

# Innovating for Customers.

Annual Report 2017.



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# Chairman's message.



Dear Shareholders,

The year 2017 has been a successful year for all of us at Linde India. I am delighted to share with you that your Company has achieved robust profitable growth in the Gases Division, led by our on-site, bulk, packaged gases and special products businesses. This has been made possible by higher loading of the major on-site plants at Jamshedpur, Bellary and Rourkela driven by an all-time high steel production in India and robust growth in merchant and packaged gases led by higher volumes of argon, specialty and electronic gases. The Project Engineering Division also achieved a robust growth in revenues as compared to 2016. It is this strong all-round commercial performance that has propelled your Company to achieve Rs. 21,150 million in revenues from operations on a standalone basis. We ended the year with profit after tax of Rs. 244 million before exceptional items.

A key driver behind our positive performance in India has been our sharp focus on innovating for our customers. Innovation has long been part of our organisation's DNA and an important competitive differentiator. In the highly competitive, cost sensitive and fragmented Indian marketplace, your Company stands out with its cutting-edge innovation through research and development. Our technology-based solutions focus on solving

the real-world problems of our customers and help deliver improvements in terms of efficiency, productivity and cost.

A few years ago, your Company embarked on a journey of developing focused, industry-specific applications, when we invested in setting up the Linde India Technology Centre at Pune. Our solutions draw from the suite of gases applications technologies available within The Linde Group portfolio, which range from shielding gases that deliver faster and better welds at automobile factories to REBOX®, an oxygen enrichment and oxyfuel system that delivers efficiencies and cost savings in steel plant furnaces. On the healthcare side, it includes ENTONOX®, a mixture of nitrous oxide and oxygen that helps ease childbirth pain during normal deliveries. We harness the versatility of liquid nitrogen (LIN) to deliver a wide range of solutions for our customers, from cryogenic grinding for spice mills to concrete cooling in cement plants and LIN-dosing of packaged water bottles.

Our LIN-based applications portfolio received a significant boost in 2017 when we completed construction of Linde's first Food Lab and Training Centre in South Asia, near Vijayawada in Andhra Pradesh. Equipped with Linde's patented cryogenic freezers and modified

atmosphere packaging equipment, the Food Lab will showcase the advantages of cryogenic freezing to Indian producers of shrimp, marine products, meat, fruits and vegetables.

Moving forward, our focus on application and the increasing deployment of advanced digital solutions in our operations and for customers will play a crucial role in differentiating us from the competition in India.

The year 2018 promises to be an interesting one as the planned merger of equals between Linde AG and Praxair, Inc. progresses. I look to the future with a positive outlook as we remain committed to using our innovation and technology to create value for our customers and offering them the best experience. This, I believe, will create value for all stakeholders.

Warm regards,

Sanjiv Lamba  
Chairman

12 February 2018

# Cryogenic food chilling: harnessing ultra-low temperatures for better food preservation.

In 2017, Linde India Limited completed the construction of its first Linde Food Lab and Training Centre. Located in Mangalagiri, near Vijayawada in Guntur District of Andhra Pradesh, this is also the first Linde Food Lab in South Asia.

Globally, The Linde Group is a leader in cryogenic food freezing and food chilling technology. Its portfolio of cryogenic freezers and related equipment offer a wide range of cutting edge solutions that help local growers and producers earn more returns from their produce.

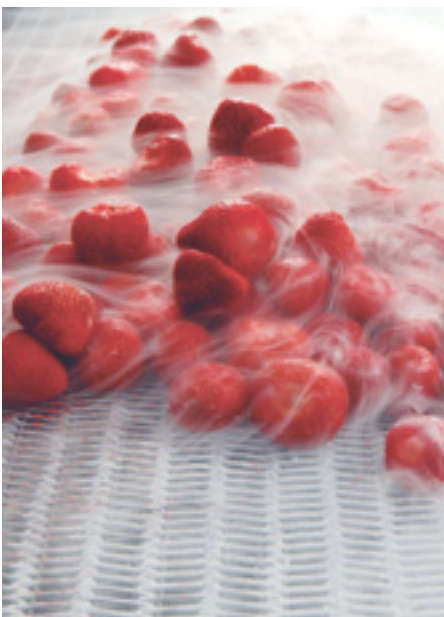
The pride of the Linde India Food Lab and Training Centre is a gleaming new Linde CRYOLINE® CW (CRYOWAVE™) freezer. This is the world's first hygienic individual quick freezing (IQF) freezer with a proprietary rolling-wave action that is ideal for a wide range of food products, from fruits and vegetables to fish and poultry. It can even be used to freeze pizza toppings and pasta. The CRYOLINE® CW uses the extreme low temperatures of liquid nitrogen (LIN) for processing fruits, vegetables, meat, poultry,

seafood, prepared foods, bakery, dairy and frozen dessert items, and individually quick frozen (IQF) products. The underlying technology is the combination of gas flow patterns that allow extremely high gas velocities and maximises heat transfer coefficient on the product surface with cryogenic spraying systems. This also maximises heat transfer on the product surface. The combination of these two elements allows smaller freezer size, which in turn enables enhanced efficiency by reducing the amount of material needed and lower cryogen consumption.

Also available for demonstration at the Food Lab is Linde's modified atmosphere solutions. These solutions provide an easy remedy for food manufacturers seeking to extend the shelf life of their products in a natural way.

Located in the heart of Guntur District in Andhra Pradesh, the Food Lab and Training Centre will be used as a hub to demonstrate the powerful potential of Linde's cryogenic food freezing and chilling solutions. Training facilities based at the Food Lab will be used to impart the skills and know-how required to operate Linde's CRYOLINE® freezers and modified atmosphere packaging solutions.

The Food Lab heralds a new direction for the business strategy of Linde India, as it continues to diversify its business mix and product portfolio. It is also a gift to the people of Andhra Pradesh and a mark of gratitude to the state government.



Cryogenic freezing solution for strawberries.



Linde India Food Lab and Training Centre.

# Cryogenic spice grinding: low temperatures for high taste.

If there is one element that distinguishes Indian cuisine from that of the rest of the world, it is the extensive use of spices, or masala, to achieve an unmatched taste and flavour profile.

The Linde Group's global expertise in cryogenic solutions for the food industry acquires a distinctly Indian taste at leading spice factories. The grinding of spices at low temperature using LIN based grinding solutions results in spices that are distinctly higher in colour and aroma. It also helps in boosting grinding productivity, increases the concentration of volatile compounds, reduces mill power consumption and enables easy product changeover in the mill.

The Linde solution of cryogenic grinding for food products employs a high technology combination of cryogenic grinding screw, storage tanks, cryogenic piping, LIN flow and temperature instruments and process automation.

Currently, spice producers use Linde's proprietary cryogenic grinding solutions for turmeric and garam masala, two spices indispensable to the Indian palate. The adoption of Linde's solutions has not only boosted productivity and reduced power bills, but also helped achieve enhanced quality of products.

In 2017, Linde India has achieved equipment and gas supply orders worth Rs. 20 million. Next time you tuck into your favourite dal or *salan*, there might just be a pinch of Linde technology in your spoonful.



Cryogrinding for preserving aroma of spices- turmeric and garam masala, an aromatic mixture of ground spices.

# Medical pain relief gases: making normal childbirth procedures easier.

Linde India is committed to easing the childbirth experience for Indian women. The World Health Organization (WHO) reports that only about 10 percent of caesarean sections (C-Sections) are 'life-saving' in nature and are required.

Most caesarean childbirth procedures have no benefit on maternal mortality or morbidity outcomes. The recent steep increase in the rates of caesarean section (C-section) delivery is a burden on the healthcare system.

Unnecessary caesarean delivery also puts strain on families and may complicate maternal and child health. Given these facts, the decision to perform a C-section delivery must be chosen carefully and judiciously. Statistics show that private sector hospitals carried out 40.9 percent C-sections as compared to 11.9 percent performed in government hospitals.

In this scenario, and with increasing levels of government interest, 'pain-managed' normal childbirth delivery is the way forward in improving women's health and easing the birthing experience for women in India. The use of self-administered analgesic gases that provide instant pain relief during childbirth can be particularly useful.

Linde India manufactures ENTONOX®, a homogeneous mixture of nitrous oxide and oxygen to be used as a self-administered analgesic for labour pain management. Entonox is safe with no adverse effects on mother or on the baby. It is a sure, safe and cost-effective method of supporting women at a time they need it the most.

Linde India caught up with Dr. Indie Kaur, Consultant Midwife Public Health at Newham University Hospital NHS Trust who is currently training professional midwives in Hyderabad, India.

**Q: Dr. Kaur, why is there such a high level of incidence for C-section deliveries in India?**

A: The huge population in India and the disproportionate doctor-to-patient ratio are the two primary reasons. Having a pool of trained midwives across the country will solve this challenge. However, it takes time and effort to train an adequate number of professional nurses into midwives.

**Q: From your vast experience, what is the solution for such high rates of unnecessary C-section deliveries?**

A: It is no secret that pain managed normal delivery can revolutionise the birthing experience for women by avoiding unnecessary C-sections and removing the pain psychosis in women with normal birth. Across the world, healthcare systems are stressing on the benefits and significance of normal delivery. It's high time India did so too.



ENTONOX® supporting normal childbirth.

# Shielding gases: delivering superior welding quality for Indian automobiles industry.

Linde Shielding Gases utilise the right mix of gases to deliver faster welds with higher quality. That's why leading Indian automotive manufacturers of passenger and commercial vehicles rely on Linde Shielding Gases like VARIGON®, CORGON® and CRONIGON® for higher productivity and efficiency.

Not only do shielding gases protect the finished weld from the effects of oxygen and nitrogen in the atmosphere, they can also have a positive effect on weld metal properties such as strength, corrosion resistance and toughness. In addition, they can optimise the weld bead shape and size as well as the weld porosity and fusion. And that's not all – shielding gases can increase your productivity by accelerating the welding process and minimising the amount of spatter.

As one of the leading suppliers of industrial gases, Linde has a long-standing commitment to the welding industry. Linde's global team of application engineers have vast expertise in all shielding gas processes and advise clients on the right mixture best suited to individual application challenges. Linde India also provides extensive safety, training and maintenance support to keep operations running smoothly at customer plants.



Linde's Shielding Gases deliver superior weld quality.

**Mr. K. Manikandan, Head – Supplier Quality, Ashok Leyland Motors, on why Linde India shielding gases are critical for the production line at Ashok Leyland.**

"Every year, we buy almost 10,000 metric tons of sheet metal and fabricated parts from our suppliers. Naturally, our production process involves lots of welding. Earlier, we used to face many defects related to welding, resulting in high levels of incoming defects. Consequently, our production process suffered. We tried various methods to reduce welding defects at our suppliers' end.

It was Linde India that helped us understand that many of the welding

defects are related to improper shielding during welding. Linde India's advisory helped us realise that ignorance and improper knowledge about welding among our supplier base was a major cause of the defects that we faced at Ashok Leyland.

Based on Linde India's guidance, we started a major Initiative, named, "WELDONE", with the objective of eliminating welding defects to zero. This initiative covered all our sheet metal vendors. Linde India played the pivotal dual role of knowledge partner and solution provider. With Ashok Leyland acting as the overall coordinator, Linde India trained all our suppliers on the correct welding process and offered Linde Argon-CO<sub>2</sub> shielding gas solutions to all our vendors.

This initiative was a win-win-win for all the three parties: Ashok Leyland, our suppliers and Linde India. The initiative eliminated all the wastes in the system, significantly improved welding quality and reduced costs. We could see drastic improvement in all three aspects of the supply chain: Quality, Cost and Delivery, within a short span of time.

More importantly, at Ashok Leyland, we can see sustained realisation of the benefits long after the initiative itself has completed. The story of win-win-win continues.

# Profile of the board of directors.\*

## Arun Balakrishnan

Born 1950

### Non-Executive Independent Director

BE (Chemical) from College of Engineering, Trichur  
Post Graduate Diploma in Management from IIM,  
Bangalore

Former Chairman and Managing Director of Hindustan Petroleum Corporation Ltd. from 1 April 2007 to 31 July 2010 and presently on the Board of HPCL-Mittal Energy Ltd., The Shipping Corporation Of India Ltd. and other companies.

## Jyotin Mehta

Born 1958

### Non-Executive Independent Director

FCA, FCS and FICWA  
Bachelor of Commerce

Presently the Vice President and Chief Internal Auditor of Voltas Ltd. and also on the Board of Suryoday Small Finance Bank Ltd.

## Sanjiv Lamba

Born 1964

### Chairman

Chartered Accountant  
Bachelor of Commerce

Presently a member of the Executive Board of Linde AG and responsible for the Asia/Pacific segment as well as for the Global Governance Centres, Merchant & Packaged Gases and Electronics and Global Gases Business Helium & Rare Gases.

## Desiree Co Bacher

Born 1971

### Non-Executive Director

Bachelor of Science in Accountancy, Certified Public Accountant in The Philippines

Presently the Head of Finance and Control for South and East Asia, based at the Group's Regional Office at Singapore. Has rich experience in various senior positions in the finance function within The Linde Group.

## Moloy Banerjee

Born 1966

### Managing Director

B.Tech. in Mechanical Engineering  
from IIT, Kanpur

Appointed as Managing Director of Linde India Ltd. with effect from 30 July 2013. Has many years of rich experience in various roles in Project Engineering and the Gases business of the Company, including two years in the South & East Asia and South Pacific regions of The Linde Group.

## Aditya Narayan

Born 1952

### Non-Executive Independent Director

B.Tech. from IIT, Kanpur  
LLB from Kanpur University  
Masters in Sciences from the University of Rochester, USA

Former Managing Director of ICI India Ltd., now Akzo Nobel India Ltd., between 1996-2003 and then its Non-Executive Chairman between 2003-2010. Presently an Independent Director on the Boards of Hindustan Unilever Ltd., Chambal Fertilisers and Chemicals Ltd. and Sanofi India Ltd.



Standing from left to right: Jyotin Mehta, Sanjiv Lamba, Moloy Banerjee, Arun Balakrishnan and Aditya Narayan. Seated: Desiree Co Bacher.

# Company information.\*

## Board of Directors

Sanjiv Lamba, Chairman  
Arun Balakrishnan  
Jyotin Mehta  
Aditya Narayan  
Desiree Co Bacher  
Moloy Banerjee, Managing Director

## Chief Financial Officer

Indranil Bagchi

## Asst. Vice President and Company Secretary

Pawan Marda

## Auditors

Deloitte, Haskins & Sells  
Firm Registration No. 117366W/W-100018

## Solicitors

Khaitan & Co. LLP

## Bankers

Citibank N.A.  
HSBC Bank  
ICICI Bank Ltd.  
Punjab National Bank  
Standard Chartered Bank  
State Bank of India  
United Bank of India

## Registrar and Transfer Agents

Link Intime India Pvt. Ltd.

## Audit Committee

Jyotin Mehta, Chairman  
Arun Balakrishnan  
Sanjiv Lamba  
Aditya Narayan

## Stakeholders Relationship Committee

Aditya Narayan, Chairman  
Jyotin Mehta  
Moloy Banerjee

## Nomination and Remuneration Committee

Arun Balakrishnan, Chairman  
Sanjiv Lamba  
Jyotin Mehta

## Corporate Social Responsibility Committee

Arun Balakrishnan, Chairman  
Aditya Narayan  
Moloy Banerjee

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