

THE LINDE GROUP

*Linde*

# Linde Engineering Division in India



LINDE ENGINEERING INDIA  
CELEBRATING  
25 YEARS

# Linde Engineering Division in India.

## The Linde Group

The Linde Group is a world-leading gases and engineering company with approximately 62,000 employees working in more than 100 countries worldwide. In the 2011 financial year it achieved sales of EUR 13.787 billion.

## LEI's new office "Linde House" in Vadodara



## Linde Engineering

Linde Engineering, a division of The Linde Group, is a leading worldwide technology partner for plant engineering and construction. Linde's global success is built on Linde's extensive process engineering expertise in the planning, project development and construction of turnkey industrial plants. With more than 1,000 process engineering patents and 4,000 completed plant projects, Linde ranks among the leading international plant contractors.

## Linde Engineering India Pvt. Ltd. (LEI)

Linde Engineering India Pvt. Ltd. (LEI) was established in 1987 with its Indian operation head office in the city of Vadodara. LEI has grown over the years to develop a talent pool of over 870 employees. A 100% subsidiary of Linde Engineering, LEI has integral access to Linde Engineering's technology and project execution know-how.

130 years of Linde's Engineering excellence substantiates LEI's capabilities in delivering engineering, procurement and construction services for major market segments such as:

- Petrochemical plants
- LNG and natural gas processing plants
- Synthesis gas plants
- Hydrogen plants
- Gas processing plants
- Adsorption plants
- Air separation plants
- Cryogenic plants
- Furnaces for petrochemical plants and refineries

## LEI has credibility in rendering:

- Sulphur recovery plants
- Refinery process plants
- Off-site and utilities plants including large storage tanks
- CO<sub>2</sub> removal/recovery plants

Having acquired strategic alliance with other group companies, LEI has ventured to provide lump-sum turnkey (LSTK) services for pharmaceutical and biotech plants, and for thermal energy storage for solar power. LEI also provides engineering consulting services for plant revamps and other brownfield projects.

Through the integration of Linde Engineering's global procurement and construction expertise, LEI is able to complete projects with tight timeframes and provide customers with a range of services, even in challenging work environments. Linde Engineering India Pvt. Ltd. has been successfully certified for the combined requirements of ISO 9001, ISO 14001 and OHSAS 18001.

## Key projects executed in India on a LSTK basis:

- State-of-the-art engineering for the world's largest pure hydrogen complex at the Reliance Jamnagar refinery with 8 HGU trains for a total capacity of 672,000 Nm<sup>3</sup>/h
- 27,000 Nm<sup>3</sup>/h hydrogen plant at the IOCL refinery Barauni



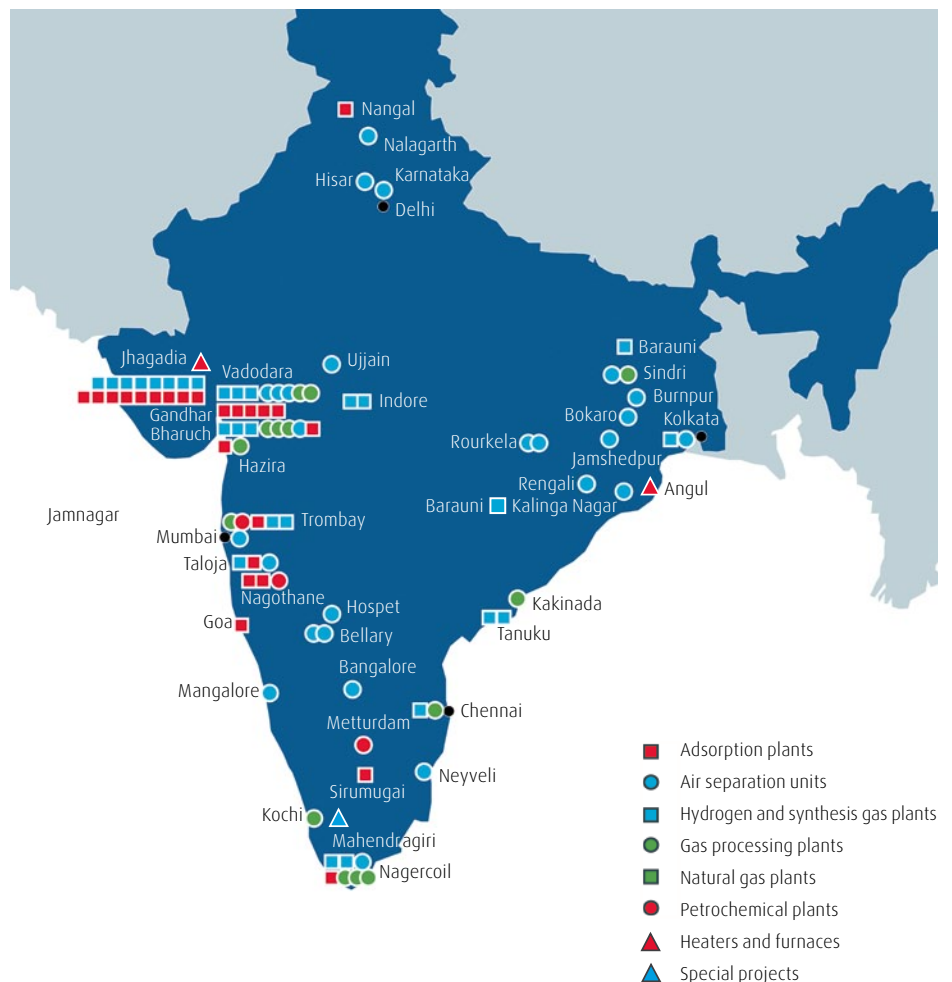
27,000 Nm<sup>3</sup>/h hydrogen plant at the IOCL refinery in Barauni

- Argon recovery plant with 7,000 Nm<sup>3</sup>/h feed-gas capacity for KRIBHCO in Hazira
- 600 TPD methanol plant revamp for GNFC in Bharuch
- Spent caustic treatment plant with a capacity of 240 m<sup>3</sup>/day for the IOCL refinery in Vadodara
- 1250 TPD oxygen plant for Bokaro Steel
- EPCC for process and utility facility at the top-side and inside cavern of the crude oil strategic storage project, in Padur, Karnataka, by Indian Strategic Petroleum Reserves Ltd. (ISPRL)
- 1.1 MTPA ethylene cracking furnaces (8-Nos) along with DFCU & AU for ONGC Petro Addition Ltd. (OPAL) in Dahej, Gujarat
- Sulphur recovery unit for HPCL in Mumbai
- EPC contract for the thermal energy storage system for Cargo Solar Power Gujarat Pvt. Ltd., Gujarat
- 157 MW reducing gas heater in Angul, Orissa
- 7.02 MW CS<sub>2</sub> furnace for United Phosphorus Ltd. (UPL) in Jhagadia, Gujarat
- Integrated fluid service system for C-25 thrust cryogenic engine test facility for LPSC-ISRO in Mahendragiri
- Establishment of a fluid system for a cold test facility for LPSC-ISRO in Mahendragiri
- 2000 Nm<sup>3</sup>/h hydrogen generation plant for Linde Gas (BOCI) in Sullurupeta, Andhra Pradesh
- 1500 Nm<sup>3</sup>/h hydrogen plant for M/s. Adani Wilmar Ltd. in Mundra, Gujarat



With proven and matching engineering capabilities, LEI is a global engineering partner for Linde AG and its other worldwide subsidiaries. LEI has successfully shared part of the project scope and responsibility for the following global projects:

- 2 x 250 KTA polypropylene plant in Russia
- 1,500 KTA ethylene plant in UAE
- 3.12 million Nm<sup>3</sup>/h feed gas flow and CO<sub>2</sub> wash unit in Abu Dhabi, UAE
- 175 TPD LNG plant in Australia
- 12,000 Nm<sup>3</sup>/h CO and 29,180 Nm<sup>3</sup>/h H<sub>2</sub> HYCO plants in Hungary
- 18,800 Nm<sup>3</sup>/h H<sub>2</sub>, 700 Nm<sup>3</sup>/h GCO and 500 Nm<sup>3</sup>/h LCO HCO plants in China
- 50,000 Nm<sup>3</sup>/h hydrogen plant in Germany
- 46,700 Nm<sup>3</sup>/h hydrogen plant in Chile
- 23,000 Nm<sup>3</sup>/h hydrogen plant in Netherlands
- 20,000 Nm<sup>3</sup>/h hydrogen plant in Germany
- 20,000 Nm<sup>3</sup>/h hydrogen plant in Taiwan
- 18,500 Nm<sup>3</sup>/h hydrogen plant in Madagascar
- 250 KTA acrylic acid plant in Saudi Arabia
- 91,000 Nm<sup>3</sup>/h H<sub>2</sub>, 21,000 Nm<sup>3</sup>/h CO HYCO plant
- 615 TPD ammonia in Saudi Arabia
- 1500 KTA ethylene plant in Russia
- 1840 TPD LNG plant in Malaysia
- 37.5 KTA linear alpha olefins plant in Russia



# Designing processes – constructing plants.

Linde's Engineering Division continuously develops extensive process engineering know-how for the planning, project management and construction of turnkey industrial plants.

## The range of products comprises:

- Petrochemical plants
- LNG and natural gas processing plants
- Synthesis gas plants
- Hydrogen plants
- Gas processing plants
- Adsorption plants
- Air separation plants
- Cryogenic plants
- Biotechnology plants
- Furnaces for petrochemical plants and refineries

## The Engineering Division

### and its subsidiaries manufacture:

- Packaged units, cold boxes
- Coil-wound heat exchangers
- Plate-fin heat exchangers
- Cryogenic standard tanks
- Air-heated vaporizers
- Spiral-welded aluminium pipes

More than 4,000 plants worldwide document the leading position of the Engineering Division in international plant construction.

#### Engineering Division

Schalchen Plant  
Tacherting, Germany  
Phone +49.8621.85-0  
Fax +49.8621.85-6620  
plantcomponents@linde-le.com

#### Linde Engineering Dresden GmbH

Dresden, Germany  
Phone +49.351.250-30  
Fax +49.351.250-4800  
ledd.dresden@linde-le.com

#### SELAS-LINDE GmbH

Pullach, Germany  
Phone +49.89.7447-470  
Fax +49.89.7447-4717  
selas-linde@linde-le.com

#### Cryostar SAS

Hésingue, France  
Phone +33.389.70-2727  
Fax +33.389.70-2777  
info@cryostar.com

#### Linde CryoPlants Ltd.

Aldershot, United Kingdom  
Phone +44.1252.3313-51  
Fax +44.1252.3430-62  
lindecryoplants@linde-le.com

#### Linde Impianti Italia S.p.A.

Rome, Italy  
Phone +39.066.5613-1  
Fax +39.066.5613-200  
m.margheri@lindeimpianti.it

#### Linde Kryotechnik AG

Pfungen, Switzerland  
Phone +41.52.3040-555  
Fax +41.52.3040-550  
info@linde-kryotechnik.ch

#### Bertrams Heatec AG

Pratteln, Switzerland  
Phone +41.61.467-7525  
Fax +41.61.467-7500  
hubertus.winkler@linde-le.com

#### CRYO AB

Gothenburg, Sweden  
Phone +46.3164-6800  
Fax +46.3164-2220  
lars.persson@cryo.aga.com

#### Linde Process Plants, Inc.

Tulsa, OK, U.S.A.  
Phone +1.918.4771-200  
Fax +1.918.4771-100  
sales@lppusa.com

#### Selas Fluid Processing Corp.

Blue Bell, PA, U.S.A.  
Phone +1.610.834-0300  
Fax +1.610.834-0473  
sales@selasfluid.com

#### Hydro-Chem

Holly Springs, GA, U.S.A.  
Phone +1.770.345-2222  
Fax +1.770.345-2778  
sales@hydro-chem.com

#### Linde Engenharia do Brasil Ltda.

São Paulo, Brazil  
Phone +55.21.3545-2255  
Fax +55.21.3545-2257  
jaime.basurto@linde.com

#### Linde Process Plants (Pty.) Ltd.

Johannesburg, South Africa  
Phone +27.11.490-0513  
Fax +27.11.490-0412  
linde.za@linde-le.com

#### Linde Engineering Dresden GmbH

Moscow Office, Russia  
Phone +7.495.6426242  
Fax +7.495.6426243  
ledd.moscow@linde-le.com

#### Linde Engineering RUS,000

Samara, Russia  
Phone +7.846.331-3377  
le.rus@linde-le.com

#### Linde Arabian Contracting Co. Ltd.

Riyadh, Kingdom of Saudi Arabia  
Phone +966.1.419-1193  
Fax +966.1.419-1384  
martin.hofmann@linde-le.com

#### Linde Arabian Contracting Co. Ltd.

Al-Khobar, Kingdom of Saudi Arabia  
Phone +966.3.887-1191  
Fax +966.3.887-0133  
diethard.nowag@linde-le.com

#### Linde Engineering Middle East LLC

Abu Dhabi, United Arab Emirates  
Phone +971.2.6981-400  
Fax +971.2.6981-499  
leme@linde.com

#### Linde Engineering India Pvt. Ltd.

Vadodara, Gujarat, India  
Phone +91.265.3056-789  
Fax +91.265.2461-757  
sales@linde-le.com

#### Linde Engineering Far East, Ltd.

Seoul, South Korea  
Phone +82.2780-0954  
Fax +82.2780-0958  
hanyong.lee@linde.com

#### Linde Engineering Division

Bangkok, Thailand  
Phone +66.2751-9200  
Fax +66.2751-9201  
anuwat.krongkrachang@linde.com

#### Linde Engineering Co. Ltd.

Dalian, P.R. of China  
Phone +86.411.3953-8819  
Fax +86.411.3953-8899  
info@lindeLED.com

#### Linde Engineering Co. Ltd.

Hangzhou, P.R. of China  
Phone +86.571.8501-9222  
Fax +86.571.8501-9200  
info@lindeLEH.com

#### Linde Engineering Division

Beijing Representative Office  
Beijing, P.R. of China  
Phone +86.10.6437-7014  
Fax +86.10.6437-6718  
info@linde-lecn.com

#### Linde Engineering Taiwan Ltd.

Taipei, Taiwan  
Phone +886.2.2786-3131  
Fax +886.2.2652-5871  
tso.ming.hsieh@linde-le.com

## Linde AG

Linde Engineering India Pvt. Ltd.

"Linde House"

Opp: VUDA Office, V.I.P. Road, Karelibaug, Vadodara - 390018, India

Phone +91.265.3056-789, Fax +91.265.2461-757, sales@linde-le.com, www.linde-india.com