan and better succession planning. Consequently, there has been a significantly higher level of internal talent movement across functions and regions with team members stepping up to new roles.

The Linde India Accelerated Competency Enhancement (ACE) programme provides

a unique development opportunity to employees with the potential to take on senior leadership roles. The ACE programme is conducted in association with the Indian Institute of Management, Calcutta (IIM-C). ACE is facilitated by the IIM faculty and participants attend the management development sessions at the IIM-C Campus. ACE has adopted a blended learning approach comprising face-to-face sessions, e-learning modules and business critical projects. The participants first go through a development centre (DC) as they embark on the programme. The results of this DC are then shared with the participants using a one-on-one counselling model. The actual learning sessions consist of training interventions and project work.

Linde India has a strong focus on fostering robust diversity and inclusivity policies and practices within the organisation. In 2016, the company was recognised as one of the Top 100 Companies in the Working Mother and AVTAR - Best Companies for Women in India survey. This initiative was launched by leading diversity advocate and workplace inclusion expert, AVTAR, in collaboration with Working Mother Media, a celebrated gender-parity champion in the United States. The objective of this study was to identify, share, showcase and celebrate best practices in career advancement for women.



Linde India Kalinganagar ASU Team