

Combining innovation potential and productivity with a presence in promising markets, Air Liquide is developing in many fields of the future, which makes it a blue-chip growth stock for all its shareholders.



Annual and sustainable development report 2006







At the company's origin in 1902, there were 24 shareholders who made it possible for the two founders, Georges Claude and Paul

Delorme to create a company, and who displayed two key virtues: patience (they waited until 1907 to receive their first dividend\*) and loyalty. For several years they strongly supported the young company by participating in successive capital increases. Air Liquide was created and grew thanks to a first group of shareholders consisting of family, friends and professionals.

On **February 20, 1913**, Air Liquide was listed on the Paris Stock Exchange and gradually became a **blue-chip stock**. But the company never forgot its roots. It knew that it owed its survival to its shareholders and that is why they have always felt at home at Air Liquide.

Shareholders are the focus of Air Liquide's strategy, with one objective: increasing the value of shareholder investment through strong, steady growth in earnings and dividends over the long term. And today, a century after its creation, Air Liquide has 365,000 individual shareholders who hold 38.4% of the capital.

Extract from the book "100 years of inspiration - the Air Liquide adventure"

The words followed by \* are explained in the business and financial glossaries. They will help you to better understand the technical and financial terms used.

# Shareholders' Charter

Air Liquide's responsibility towards its shareholders, formalized in the **Shareholders' Charter**, is based on four commitments:

# Consideration and respect for all shareholders

- equality of all shareholders: 1 share = 1 vote (no double-voting rights)
- respect of preferential subscription rights
- absence of anti-takeover bid measures
- restriction of resolutions proposed at Shareholders' Meetings to genuine corporate requirements
- clear and effective communication between the Board of Directors and Management

# Shareholder remuneration and increased investment value over the long term

- steady long-term growth in earnings
- strong dividend payout policy: dividend and bonus shares
- higher dividend payouts for loyal registered shareholders

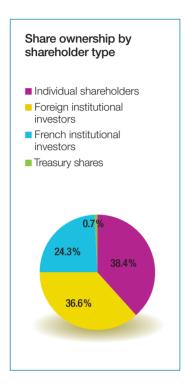
# Listening to and informing shareholders

- Shareholders' Communication Committee, frequent meetings with shareholders
- regular publication of information about the Company
- transparency and clarity of published financial information
- consistent and uniform accounting methods
- information sent to all shareholders before meetings

## Shareholder Services

- twenty-member Shareholder Services team dedicated to individual shareholder relations
- personalized and low-cost management of directly registered share accounts

# Share ownership as of December 31, 2006



365,000 individual shareholders

32% of shares registered

1.1% of capital held by Group employees

To the Company's knowledge, no shareholder holds more than 5% of the capital



General Shareholders' Meeting on May 10, 2006

# Consideration and respect for all our shareholders

The shareholder is the primary concern of Air Liquide and its management. Every decision is made with the mid and long-term interest of the Company and its shareholders in mind.

The Group therefore attaches great importance to direct dialogue with its shareholders and to the consideration and respect for all of them without distinction.

- **equality** of all shareholders: 1 share = 1 vote (no double-voting rights),
- respect of preferential subscription rights,
- **absense** of anti-takeover bid measures.

Moreover, the resolutions proposed at the General Shareholders' Meeting are limited to the Company's real needs. Lastly, clear operating rules exist in the Group's management structures.

The Group's commitment to good corporate governance is notably conveyed by three Committees on which the Board of Directors relies:

- the Audit and Accounts Committee,
- the Appointments Committee,
- the Remuneration Committee.

# Shareholder remuneration and increased investment value over the long term



**Consolidated 2006 revenue** increased on 2005 by +4.9%. On a comparable basis (excluding currency, natural gas and perimeter effects), the increase was +5.7%.



#### Dividend proposed for fiscal year 2006

- 4.00 euros per share, an increase of +14.6% over 2005.
- Distribution rate of 49.6% of net earnings.
- In compliance with the Articles of Association, registered shareholders who have held their shares continuously since December 31, 2004, will receive a bonus equal to 10% of the dividend paid.

#### Over a ten-year period

- Global distribution regularly increased, on average +12% a year,
- Average distribution rate of 48.4% of net earnings.
- (1) Adjusted to account for bonus share issues.
- (2) The data presented over 30 years were calculated using accounting standards in force at the time. As of January 1, 2005, standards have changed. These new standards were used for financial years 2004, 2005 and 2006

annual growth (2)

# Air Liquide and the Stock Exchange

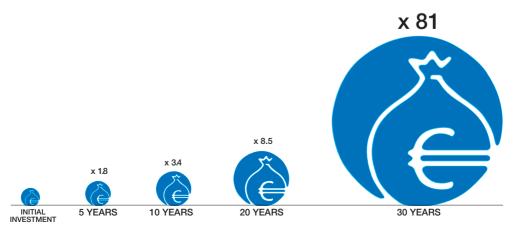


#### Identification sheet as of December 31, 2006

Continuous trading on the Eurolist of the Euronext Paris Stock Exchange (compartment A)		
ISIN value code	FR0000120073	
Face value	€11	
Number of shares	121,149,189	
Share price	€179.90	
Market capitalization (in millions)	€21,794	
Member of the CAC 40 and Dow Jones Euro Stoxx 50 indices		
Weighting in: CAC 40 index Dow Jones Euro Stoxx 50 index	2.1% 0.98%	
Eligible for the Deferred Settlement Service (SRD) and Stock Savings Plan (PEA) Supports the Paris Stock Exchange market for tradable options (Monep)		

# Portfolio growth

Value, before tax, as at December 31, 2006, of a portfolio of Air Liquide shares including reinvested gross dividends (reinvested in shares on the first opening day of the Stock Exchange after distribution), bonus shares (fractions stemming from bonus share allocations converted into fractional shares) and loyalty bonuses.



# Listening to and informing shareholders

# Meeting shareholders

Air Liquide is committed to exchanging information directly with its shareholders through:

- the General Shareholders' Meeting: over 4,700 shareholders were present,
- many Information Meetings outside of Paris,
- the Salon Actionaria: over 35,000 people visited the booths of the companies present.

# The Shareholders' Communication Committee

This Committee, created in 1987, embodies Air Liquide's commitment to listen to its shareholders and to treat them with respect.



Its 12 volunteer members work with Benoît Potier, Chairman and CEO, to improve the quality of the relationship between Air Liquide and its individual shareholders, in areas relating to communication and shareholder information.

The Committee, a think tank and a source of inspiration, is a representative sample of individual shareholders and acts as a messenger between Air Liquide and its individual shareholders by giving a voice to their questions and expectations.

In 2006, the Committee held three plenary sessions with all members present chaired by Benoît Potier. Additional meetings took place, bringing together committee members and members from Air Liquide's Communication Department and Shareholder Services teams. These sub-committees concentrated on written communication tools, the video presentation of the General Shareholders' Meeting, the information meetings outside Paris and enlarging the individual shareholder base.



From left to right and top to bottom:

Alain Duport (Bordeaux – 33), Vincent Gaffiot (Auxerre – 89), Jean-Georges Gerber (Harskirchen – 67), Jean-Marie Lafollie-Horat (Brandon – 71), Dominique Mauclair (Blois – 41), Jean-Pierre Morin (Aurillac – 15), Christophe Neves (Paris – 75), Dominique Reuter (Domazan – 30), Patrik Steidle (Saint-Brice-Courcelles – 51), Guy Tessereau (Meylan – 38), Pierre Troussel (Vélizy – 78), Dominique Vigneron (Sainte-Adresse – 76).

# Air Liquide keeping you informed

Shareholders' information is a key element of the Company's commitment to its shareholders. Air Liquide communicates regularly on its businesses, development and strategy.



- The **Annual Report** presents all the latest information on the Group and its strategy.
- The Shareholder's Guide/Summarized Annual Report provides a summary of the Annual Report and practical information for every shareholder.
- Financial notices: press releases, presentations and recordings of financial analysts' meetings are available on the Internet. Financial announcements are published in the press.

All this information is available on the Company's toll-free telephone number.

- For the General Shareholders' Meeting, an **invitation** is sent to every shareholder as well as comprehensive **Minutes** of the meeting including the debates and votes.
- Four Letters to Shareholders are sent each year to registered shareholders, holders of bearer shares who voted at the General Shareholders' Meeting and anyone else who requests them. In 2006, two special issues focused on our Healthcare activity in hospitals and homecare.



All these documents are accessible on www.airliquide.com

# Shareholder **Services**



# A team at your service

The 20 members of Shareholder Services are permanently available to help keep you informed about the Company's activities and the evolution of its stock. A direct and daily contact is at your disposal.

They can also help you with procedures for gifts and inheritance questions.

Shareholder Services is a one-stop contact for registered shareholders who wish to receive an invitation to the General Shareholders' Meeting or to send in their vote by correspondence. Also, as a stock market professional, Shareholder Services defends the interests of individual shareholders in all formal discussions that concern major developments and changes in French and European stock markets.

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#### Come and visit us

The Shareholder Services team members will be happy to welcome you at the Company's head office in a reception room dedicated to individual shareholders. For example, you can place your buy/sell orders with us or organize a transfer of shares.



# A 24/7 service

■ You can talk to a Shareholder Services team member on the phone from 8:30 a.m. to 5 p.m. or leave a message.

#### N° Vert 0 800 16 61 79 (free)

or +33 1 57 05 02 26 from outside France to check current share prices, listen to the Group's weekly news and financial information and find out about our agenda (in French only).

#### Summary:

- 0 The Group's weekly news
- 1 Current share price
- 2 Financial information
- 3 Leave a message with Shareholder Services
- 4 Coming Events
- # Talk to a member of Shareholder Services
- An Internet site dedicated to providing shareholders with all the information they need: www.airliquide.com

Since 2004, direct registered shareholders have been able to check their accounts and make on-line stock order entries.

Moreover, all documents are available in French and English on the Internet site.

- An email address so that you can send your questions to Shareholder Services: shareholders@airliquide.com
- An **e-mail alert system**, available free of charge, to keep you informed of the most important recent events in real time.

#### Contact us



Shareholder Services 75 quai d'Orsay 75321 Paris Cedex 07



Toll-free number: 0 800 16 61 79 or +33 1 57 05 02 26 from outside France



shareholders@airliquide.com www.airliquide.com



Stock Exchange orders: Tel: +33 (0) 1 40 62 50 82

or 50 35 or 52 41 Fax: + 33 (0) 1 40 62 57 50

## In what form do you hold your shares?

- As bearer shares, your account is managed by your financial intermediary, but Air Liquide does not know you.
- As intermediary registered shares, your financial intermediary manages your share account but your shares are also registered at Air Liquide: this is service +.
- As direct registered shares, your shares are kept directly and exclusively at Air Liquide: this is service ++.

# Service +: registered shareholding

	Bearer shares	Registered shares
Air Liquide knows you		+
Direct contact with Shareholder Services		+
Dividend	+	+
Dividend increased by 10% after two calendar years (1)		+
Bonus share allocation	+	+
Bonus share allocation increased by 10% after two calendar years (1)		+
Personalized relationship: receive shareholder informat and the invitation to the General Shareholders' Meeting of from Air Liquide - easier access to the General Sharehold	directly	+

<sup>(1)</sup> Shares registered by December 31 of any given year and held continuously in registered form for more than two calendar years.

# Service ++: direct registered shareholding

- €0 for handling, or management fees on standard transactions,
- dividend payment: direct, fast and free of charge,
- placement of buy/sell orders at low rates, via

Shareholder Services

or **directly online**, with access to direct registered share accounts and pending orders **24/7**,

■ personalized counseling for all transactions.

## Registered shares

For over ten years, Air Liquide has promoted registering shares among its shareholders, especially via its loyalty bonus program. As a result, the pool of registered shareholders has grown steadily to reach 146,000 at the end of 2006, including 52,000 directly registered shareholders.

#### As of December 31, 2006

- 32% of all shares were registered,
- 58% of registered shares were held by individual shareholders,
- 49% of individual shareholders' shares were registered,
- 23% of institutional investors' shares were registered.

In total, **31.1 million** shares, that is **25.7%** of share capital, are eligible for the bonus dividend to be paid out in 2007.

# 2007 events

# Financial Agenda

### **APRIL**

25

1<sup>st</sup> quarter 2007 revenue

# MAY

Shareholders' General Meeting

## **MAY**

15

Dividend payment

# JUNE

13

Date proposed for stock split subject to approval at the General Shareholders' Meeting on May 9

## **AUGUST**

3

1st half 2007 consolidated revenue and results

### OCTOBER

25

3<sup>rd</sup> quarter 2007 revenue

# Regional information meetings

### **APRIL**

4

in Strasbourg, organized by the newspaper Le Revenu

# MAY

meeting chaired by Benoît Potier at the Air Liquide Village in Nice

## **MAY**

30

meeting chaired by Benoît Potier at the Air Liquide Village in Lyon

# JUNE

18

in Brussels, organized by the newspaper Investir

### **OCTOBER**

4

in Dijon, organized by FFCI (French Federation of Investment Clubs)

# OCTOBER

8

in Reims, organized by FFCI (French Federation of Investment Clubs)

# "Actionaria" shareholder fair

# **NOVEMBER**

16 - 17

Shareholder fair Palais des Congrès Paris (France)

# World leader in industrial and medical gases

Present in 72 countries, Air Liquide is the world leader in industrial and medical gases and related activities. It makes many products used in daily life, contributes to the preservation of life and the environment and is committed to a sustainable development approach.

The Shareholder's Guide

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More about Air Liquide

The words followed by \* are explained in the business and financial glossaries. They will help you to better understand the technical and financial terms used.

# **Key** figures

The year 2006 was once again characterized by growth and development in all our business lines and all geographies.

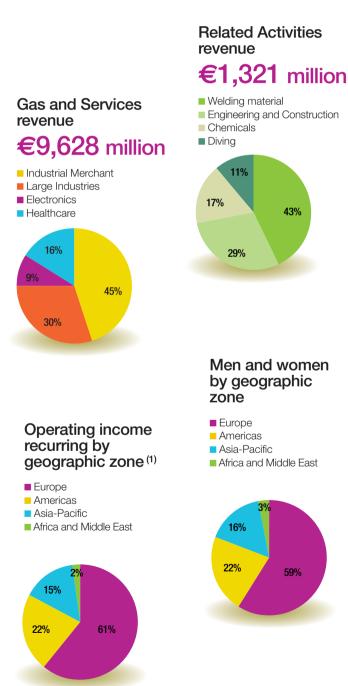
This development went hand in hand with a significant improvement in margins and a considerable increase in net profit, exceeding one billion euros for the first time.

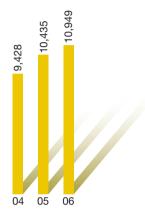
For 2007 and the years to come, Air Liquide's positioning in the most promising markets, startups of new production units and the commercial successes already achieved, as evidenced by a higher level of investment, mean that the Group can be confident and aim at accelerating its growth.

€10,949 million Total revenue

88% Gas and Services

12% Related Activities



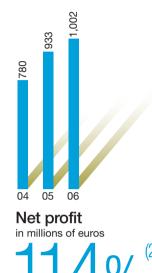


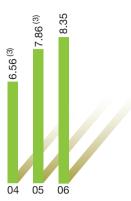
Revenue in millions of euros



Dividend per share in euros

+ 14.6%

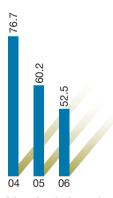




Basic earnings per share



Return on capital employed after tax (RÖCÉ) in %



Net indebtedness/ equity

in %

<sup>(1)</sup> On a comparable basis.(2) Variation on 2005 net profit excluding exceptional elements.(3) Adjusted to account for bonus share issues.

# The year's highlights





- PRODUCTION CAPACITY IN

  ANTWERP with the construction of a second hydrogen production unit on the BASF site, in the port of Antwerp in Belgium.
- IN BULGARIA with the signing of a new 15-year contract with its customer Cumerio Med JSC, to supply oxygen to its copper production factory in Pirdop.
- HOMECARE of Nord Service
  Projects, Aiolos Medical, Rubel
  Atem und Sauerstoffgeräte and
  Zuther & Hautmann. In total,
  these companies serve over
  25,000 patients. Air Liquide also
  acquired Farmec, the leader in
  the Italian antisepsis market.
- Early 2007, announcement of THE PURCHASE OF LINDE GAS UK in the UNITED KINGDOM.

INDUSTRIAL MERCHANT LARGE INDUSTRIES ELECTRONICS HEALTHCARE RELATED ACTIVITIES

- INDUSTRY IN GERMANY. Launch of ALUX, an offer dedicated to photovoltaics, LEDs and fiber optics.
- Delivery to **CERN** of the largest cryogenic system in the world.
- Installation of a hydrogen service station at the foot of the Eiffel Tower, for the CHALLENGE BIBENDUM.
- Launch of the **HYCHAIN** project designed to test 158 vehicles that run on hydrogen in four European regions. Air Liquide brought together 24 partners to share its expertise.



- Partnership in the framework of a CO₂ STORAGE project in Countryside, Illinois, backed by the U.S. Department of Energy, to study new environmentally friendly solutions.
- REW COMMERCIAL SUCCESS IN ARGENTINA with a 15-year renewal and extension of contracts with the Argentine steelmaker Siderar for the San Nicolás site.
- PRODUCTION ACTIVITIES IN THE
  UNITED STATES with the startup of
  the new hydrogen production unit
  in Bayport (Texas), which is totally
  integrated into the Texan pipeline
  network. The Group also
  launched a project for another
  large-capacity production unit in
  California.
- INCREASE IN AIR LIQUIDE'S

  ELECTRONICS PRODUCTION

  CAPACITIES in Fremont, California, for the ALOHA high-tech offer, after Chalon-sur-Saône in France.



# Air Liquide rewarded

Prix Cristal rewarding the transparency of financial information, for the Top 40 companies quoted on the Paris Stock Exchange

AGEFI 2006 first prize for "functioning of the Genera Shareholders' Meeting"

AGEFI 2006 second prize for "the quality and transparency of information and communication"

"TOPCOM d'or Corporate Business 2007" for the best in-house newsletter.

"TOPCOM de bronze Corporate Business 2007" for the best annual report. The clear and transparent information and presentation of the company's businesses contributed to this success

Fils d'or du Meilleur Service actionnaires awarded by la Vie Financière and Synerfil for the quality of shareholder services



Jean-Claude Buono receives the "Fils d'or"

Boursoscan 2006 prize for "financial communication".

Special prize in Italy recognising responsible communication, for its educational program *lo vivo* d'aria (I live off air) for schools near Priolo, in Sicily.

"Janus de l'Industrie" for the Digi@wave and Citowave welding units, and "Janus de la Santé" for Taema's Lagoon vacuum regulator, from the French Institute of Design.

# Asia-Pacific

- MAJOR INVESTMENTS IN THE NEW
  DEVELOPMENT ZONE OF TIANJIN
  IN CHINA, with the signature of a
  joint venture contract with Tianjin
  Soda Plant, a subsidiary of the
  Tianjin Bohai Chemical Industry
  group, and the signature of a
  long-term agreement with Tianjin
- OUTSTANDING SUCCESSES IN

  AUSTRALIA with the signature of three nitrogen contracts for some of the largest mining companies in the world, to improve safety for

C) Jiles in tons



# Message from the Chairman and CEO



# Dear Sharcholders,

The year 2006 was a new year of sustained growth for your Group, in activity as well as in earnings: + 5.7% in sales, + 11.4% in net earnings, which exceeded one billion euros for the first time, and + 10.2% in net earnings per share, on a comparable basis. Air Liquide took advantage of the dynamism of emerging economies: the successes in Asia - in particular, in China -, Eastern Europe, Latin America and the Middle East are concrete proof of our conquest strategy in new territories and markets. In North America, our activity was buoved by a favorable economic climate. In Europe, despite more modest growth, Air Liquide's performance remained clearly better than that of the industry on the

whole because of the Group's positioning in strong growth vectors such as healthcare, the environment and improved efficiency in industrial processes. The Air Liquide General Shareholders' Meeting was also a highlight of the year: it approved, by a large majority, the company's new bylaws and the return to the Group's historical structure with a Board of Directors. Your decision was an important step that made it possible to open a new page in Air Liquide's history by benefiting from the experience acquired in governance during the preceding period.

This past year also witnessed a change in our industry's competitive landscape with the emergence of a new European

company, created by the merger of two competitors, whose size is comparable to ours. We have of course already incorporated this new situation into our thinking on strategic positioning.

#### A major move forward in Asia

In Asia, a particularly dynamic region in which most of the worldwide electronics industry is concentrated, we have strengthened our position in Japan. So after merging our activities with those of BOC in 2003 to create Japan Air Gases, a subsidiary in which we held 55%, in 2006, we finalized the acquisition of the remaining 45%.

At the start of 2007, we also announced the purchase of minority interests in four joint ventures held with BOC in Southeast Asia, in Singapore, Thailand, Vietnam and the Sultanate of Brunei. These acquisitions represent a major move forward for the Group.

#### Strengthening our positions

As in previous years, in 2006, we continued our productivity efforts, which took the form of a new improvement in margins. They more particularly concerned procurement, through the introduction of new prospective and more easily sharable management tools, and organizational modifications in Europe, especially in France, Italy and Belgium. These adjustments are necessary so that the Group can anticipate the changes in its markets. They may mean major efforts for the teams concerned for whom specific support is systematically provided, in keeping with the Group's values.

#### Objective: first do better...

This improvement approach for our operating performances is a priority for the Group for the next three years. We are going to strengthen our efforts to reduce costs further, increase productivity and efficiency and better manage our prices and market shares. The objective is to generate growth in net earnings considerably higher than that in sales. The flexibility thus acquired will permit us to accelerate our growth and consequently retain a worldwide leadership position.

#### ... and then do more

Because this is the other main priority of the coming years: seizing new market opportunities. Our goal is to take stronger positions in growing markets and in the fields of the future by deploying our expertise and innovation.

# Organized around our core businesses

To first do better and then do more, we adapted, at the start of 2007, the Group's organization by creating, for our Gas and Services business, four World Business Lines with strengthened goals: Large Industries, Industrial Merchant, Electronics and Healthcare. Each branch proposes strategic objectives to the general management, decides on development projects and manages their implementation. At the same time, operational management will continue to be handled by the countries with performance coordination and monitoring at the level of homogeneous zones.

This evolution will allow us to win more business in an industrial and medical gases market that should increase from 25 to 30 billion euros by 2010 for the entire industry.

This trend already started to show in the 2006 figures: our investment decisions rose by + 25% compared to 2005, the result of the increase in volume of the contracts signed. At the same time, our portfolio of projects being studied considerably increased.

#### An expanding market

This growth in demand comes largely from emerging economies where the idea of time is critical: business is concluded and factories sprout twice as quickly as the usual time frames in our industry. Rapid decision-making and flawless implementation are essential.

Skills transfers between countries in the Group's expert network sustain this great momentum in new economies.

The development of the industrial and medical gases market is equally connected to new needs in the energy, environment, healthcare and advanced technologies sectors. The international energy issue, to mention just one, opens new prospects, especially for oxygen in the exploitation of tar sands, environmentally friendly carbon combustion and petroleum residue gasification.

#### Air Liquide, a blue-chip growth stock

Strengthened by this dynamic, bringing together increased productivity and the development of our business, our ambition is to make the greatest profits from the growth potential of our markets. These changes go hand in hand with creating new value for all our shareholders, both individual and institutional.

My wish is that the Air Liquide share now be considered both a blue-chip defensive and growth stock combined.

> Benoît Potier Chairman and CEO



# New Group structures

On May 10, 2006, the Combined Shareholders' Meeting decided to modify the Company's management structure by adopting the legal structure of a public company with a Board of Directors.

After the Combined Shareholders' Meeting, the Board of Directors met in order to determine the general management organization by appointing a **Chairman** who also assumes the position of **Chief Executive Officer**. In addition, it appointed two Senior Executive Vice-Presidents.

In keeping with Air Liquide tradition, the Chairman would also assume the role of Chief Executive Officer so as to promote a close relationship between its executive managers and shareholders.

This choice was accompanied by the adoption, by the Board, of provisions aiming to sustain compliance with the corporate governance principles to which Air Liquide has always been attached. Hence, the balance in the relations between Executive Management and the Board of Directors was maintained particularly by limiting the powers of the Chief Executive Officer, with the approval of the Board of Directors being required for major transactions. The Board also set out to maintain a high degree of transparency by adopting principles of professional conduct, separating the issues of appointments and remuneration, now managed by two separate committees. It was also agreed that the Chief Executive Officer may not attend any committee meetings relating to him personally and by appointing an independent chairman to be the head of each of the three committees. Internal regulations, adopted by the Board in May 2006 following the adoption of the new Articles of Association, set forth very specifically the principles governing the professional ethics of directors, and the composition, role and operating procedures of the Board and its committees.

# **Executive Management**

Executive Management is comprised of three individuals: **Benoît Potier**, Chairman and Chief Executive Officer, assisted by **Jean-Claude Buono**, Executive Vice-President, and **Klaus Schmieder**, Executive Vice-President.

Similar to the procedures previously followed by the Management Board, Executive Management meets regularly once a month to examine, in particular:

- strategic operations at Group level,
- budgets and accounts,
- investments and major industrial projects, principal mergers, acquisitions and disposals of activities or entities.

As in the past, issues relating to personnel safety are subject to particular attention.

## **Board of Directors**

In 2006, the Board of Directors met four times and the Supervisory Board met once prior to the modification in the management structure, with **an attendance rate of 95%**.

#### Its role

The Board of Directors determines the major orientations of the company's activities and ensures their implementation by management. Accordingly, it examines and approves the Group's principal strategies and re-examines them when significant decisions are made. It ensures that these strategies are implemented by the Executive Management. In accordance with the law, the Board deals with any issues concerning the smooth running of the Company. The Board of Directors conducts controls and verifications as it deems appropriate.

#### Its composition

The Board of Directors is currently comprised of **11 members** appointed by the Shareholders' Meeting of May 10, 2006, for a term of four years, except for the former members of the Supervisory Board, who were appointed for their remaining term of office, in accordance with the overlapping principle. The internal regulations stipulate that members are chosen for their **skills**, **their integrity**, **their independence of mind** and **their determination** to take into account the interests of all shareholders.

#### Professional ethics of directors

The director represents all the shareholders and shall act in all circumstances in the Company's best interests.

Each director undertakes to:

- meet the obligations imposed upon him/her by the Articles of Association and the various legal, regulatory, corporate or internal provisions and, more specifically, the internal rules relating to the prevention of insider trading or the obligations to report transactions involving the Company's shares,
- notify the Board of any conflict of interest with the Company and to refrain from voting in the corresponding deliberation.
   Each director is bound to an obligation of secrecy,
- strive to take part in all meetings of the Board and its committees, and attend the Shareholders' Meetings,
- keep himself/herself informed and devote the time and attention required to perform his/her duties,
- hold at least 500 registered shares in the Company.

#### ■ Independence of directors

In accordance with previous practice, an assessment of the independence of members is carried out once a year by the Board. With regard to the defined criteria, 8 of the 11 Board members are independent.

#### Its functioning

#### ■ Relationship with Executive Management

In a continuous effort to look for a correct balance, it was decided to renew the former rules limiting the powers of Executive Management while adapting them to the new structure. The internal regulations thus specify thresholds,

# Corporate governance

above which certain key decisions require prior authorization by the Board of Directors, in accordance with the Articles of Association (external sales or acquisitions, investments, transactions that could substantially change the Group's strategy).

In accordance with the practices specific to dual structures implemented when the Company operated with Management and Supervisory Boards, it was decided to continue presenting **quarterly reports** on the Company's management to the Board of Directors.

#### Internal functioning rules

The internal regulations specify the Board's operating procedures:

- keeping directors informed: this is ensured by sending a file of meeting documentation dealing with key items on the agenda prior to meetings; relevant information is also sent between meetings.
- conduct of meetings: the internal regulations define the frequency of meetings and the rule of notification and participation by video-conference or telecommunications.
- formation of committees: the internal regulations define the purpose and operating procedures of the three committees (see below).
- training measures: the internal regulations stipulate that training measures relating to the Company's businesses are offered to directors, particularly through site visits or meetings with senior executives. More particularly, information on the Group's accounting, financial and operational specificities is offered to members of the Audit and Accounts Committee.
- rules of appraisal: the internal regulations stipulate that, in accordance with previous practices, «the Board will ensure that an evaluation is carried out periodically of its composition, its organization and its functioning as well as those of its committees. An update will be made by the Board on this topic once a year and a formal evaluation will be carried out under the authority of the Chairman of the Board of Directors every three years».

## The Committees

The Board of Directors has set up three committees:

- the Audit and Accounts Committee, whose duties within the Supervisory Board have been renewed under the same terms and conditions within the Board of Directors,
- the Appointments Committee,
- the Remuneration Committee.

# The Audit and Accounts Committee

Gérard de La Martinière (Chairman), Edouard de Royere, Béatrice Majnoni d'Intignano and Rolf Krebs (i.e. three independent members out of four, including the Chairman).

Pursuant to the internal regulations, the Committee must comprise between three and five members of the Board of Directors and at least two-thirds of its members must be independent.

- The purpose of the Committee is to prepare recommendations for the Board of Directors. It forms a reasonable judgment concerning the accounts and accounting principles used, the existence and functioning of control organizations and control procedures adapted to the Group, organization of the internal control function, the plans for assignments and actions, the findings of these assignments and the recommendations and ensuing measures taken, choice and renewal of the external auditors, review of the tendering process, and information on the overall fees paid. Committee members combine corporate management skills with economic and financial expertise.
- The Committee collects the observations of the Executive Management on these various issues, reports to the Board of Directors on its work, informing it of any problems that may be encountered, observations made to the Executive Management and progress made in relation to these observations.

The Committee meets in principle three times a year, and always before the Board meetings held to review the annual or half-yearly financial statements. An initial verbal report is given to the Board by the Committee chairman. A written report of the meeting, approved by the Committee members, is transmitted to the directors. The Committee may ask to convene Group employees. It may meet the statutory auditors or members of the Internal Audit Department. It may call on external experts for assistance. The company shall provide the Committee in such a case with the corresponding funding.

In 2006, the Audit and Accounts Committee met three times within the Board of Directors, and once within the Supervisory Board, with an effective attendance rate of 92%.

# The Appointments Committee

Lindsay Owen-Jones (Chairman), Alain Joly, Thierry Desmarest and Cornelis van Lede (i.e. three independent members out of four, including the Chairman).

In accordance with the internal regulations, the Appointments Committee must comprise three or four members of the Board of Directors and the majority of its members must be independent.

The Chairman and Chief Executive Officer may not attend any Committee meetings relating to him personally. The Committee meets in principle twice a year. The conclusions of Committee meetings are presented by the Committee Chairman for discussion and decision-making at the next Board of Directors' meeting.

The Appointments Committee met once between May 10 and December 31, 2006, with a 100% attendance rate for its members either in person or by telephone.

The Committee has met twice since the beginning of 2007. Tasks of the Committee are:

- Concerning the Board of Directors:
- Make proposals to the Board of Directors for renewal and appointment of directors, and proposals for the creation and composition of Board committees,
- Periodically evaluate the composition of the Board of Directors,
- Periodically review the criteria applied by the Board to classify a director as independent,
- Once a year, examine on a case-by-case basis, the situation of each director or each candidate for the duties of directors in light of the criteria applied and make proposals to the Board of Directors.
- Concerning the Chairman and Chief Executive Officer:
- Examine, as necessary the renewal of the term of office of the Chairman and Chief Executive Officer and whether or not it is appropriate to continue to combine these duties (or to separate them),
- Examine the changes in these duties and provide for solutions for their renewal, where applicable,
- Examine periodically developments with regard to the Senior Executive Vice-Presidents,
- Ensure that it is kept informed by the Chairman and Chief Executive Officer of planned changes in Executive Management resources (and, in particular, the Executive Committee).

The Committee can request the assistance of outside experts if necessary. The company shall provide the Committee in such a case with the corresponding funding.

#### Remuneration Committee

Lindsay Owen-Jones (Chairman), Alain Joly, Thierry Desmarest, Cornelis van Lede (i.e. three independent members out of four, including the Chairman).

In accordance with the internal regulations, the Remuneration Committee must comprise three or four members of the Board of Directors and the majority of its members must be independent. The Chairman and Chief Executive Officer may not attend any Committee meetings relating to him personally. The Committee meets in principle twice a year. The conclusions of Committee meetings are presented by the Committee Chairman for discussion and decision-making at the next Board of Directors' meeting.

The Remuneration Committee met once between May 10 and December 31, 2006, with a 100% attendance rate for its members either in person or by telephone.

The Committee has met once since the beginning of 2007. Pursuant to the internal regulations, the purpose of the Remuneration Committee is to:

- Examine the performance and all the components of remuneration including stock options, or other forms of deferred remuneration, pension plans and, in general, the conditions of employment of the Chairman and Chief Executive Officer as well as the Senior Executive Vice-Presidents and make the corresponding recommendations to the Board of Directors.
- Examine the proposals by the Executive Management concerning the granting of stock options and other incentive systems related to the share price to other Group employees and propose their granting to the Board of Directors.
- Examine and propose to the Board of Directors the allocation of directors' fees among Board members.

The Committee can request the assistance of outside experts if necessary. The company shall provide the Committee in such a case with the corresponding funding.

# **Board of Directors**



Benoît Potier Chairman and CEO Term expires in 2010



**Sir Lindsay Owen-Jones**Vice-Chairman of the Board of Directors
Term expires in 2009



Édouard de Royere Honorary Chairman Term expires in 2008

Born in 1957, Benoît Potier graduated from École Centrale de Paris. He joined Air Liquide in 1981 as a research and development Engineer. After serving as a Project Manager in the Engineering and Construction Division, he was made Vice-President of Energy Development in the Large Industries business line. In 1993, he became Vice-President of Strategy & Organization and, in 1994, was put in charge of the Chemicals, Iron & Steel, Oil and Energy Markets. He was made an Executive Vice-President of Air Liquide in 1995 with additional responsibilities over the Engineering & Construction Division and the Large Industries operations in Europe. Benoît Potier was appointed Chief Executive Officer in 1997. He was appointed to the Board of Directors in 2000 and became President of the Management Board in November, 2001.

Benoît Potier is now Chairman and Chief Executive Officer of L'Air Liquide S.A. He is also Chairman and CEO of Air Liquide International, American Air Liquide Inc. and Air Liquide International Corporation, Chairman of American Air Liquide Holdings Inc., director of Air Liquide Italia Srl. and AL Air Liquide España.

He is also a director of the Danone Group and a member of the Supervisory Board of Michelin.

He owns 10,604 shares.

Born in 1946, Sir Lindsay Owen-Jones graduated in Literature from Oxford University and in business from INSEAD. He joined L'Oréal in 1969. Having started out as a Product Manager, he was appointed to Belgium, and then returned to France where he became Marketing Director of the Consumer Division in 1976. In 1978, he was appointed Chief Executive Officer of L'Oréal's Italian subsidiary, before becoming Chairman and Chief Executive Officer of Cosmair Inc. - at that time L'Oréal's exclusive agent in the United States - in 1981. In 1984, he became Vice-Chairman and Chief Executive Officer, Vice-Chairman of the Management Committee and a director of L'Oréal. He was Chairman and Chief Executive Officer of L'Oréal since 1988 until April 2006, when he became Chairman of the Board of Directors of L'Oréal. He is also Chairman of the Committee for « Strategy and Implementation » of L'Oréal, Chairman of the Board of Directors and a director of L'Oréal USA Inc. and of L'Oréal UK Ltd.

Sir Lindsay Owen-Jones was a director of Air Liquide from 1994 to November, 2001, then Vice-Chairman of the Supervisory Board from November, 2001 until May 10, 2006. Presently, he is Vice-Chairman of the Board of Directors, Chairman the Appointments Committee and Chairman of the Remuneration Committee of L'Air Liquide S.A. He is a director of Ferrari SpA, Italy. He is also a director and member of the Appointments, Remuneration and Governance Committee of Sanofi-Aventis. Sir Lindsay Owen-Jones has been Chairman of Alba Plus SASU since July 2006. He owns 8,016 shares.

Born in 1932, Édouard de Royere graduated from École Supérieure de Commerce de Paris. After having begun his career as a signing officer at Crédit Lyonnais and then as a Vice-President at Union Immobilière et Financière, Edouard de Royere joined Air Liquide in 1966 and became Company Secretary. Director of Air Liquide from 1971 to November, 2001, Edouard de Royere was appointed Executive Vice-President in 1979, Vice-Chairman and Chief Executive Officer in 1982 and served as Chairman and Chief Executive Officer from 1985 to 1995. He was named Honorary Chairman of Air Liquide in 1997 and was a member of the Supervisory Board from November 2001 until May 10, 2006. Edouard de Royere is today a director and a member of the Audit and Accounts Committee of L'Air Liquide S.A.. Edouard de Royere is also a member of the Supervisory Board of Michelin and Censor of Fimalac. He is the Honorary Chairman of the Association Nationale des Sociétés par Actions (ANSA).

He owns 25,977 shares.



Thierry Desmarest Director Term expires in 2009



Alain Joly Director Term expires in 2009



Professeur Rolf Krebs Director Term expires in 2008

Born in 1945, Thierry Desmarest graduated from École Polytechnique and École des Mines and spent 4 years with the New Caledonia Department of Mines, before serving as a Technical Advisor at the Ministry of Industry in 1975, and then at the Ministry of Economic Affairs in 1978. He joined Total in 1981 as Managing Director of Total Algeria. He held various executive positions within Total Exploration Production, ultimately becoming its Chief Executive Officer in 1989 and a member of the Group's Executive Committee that same vear. He became Chairman and Chief Executive Officer of Total in 1995, of Totalfina in 1999, and then of Elf Aquitaine and TotalFinaElf in 2000. Thierry Desmarest was Chairman and Chief Executive Officer of Total S.A. from 2003 until February 2007 when he became Chairman of the Board of Directors of Total S.A.. He is also Chairman and Chief Executive Officer of Elf Aquitaine and Chairman of the Total Foundation.

Thierry Desmarest was a director of Air Liquide from 1999 to November, 2001, then a member of the Supervisory Board from November, 2001 until 2006. Since then, he has been a director and a member of the Appointments Committee and a member of the Remuneration Committee of L'Air Liquide SA.. He is also a director of Sanofi-Aventis and a member of the Supervisory Board of Areva. He owns 1.076 shares.

Born in 1938, Alain Joly graduated from École Polytechnique and joined Air Liquide's Engineering Division in 1962. From 1967 to 1973, he had various responsibilities at Air Liquide Canada, in Montreal, and then in the Americas Division. From 1973 to 1985, he served successively as Vice-President Corporate Strategy and Management, Regional Manager of the French Gases Division, Company Secretary and Secretary of the Board of Directors.

He became director of Air Liquide in 1982, then Chief Executive Officer in 1985 and Chairman and Chief Executive Officer in 1995. Alain Joly was Chairman of the Supervisory Board of Air Liquide from November, 2001 until May 10, 2006. He is presently a director, a member of the Appointments Committee and a member of the Remuneration Committee of L'Air Liquide S.A..

He is also a director of Lafarge and BNP Paribas.

He owns 66,866 shares.

Born in 1940. Rolf Krebs studied medicine and obtained a MD from the University of Mainz. After having lectured there for several years, he joined Bayer AG in 1976 where he held various positions including Head of Pharmaceutical Research and Development, from 1984 to 1986, then Executive Vice-President of Bayer Italia from 1986 to 1989. He joined Boehringer Ingelheim in 1989 as a member of the Management Board, and, from 2001 until the end of 2003, he was Chairman of the Management Board. Rolf Krebs served as President of the European Federation of Pharmaceutical Industries from 1996 to 1998, then as President of the International Federation of Pharmaceutical Industries from 2000 to

Rolf Krebs was a member of the Supervisory Board of Air Liquide from May, 2004 until May 10, 2006. Since then, he has been a director and a member of the Audit and Accounts Committee of L'Air Liquide S.A.. He is also Chairman of the Supervisory Board of Epigenomics AG, Ganymed Pharmaceuticals AG, Merz Pharmaceuticals GmbH and E. Merck KgaA. He is a member of the Advisory Board of Apax Partners, Deutsche Venture Capital, Weissheimer Malz GmbH, Lehman Brothers Ltd and E. Merck OHG.

He owns 605 shares.

# **Board of Directors**



Gérard de La Martinière Director Term expires in 2007



Cornelis van Lede Director Term expires in 2007



Béatrice Majnoni d'Intignano Director Term expires in 2010

Born in 1943, and a graduate of Ecole Polytechnique and of École Nationale d'Administration, Gérard de La Martinière held several positions with the French Ministry of Finance from 1969 to 1984. He was then General Secretary of the COB (formerly the French securities and exchange regulatory body) from 1984 to 1986, Chairman of the Paris Derivatives Clearing House from 1986 to 1988, and Chief Executive Officer of the Paris Stock Exchange (SBF) from 1988 to 1989. Gérard de La Martinière joined the AXA Group in 1989 as Chairman and Chief Executive Officer of the Meeschaert-Rouselle brokerage unit. In 1993, he was named Executive Vice-President in charge of the Group's investments and financial services operations. He then took responsibility for the Group's Holding Companies and Corporate Affairs. He was then a member of the Management Board, then Vice-President of Finance, Audit and Strategy.

Gérard de La Martinière has been Chairman of the French Federation of Insurance Companies since May, 2003. He is also Chairman of the European Federation of National Insurance Associations.

Gérard de La Martinière was a member of the Supervisory Board of Air Liquide from May, 2003 until May 10, 2006. He is presently a director and Chairman of the Audit and Accounts Committee of L'Air Liquide S.A.. He is also a director and Chairman of the Audit Committee of Schneider Electric S.A. He owns 915 shares.

Born in 1942. Cornelis van Lede has a law degree from the University of Leiden and an MBA from INSEAD. Cornelis van Lede successively worked for Shell from 1967 to 1969 and McKinsey from 1969 to 1976 before joining Koninklijke Nederhorst Bouw B.V. as Chairman and Chief Executive Officer from 1977 to 1982. He was then member of the Management Committee of Hollandse Beton Groep from 1982 to 1984. From 1984 to 1991, he was Chairman of the Federation of Netherlands Industries then Vice-President of the Union of Industrial and Employer's Confederations of Europe (UNICE) from 1991 to 1994. In 1991, Cornelis van Lede joined Akzo N.V. as a member of the Management Board. Then, he became Vice-Chairman of the Management Board in 1992 and has been Chairman of the Management Board of Akzo Nobel N.V., then a member of the Supervisory Board of Akzo Nobel N.V..

Cornelis van Lede was a member of the Supervisory Board of Air Liquide from May, 2003 until May 10, 2006. He is presently a director, a member of the Appointments Committee and a member of the Remuneration Committee of L'Air Liquide S.A..

He is also a member of the Supervisory Board of Akzo Nobel N.V., Royal Philips Electronics N.V., Heineken N.V. and a director of Air France KLM, Reed Elsevier and Sara Lee Corporation. He is Chairman of the Board of Directors of INSEAD. He owns 610 shares. Born in 1942, Béatrice Majnoni d'Intignano graduated in 1975 from university with an aggregation degree in economics. She has been Professeur agrégé des Universités at Paris-XII Créteil since 1980 (currency, international relations, macroeconomics, economics of healthcare).

Béatrice Majnoni d'Intignano has been Conseiller Economique à l'Assistance Publique, Paris Hospitals, from 1980 to 1987, and a consultant with the World Health Organization since 1980. She has also been a member of the Economic Analysis Council of the French Prime Minister since 1997, a member of the Editorial Committee of the review Commentaire, and a member of Société d'Economie politique.

Béatrice Majnoni d'Intignano is the author of a large number of books and articles about economics, employment, Europe, the economics of healthcare and women's role in society.

Béatrice Majnoni d'Intignano was a member of the Supervisory Board of Air Liquide from May, 2002 until May 10, 2006. Since then, she has been a director and a member of the Audit and Accounts Committee of L'Air Liquide S.A..

She is also a director and a member of the Remuneration and Agreements Committee of AGF.

She owns 702 shares.



Thierry Peugeot Director Term expires in 2009



Paul Skinner Director Term expires in 2010

Born in 1957, Thierry Peugeot graduated from ESSEC and began his career with the Marrel Group in 1982 as Export Manager for the Middle-East and English-speaking Africa for Air Marrel, and then Director of Air Marrel America. He joined Automobiles Peugeot in 1988 as Regional Manager of the south-east Asia zone, then Chief Executive Officer of Peugeot do Brasil in 1991 and Chief Executive Officer of Slica in 1997. In 2000, he became International Key Accounts Director of Automobiles Citroën and then, in 2002. Vice-President Services and Spare Parts before being appointed to the PSA Peugeot Citroën Vice Presidents Committee. Thierry Peugeot has been Chairman of the Supervisory Board of Peugeot S.A. since December 2002.

Thierry Peugeot was a member of the Supervisory Board of L'Air Liquide S.A. from May, 2005 until May 10, 2006. He is presently a director of the Company. He is also Vice-Chairman of Etablissements Peugeot Frères and a director of Société Foncière, Financière et de Participations, Française de Participations Financières, Société Anonyme de Participations, Immeubles et Participations de l'Est, Faurecia and Compagnie Industrielle de Delle. In addition, he is Permanent Representative of Compagnie Industrielle de Delle on the Board of Directors of LISI. He owns 550 shares.

Born in 1944, a British national, Paul Skinner has a law degree from the University of Cambridge and from the Manchester Business School. He started his career in 1966 with the Royal Dutch/Shell group. After having been responsible for managing several subsidiaries in Greece, Nigeria, New Zealand and Norway, Paul Skinner was appointed President of the Shell International Trading and Shipping Company from 1991 to 1995. He was responsible for strategy and international marketing for Shell International Petroleum Co Ltd from 1996 to 1998. In 1998, he was appointed President of Shell Europe Oil Products. In 1999, he was appointed Chief Executive Officer of Royal Dutch/Shell's global Oil Products business and later was appointed a Group Managing Director of the Royal Dutch/Shell group. After his retirement from Shell, he was appointed as non-executive Chairman of Rio Tinto plc, the global mining company, in November, 2003, and of Rio Tinto Ltd. He has been a director of L'Air Liquide S.A. since May 10, 2006.

He is also a director of Standard Chartered plc, Tetra Laval Group, a member of the Board of Directors of INSEAD and a member of the Board of the British Ministry of Defence.

He owns 550 shares.

# General Management



Benoît Potier Chairman and CEO Born in 1957 – French nationality

# **Executive** Committee



Pierre Dufour
Executive Vice-President
WBL<sup>(1)</sup> – Large Industries
North and South America, Africa,
Middle-East zones
Born in 1955 – Canadian nationality



Jean-Marc de Royere Senior Vice-President WBL<sup>(1)</sup> – Healthcare & Specialities Born in 1965 – French nationality



François Darchis Senior Vice-President WBL (1) – Industrial Merchant R&D, Technologies, Engineering & Construction Born in 1956 – French nationality



Ron LaBarre Vice-President Large Industries: strategy, markets, trainees, project development Born in 1950 - American nationality



Dominique Maire Vice-President Communications Born in 1948 – French nationality



Larry Altobell\*
Vice-President Human Resources
Born in 1945 – American nationality
\*retired December, 31, 2006



Jean-Claude Buono Senior Executive Vice-Président Born in 1943 – French nationality



Klaus Schmieder
Zone Europe
Senior Executive
Vice-Président
Born in 1948 - German nationality



Jean-Pierre Duprieu Senior Vice-President WBL (1) – Electronics North-East and South-East Asia, Japan zones Bom in 1952 – French nationality



John Glen Vice-President Finance and Administration Born in 1959 – Scottish nationality

The Executive Committee handles global coordination between the Group's different programs and activities and focuses primarily on:

- examination of operational management in terms of objectives, progress and action plans,
- steering of projects for change,
- human resources strategy, and
- development.

On January 1, 2007, it comprised the three members of the General Management Team and the seven members of the Executive Committee.





# Our Principles of Action

# Our mission is long term

We have made a commitment to **create value** for our customers throughout the world by bringing them innovative technologies, products and services in our core business: industrial and medical gases and related activities.

We have made a commitment to promote our employees' careers, preserve health and the environment and offer our shareholders sustainable performances over the long term.

# Our values

inscribed in our Principles of Action



# Our commitments

to sustainable development

Creating value for shareholders

Developing the potential of men and women

Preserving life and the environment

Innovating for tomorrow

# Our strategy in each of our businesses





For over 100 years, Air Liquide has been in the same core business, operating under the same name, with steady growth, regular earnings, long-term relationships with its major customers, faithful and long serving employees and a large base of loyal individual shareholders.

To sum up, Air Liquide has recorded sustained growth over the long term and has formalized its commitment to sustainable development focused on four dimensions:

- Creating value for shareholders by developing the company's business performance over the long term and with transparency;
- Developing the potential of the company's men and women in their commitment to common objectives;
- Preserving life and the environment in the Group's operations and at its customers' sites;
- Innovating for tomorrow to guarantee the growth of the company and its customers.

For over a century, Air Liquide has put its shareholders at the heart of its strategy. Today, over 365,000 individual shareholders have put their trust in the Group whose objective is to increase the value of their investment.

Every decision is made with their medium and long-term interests in mind. The Group's sustained performance and its shareholders' loyalty are its most precious assets.

#### Commitments, a charter

Air Liquide is committed to its shareholders through the Shareholders' Charter. It spells out the Group's strong commitments: consideration and respect for all shareholders, listening to them and informing them regularly, remuneration and increased value over the long term and, lastly, personalized services. (see p. III)

#### Closer to our shareholders with the registered share

Of the 146,000 shareholders who already have registered shares, 52,000 of them have decided to be direct registered shareholders and benefit from all the advantages of Air Liquide's services.



Benoît Potier regularly meets individual shareholders.

#### ■ Service +: the registered share

Air Liquide knows its shareholders and so can communicate directly with them and send them invitations to the General Shareholders' Meeting, regional information meetings, the Actionaria fair as well as the shareholders' newsletters. Moreover, they receive a loyalty bonus, with an additional 10% on dividend payments and bonus share issues depending on how long the shares have been held. (see p. XI)

#### ■ Service ++:

#### the direct registered share

Shareholders benefit from Shareholder Services: management and custody of shares free of charge, personal assistance daily, direct and rapid payment of dividends, etc. Buy and sell orders may be placed at very advantageous rates via the Shareholders Services team members or directly through the Internet. Shareholders can also consult their accounts and orders in progress 24 hours a day, 7 days a week.

# Developing the potential of men and women

Air Liquide teams are totally in step with a dynamic and changing world. With all their diversity and competencies, they get involved in daily life to meet their customers' needs and support the Group's development in new geographic or technological territories.

#### **Diversity**

Air Liquide demonstrates diversity by every measure, considering it a rich source of dynamism and creativity: its teams blend nationalities, skills, career paths, etc.

Balancing the responsibilities assigned to men and women is an integral part of this diversity and in recent years the Group has made every effort to strengthen the role of women in its organization. These efforts have resulted in a steady increase in the percentage of women managers: worldwide, they represent 18% of engineers and managers

and 29% of all new hires in this category. Among the 250 managers who make up the subsidiaries' executive committees throughout the world, 12% are women.

#### The right person in the right place

Air Liquide is experiencing strong growth today in new regions in the world, especially in Asia and Eastern Europe, with a rapid increase in team sizes and competency levels. The Group supports this ramping up so that it can meet the needs of each country. China, whose personnel increased by nearly 300 people in 2006 out of a total of 1,300, is a good example. The new personnel come from a variety of backgrounds: first, hiring Chinese employees some of whom already have good experience in their field; others, students who have graduated from the best universities.

After their first year or two in an Air

Liquide unit outside the country, these young high-level engineers (15 to 20 a year) go back to a Group site in China. Another way Air Liquide strengthens its teams in China is to send expatriates there for a three to four-year assignment to transfer skills. In 2006, there were about 40 of them.

Lastly, if there is a specific need (one to six months) in the technical or sales area, the Group mobilizes its most experienced employees through the new Know-AL program. This program focuses on both recognizing and sharing know-how. To send the right person to the right place rapidly, Human Resources reviews are held regularly. They provide a very detailed view of profiles, both on technical and managerial skills and employees' wishes on geographic or professional mobility.

In 2006, Air Liquide formalized the principles that have always guided its operation. These Principles of Action were brought together in a document that spells out the Group's ambition and each employee's behavior with all stakeholders, including customers, personnel, suppliers and partners and local communities. This document also details the Group's approach to the respect for the environment, innovation and performance – Air Liquide's fundamental values. This document is available in 16 languages and is being distributed to all the Group's employees.





**Management Committee of Portugal** 

#### Why have you accepted Know-AL\* assignments?

During the 30 years I've spent at Air Liquide, I've had different positions, from R&D to management of a unit by way of marketing and sales. By taking part in the Know-AL program, I'm sharing my experiences with teams around the world, in areas with strong growth. The two assignments I carried out were short, focused on results to be obtained, and required intensive work in constant cooperation with the local teams. They taught me a great deal, both professionally and personally.

#### What was the goal of the first assignment?

It was to help the Japan Air Gases sales teams to better manage price changes, which I had already done elsewhere. In two trips totaling five weeks, I helped identify the key problems and organize a training program for the sales people to give them the confidence to accomplish this task, which they called "mission impossible". The excellent results obtained were an extra bonus from this Japanese experience, of which I have wonderful memories.



Director, new technological opportunities in R&D

#### How was the next assignment different?

It was in China, to lay the foundations of a profitable growth strategy for gases marketed in liquid form. The difference was especially in the incredible speed at which our business developed in this country.

My role was to help the teams deal with the problems inherent with this very strong growth. I made a certain number of recommendations and suggestions to allow them to be better armed to stay afloat on this wave of growth.

# Preserving life and the environment

Ensuring people's safety, controlling industrial risks, helping preserve the environment by saving energy and developing solutions that really respect the natural order: these are concrete commitments made by Air Liquide and demonstrated each day throughout the world.

#### Worldwide, more intensive risk control

In 2006, Air Liquide finalized the worldwide rollout of a new integrated Industrial Management System (IMS) whose goal is to improve the company's performances in safety, respect for the environment and the reliability of its operations. This unique worldwide system contains a reference for technical procedures and standards that apply to all the Group's units. It is supported by an audit program that strengthens existing controls. An important part of IMS, risk control is given special attention. Risk analyses are systematized at every stage of a project's development and execution or the marketing of a new product or service, from R&D through to the utilization phase. The changes envisioned in existing industrial units will also be analyzed for risks. Each country has one or more risk control managers who carry out risk studies and make sure that the Group's environmenal and safety standards are applied. Air Liquide has a proactive policy to strengthen the safety culture in its teams. Despite these constant efforts, the frequency rate of lost-time accidents rose slightly in 2006, after several years of steady improvement. This increase in accidents is primarily due to the inclusion in the reporting scope, in 2006, of new units whose safety performances are below the Group average.

On a comparable scope, the results are stable and the Group is all the more determined to strengthen its training and awareness-raising programs, in particular on road safety, risk prevention in confined spaces and handling pressurized gas systems, as well as lifting and moving heavy objects.

In 2006, it systematized feedback and the analysis of incidents and near-misses in all subsidiaries in order to identify risks in a more exhaustive way and to further develop a preventive approach to safety.

#### Environment: on Air Liquide and customer sites

In its air separation units, for example, the Group focuses on reducing energy consumption per m³ of gas produced. As for its customers, the Group proposes solutions that make industrial procedures more environmentally friendly. In 2006, Japan signed a particularly large number of contracts in this area. For example, JAG (Japan Air Gases) supplies nitrogen and oxygen to the Showa Denko plastic recycling plant in Kawasaki. It also supplies oxygen to the Daio Paper paper mill on its Mishima site, which has just adopted a paper bleaching procedure in

which ozone replaces chlorine which is harmful to the environment. In total, about one third of the Group's revenues are directly related to products, applications or services that help preserve life and the environment.

Air Liquide was a partner in the Challenge Bibendum organized by Michelin in Paris in June 2006. Created to meet the challenge of clean mobility, the rally brought together 75 vehicles, a dozen running on hydrogen, supplied by two Air Liquide hydrogen service stations, one near the Eiffel Tower. The Group has already designed and built several stations of this kind around the world and now has cutting-edge expertise on the entire hydrogen chain, from production through use in fuel cells\*, as well as in storage and distribution. The Group takes part in various research programs and tests in real-life situations on the use of hydrogen as a clean energy carrier.



#### What does your job cover?

It's very broad: risk management, safety, the environment, industrial conformity, quality... I advise the General Management Team of Air Liquide Brazil on how to make sure our businesses are run with a minimal level of risk. This can go as far as recommending the shutdown of an activity if the risk is too great. I also check the quality of controls and put together appropriate training programs.

#### What is your role in the IMS system?

The risk control manager plays a key role in the Air Liquide industrial Integrated Management System. IMS is based on the idea of continuous improvement. Effective risk management makes it possible to distinguish critical points from those that are not as essential and so to define priorities in action plans and resource allocations. I also participate in risk reviews, make regular visits and carry out audits in our different businesses and units. And I organize seminars for risk management teams and production managers. It's vital for ongoing progress, which calls for a rigorous technical approach.



Senior Expert, Risk Control and IMS Manager

#### Do you work with neighboring countries?

I'm also the risk management expert and IMS facilitator for South America so that synergies between subsidiaries are promoted. So that IMS implementation and the risk management approach are coherent and credible region-wide, we are developing training programs and standard planning, control and recording tools.



Innovation is one of the essential building blocks of the Group's growth strategy. Its teams work on new gas production technologies, innovative applications, services with high added value, etc. They focus their efforts on three main areas: a sustainable environment, healthcare and hygiene and advanced technologies.

#### Almost at absolute zero

Maintained at very low temperatures, some materials become superconductors: they no longer present any electrical resistance and permit very strong electric currents to go through them without heating up. This superconductivity property enables researchers to move forward in the field



A ring 27 km in circumference that transports liquid helium at -269 °C 100 m underground: this exceptional cryogenic system was created by Air Liquide for CERN in Geneva. It will enable scientists to carry out research on the origin of the universe and the composition of matter.

of particle physics and the knowledge of matter. Air Liquide is a stakeholder in this adventure thanks to its Advanced Technologies Division, which develops cryogenic cooling systems that approach absolute zero (-273°C). In late 2006, it delivered a gigantic cryogenic system to CERN (European Organization for Nuclear Research) in Geneva, to supply liquid helium to the superconductor magnets of the future LHC particle accelerator, the largest in the world. Air Liquide also takes part in projects involving the transport of electricity by superconductor cables, notably in the United States.

#### Medical gases

In 2005, Air Liquide launched a research program in the healthcare field on medical gases and their therapeutic applications. This program was implemented throughout 2006, along three main tracks: anesthesia, pain relief and aerosol therapy\*. Moreover, Air Liquide embarked on another research program focused on evaluating the socio-economic impact of homecare and its therapeutic interest for both the patient and the reimbursement structures.

#### Energy and CO<sub>2</sub>

The energy issue is at the heart of a worldwide economic and political debate today. Among the problems raised: fossil fuels will run out in the foreseeable future and their combustion generates a large amount of CO<sub>2</sub>, greenhouse gases\* whose emissions

the Kyoto Protocol aims at reducing. Air Liquide is involved in the issue of  $CO_2$  emission reduction and is taking part in many projects designed to capture this gas after combustion to store it, for example, in deep geological layers. One of the major challenges is producing electricity from fossil fuels without  $CO_2$ . Two major approaches have now emerged that call on large quantities of oxygen.

- The first is precombustion: the fossil fuel (coal, lignite, heavy oil products, etc.) or in the longer run, the biomass, is transformed into a mixture of hydrogen and carbon monoxide through gasification with oxygen. Hydrogen is a clean fuel: its combustion generates only energy and water. As for the carbon monoxide, it can be easily transformed into extra hydrogen and CO<sub>2</sub>, which will subsequently be captured.
- The second is oxycombustion: combustion is done in a single step, in an atmosphere containing only oxygen and not air (oxygen + nitrogen) as in traditional processes. The fumes produced have a very high concentration of CO<sub>2</sub>, which facilitates its recovery. So there are no longer any CO<sub>2</sub> emissions in this electricity production method.

What does Air Liquide's oxycombustion research focus on? As for electricity produced from coal, as is the case in the United States, Germany and China, for example, for the last several years we've been in partnership with a major American boiler manufacturer, Babcock & Wilcox. We are working on using oxygen with special attention paid to optimizing global energy efficiency and ensuring the total safety of the process. For gaseous and liquid fuels, we have large oxycombustion pilot units in our research centers. They enable us to optimize the design of oxygen burners, the recycling of fumes and performances while

Does the Group take part in demonstration projects in this field? Yes. Two that were launched in 2006 are especially important. SaskPower in Canada chose us for its clean 300 MW power plant that uses coal, incorporating capture of the CO<sub>2</sub> emitted. In France, our work with Total to develop the oxycombusion of heavy oil products, first undertaken in 2002, has just reached a new level. We will take part in the implementation of our oxycombustion technology in an industrial boiler on the Total de Lacq site in southwest France.

minimizing emissions.



Director of the Energy, Petroleum and Chemicals R&D program

#### What about CO<sub>2</sub> capture and storage?

There are many research programs in this area in which we take an active part as experts in CO<sub>2</sub> use. In Europe, the program is called Dynamis or ZEP

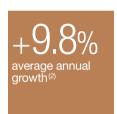
(Zero Emissions Fossil Fuel Power Plants). In the United States, we are partners in a CO<sub>2</sub> storage project backed by the U.S. Department of Energy.

# Key indicators

Since 2002, the Group has been collecting sustainable development indicators. There are now nearly 100 of them on a worldwide basis. Certain of them are key indicators in each of the dimensions of the Group's sustainable development approach.

#### Creating value for our shareholders





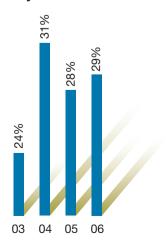
- (1) Adjusted to include bonus share issues.
- (2) Data calculated over 30 years following accounting standards in effect.

These standards changed on January 1, 2005, and have been applied to the 2004, 2005 and 2006 financial years.

#### Developing the potential of men and women

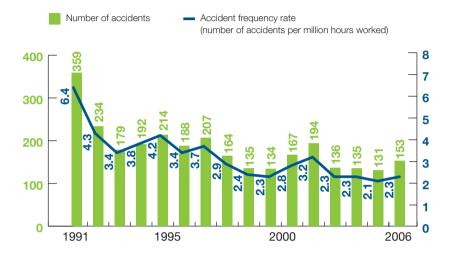
Percentage of women among engineers and managers over 4 years

To raise the rate of women engineers and managers hired to 400/0 in 2009.



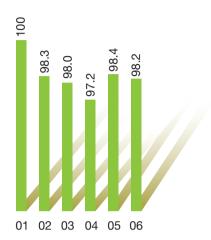
#### Preserving life and the environment

#### Number and rate of lost-time accidents in the Group





Evolution in energy consumption per m³ of gas produced in air separation units



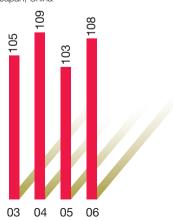


#### Innovating for tomorrow

Number of patents filed in the Group's four main presence zones

Europe, United States, Japan, China

File, from 2005 to 2009, 500 patents in the Group's main zones of presence.



The complete list of indicators is in the second part of the Reference Document.





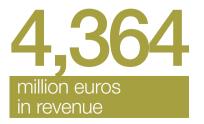
Preservation of flavor

Conservation under modified atmosphere

Priority given to food safety

# Industrial Merchant

Controlling energy costs, contributing to greater safety in manufacturing, improving product quality, reducing effluents for cleaner processes are major challenges for the Group's customers. Air Liquide supports them throughout the world, proposing expertise, know-how and innovation.



45% of Gas and Services revenue

#### Presence

# Quality, productivity, added value

In developed markets, which are the base of our Industrial Merchant business, we constantly work at improving our offers to bring value to our customers through innovative, more reliable and more competitive solutions. A targeted approach to growing markets and our customers' needs resulted, in 2006, in our strong growth in North America and Japan. In Europe, in a less dynamic context, we continued to pool competencies to be more reactive and provide personalized solutions beyond our borders. In 2006, several European countries, moreover, embarked on this approach - adjusting their organization – to strengthen the Group's competitiveness.

Conquest

# Striking progress in emerging economies

In 2006, we continued to record strong growth rates in emerging economies, in particular in China. Latin America and Eastern Europe. In these regions, we worked on local projects with our major customers and used these successes in our Large Industries business as a springboard: our contracts focused on building large gas production units that also permitted us to supply the Industrial Merchant market. Our growth in emerging countries is the joint result of the mobilization of local teams and the support of the Group's international competencies networks.

Innove hou

# Meeting our customers' needs

Convinced that innovation is meaningful only when it meets our customers' needs, in 2006, we strengthened the links between our marketing teams and our researchers. Several research programs were also launched in partnership with our customers, an additional guarantee of a perfect fit with their needs and the rapidity of growth. A good illustration of this approach is the innovation solutions rolled out, for example, in photovoltaics, glass and surface treatments for plastics.



# Food and pharmaceuticals

## The same requirement for quality and safety

These two sectors manufacture products that we consume, to feed ourselves or care for ourselves. Hence the particularly strict requirements for quality and safety they are subject to. In many countries, regulations impose product traceability throughout the entire manufacturing chain.

In the food sector, there are two additional constraints that require manufacturers to continuously adapt their processes: rapid product replacement and cost optimization. To meet food manufacturers' changing needs, Air Liquide proposes, through the Aligal brand, solutions tailored to each segment: dairy products, meat, fish and seafood, pastries, drinks, etc. These solutions deal primarily with controlling the cold chain, preserving fresh and dry products and carbonating sparkling beverages. They include gas supply, application equipment and a major service section: traceability, production parameter control, remote management



and so on. In 2006, Aligal had several successes, notably in Europe in the beverage sector and in quick-freezing of ice creams and precooked dishes. Several products are being developed in Asia, especially in China.

Air Liquide has taken a similar approach for its pharmaceutical customers with the Phargalis offer. In 2006, the Group launched the development of new solutions for biotechnologies, a sector that currently has the strongest growth in this industry.

New flavors and original light textures: great chefs are taking a real interest in liquid nitrogen. Air Liquide has created a specific offer for these pioneers in molecular gastronomy: Aligal Culin'Air. The Group has invited some of these chefs to use their creativity in this field in the experimental kitchen of the Group's research center, in the Paris area. Objective: proposing these recipes to the general public and studying their adaptation to the food industry.



# AIR LIQUIDE IN **SINGAPORE**One more step in international pharmaceuticals

The new contract signed with a major player in international pharmaceuticals, for its brandnew unit in Singapore, has been a joint success. In late 2005, when the team from SOXAL, the Air Liquide subsidiary in Singapore, learned about the new plant of this important Air Liquide customer, it contacted the Group's marketing department in Paris. Air Liquide was already successfully supplying a similar unit in

Europe. The three teams worked together and this cooperative effort bore fruit: backed by a thorough knowledge of the European customer and the proximity created with it, Air Liquide was in a perfect position to propose the best-adapted solution to the Singapore site. This success has strengthened the Group's position in the Singapore pharmaceutical sector, which should double its business by 2014.

# Automobiles and manufacturing

#### An ever more efficient offer

The major trends that have been driving the automotive market for the last few years strengthened in 2006: reduction in polluting emissions, increased safety, the growing role of electronics, more technical materials like polymers, aluminum or high-strength steel. These are promising growth vectors for gases through new solutions designed by Air Liquide.

In the environmental sector, for example, gas makes a contribution on several levels. For thermal treatment of metal parts (transmission, injection) ALNAT's pressurized nitrogen quenching solution has been a thorough success: its advantages have resulted in it replacing the traditional oil quenching process.

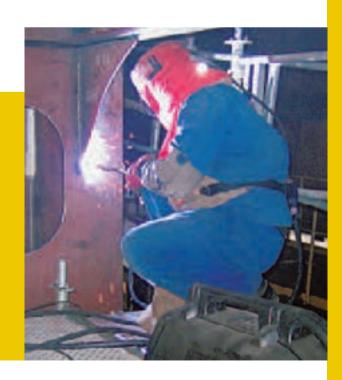
As for argon, it is used in manufacturing silicon carbide particle filters that equip a growing number of diesel-powered vehicles in Europe. In the process control and analysis field, the Group has also developed a dedicated offer that uses high-technology gas mixtures that meet vehicle emission control standards (e.g., European standards Euro 4 and 5\*).

For welding-cutting processes in the car industry and more generally in all assembly processes and metal processing, Air Liquide designs innovative solutions and develops technologies that use robotization and lasers to increase welding speed and quality. A new hybrid laser, combining the laser with a traditional welding process, was launched in 2006, and has led to a first contract in Finland. This offer strengthens and completes our LASAL solution for laser applications. Air Liquide has also created original, value-adding service offers to increase welding productivity. One of them is Cap, based on an innovative management system of welding workshop indicators. It is currently in use in France and Canada and its rollout is underway in the rest of Europe.

# AIR LIQUIDE IN **ROMANIA Aker Yards chooses Air Liquide**

The Braila and Tulcea shipyards in Romania belong to the Norwegian shipbuilder Aker Yards, number one in Europe and number four worldwide in this sector. On these two sites which specialize in ferries, merchant ships and offshores, the priority is clear: improving worker safety and productivity. Air Liquide proposed a global approach to these two sites, based on a preliminary diagnosis

conducted by the Group's
European specialists. Aker
Yards was won over by the
relevance of the diagnosis and
the ensuing solutions,
particularly on training
personnel and completely
reconfiguring gas supply
methods. It turned over all its
welding gas supply and
services for the two shipyards
to Air Liquide. The Group will
also build an acetylene unit
and be totally responsible for
its management.





**ENVIRONMENT** 

ALIX: less lead, more quality

Faced with the gradual prohibition of lead, a toxic element in welding operations, electronic assembly manufacturers must find solutions to avoid oxidation risks that come from using substitute alloys. In this context, the ALIX inerting with nitrogen solution proposed by Air Liquide is encountering growing success, all the more so as it costs less than traditional techniques while improving the quality of the finished product. Several hundred ALIX applications are already in use in Europe and the United States. This solution is expanding rapidly in Eastern Europe and Asia, notably in Thailand. In the U.S., ALIX received the Technological Innovation prize from the jury of the APEX electronic components show, held in California.

#### Traceability

#### A cylinder's slightest movement...

Tracking millions of cylinders is essential for Air Liquide, not only in terms of gas sales or asset management, but also to ensure quality and safety. This is particularly true in the food and pharmaceutical industries, which are subject to strict traceability regulations. Successfully experimented with Carbagas, the Group's Swiss subsidiary, SERVITRAX is an innovative system that tracks individual cylinders. Using computerized reading tools, it enables each cylinder's complete itinerary to be recorded: filling, delivery, return, maintenance, etc. Customers appreciate its benefits, especially more detailed invoicing, a better follow-up of stock, more specific knowledge on the cylinders' consumption, without of course forgetting conformity with legal traceability requirements. SERVITRAX should be rolled out in Europe in the very near future.

# Technology and research

#### Lighting the way

ALUX is a new Air Liquide offer dedicated to the lighting market, or more precisely, to optoelectronics. This booming field has three main sectors: the photovoltaic industry mainly produces solar cells that transform light into energy; fiber optics transport information in the form of light; and light-emitting diodes – LEDs – which emit light from a weak electric current. The ALUX range of products and services, launched in 2006, is strengthening the Group's action in this market.

The photovoltaics industry is buoyed by the growing interest in solar energy almost everywhere in the world. Air Liquide, in line with its sustainable development policy, is helping the surge in this cutting-edge technology with, in this sector, strong growth in sales. In 2006, the Group had a great deal of success with solar cell manufacturers, notably in Europe and Asia. In Germany, the driving force in this field, Air Liquide has continued the momentum of its 2005 successes and signed new contracts with key stakeholders in the solar industry. Spain and France are among the countries that contributed to these European successes. Asia is also banking on the solar sector: annual growth of photovoltaic cell production is about 200% in China, a country where Air Liquide won several contracts in 2006. In Taiwan, a number of contracts were signed with major stakeholders in photovoltaics. The Group has also strengthened its presence in the Philippines with ALUX. In addition, it comes into play upstream in the solar cell manufacturing chain, as can be seen by the contracts signed worldwide that provide gas solutions to manufacturers of solar quality polysilicon, the foundation of photovoltaic cells.

#### Materials and energies

#### A growing interest in gas solutions

Metallurgy, the glass industry, etc: customers' expectations on energy cost reduction and respect for environmental regulations are especially high in these sectors. And there is frequently a gas solution for these requirements. For example, oxycombustion processes that use pure oxygen or oxygen-enriched air have many advantages: they drastically reduce energy consumption, improve furnace yields and increase plants' capacity with a limited investment. Moreover, these processes have a very positive impact on the environment: carbon dioxide and nitrous oxide emissions are sizably decreased. In 2006, the oxycombustion offer grew significantly in developed economics, notably with the signing of a major contract for supplying a float glass furnace. But emerging economies have entered the scene as well. The increase in oil prices has also had a very positive impact on all the oil and gas service companies' activities as they are trying to increase well production by using the fracking (or fracing) technique, an area in which Air Liquide's revenues are rapidly increasing. When the wells start to run dry, an injection of nitrogen or carbon dioxide at high pressure enables deep rock to be fissured so that additional volumes of hydrocarbons can be recovered. This activity is especially dynamic in Canada, the United States and Africa.



#### **ENVIRONMENT**

#### **ASPAL:** cleaner water at lower cost

The reinforcement of wastewater discharge standards, the growth of industrial

activity and the change in manufacturing processes are factors likely to increase wastewater treatment costs. To meet these challenges, ASPAL wastewater treatment optimization solutions are becoming more and more essential. In the United States in particular, as the production capacity of a beverage plant had greatly increased, the plant was no longer able to treat its effluent. So Air Liquide installed TURBOXAL equipment to inject pure oxygen into the wastewater treatment unit. This solution enabled the customer to improve the quality of its effluent treatment while raising its capacity by 20% and reducing its costs by more than 30% a year without any additional investments.

Another trend that is strengthening: a growing number of customers no longer look for a quantity of gas to be supplied, but focus on the quality of the finished product. A good example is the contract signed with Vallourec for its Haumont site, in the north of France. The unit produces metal tubes, which undergo modified atmosphere thermal treatment to meet exact specifications on surface quality and chemical composition for the metal. Air Liquide won a sevenyear contract in 2006 in which it committed to the finished quality of the tubes produced and not the quantity or exact formulation of the gas mixture injected into the furnace. It has also made a commitment to supply the gas 24 hours a day, seven days a week.



#### **INNOVATION** Cleaner, more efficient... and less expensive!

Flexible plastic food packaging is This is an expensive and harmful often multilayered and composed of several elementary materials, including plastic films, that are assembled and printed. In traditional manufacturing processes, a primary adhesive layer is often applied on the films.

step for the environment because it emits volatile organic compounds. Air Liquide has developed a surface functionalization process that makes this operation unnecessary. The efficiency of

this nitrogen plasma\*-based innovation is so great that the films can even be printed with photopolymerizable inks that contain no organic solvent. The first industrial units were installed in 2006 at customers in Germany.

# Craftsmen and distributors

### A host of customers in the heart of daily life

They are plumbers, mechanics, repairmen... Craftsmen enter our daily lives in a thousand and one ways and, quite often, use cylinder gas for welding or metal cutting. They have very specific expectations: they need versatile, practical and reliable products that are not bulky and are easy to transport whenever and wherever they travel. Air Liquide constantly innovates to offer them cylinders that fulfill these requirements. The top of the Minitop cylinder, launched two years ago for craftsmen, has a valve with a built-in regulator and an ergonomic cap. This innovation provides a higher safety level and already equips over 50,000 cylinders in Europe,

with gradual expansion internationally. As for Air Liquide's small cylinder range (2.5 to 11 liters), it has continued to record strong growth, notably thanks to the success of the Rollerflam and Oxyflam welding stations that incorporate them.

Air Liquide constantly works on improving its products' availability so that they are always simply, immediately and continuously accessible. Craftsmen make up a population of customers who are

both numerous and very scattered. And each country has its own particular distribution network. The Group gives each of them the means to implement a distribution policy tailored to the local market. Of note: the Air Liquide distribution networks also propose, besides industrial gases for craftsmen, a whole range of gases for specific applications, notably in the food and diving sectors.



In 2006, the Group launched a new product, Balloon Star, for the general public in France with an advertising campaign on television. Balloon Star is a product for filling balloons with helium that has a pump and 40 balloons. The kit is distributed in small and mid-size outlets and specialty stores.



Tell us about ALNET...
It's the name of our independent distributor network. These distributors

#### INTERVIEW WITH Kim Denney

#### Director of Air Liquide America LP (cylinder gases and distributor network)

buy our molecules and fill their own cylinders with them. They then deliver the cylinders to their customers, for example, craftsmen. For the last year, ALNET sales have jumped and now represent about half of our cylinder gases and distributor revenues.

# Doesn't ALNET compete with your own "cylinder" business?

No, it's complementary. Having a strong distribution network lets us reach more

gas users. Traditionally, independent distributors have been very important in the United States, especially for geographic reasons. Transporting cylinders over very long distances isn't profitable and that's why our cylinder gas filling centers are located where there is a very high industrial concentration. But there are a lot of other users spread out in this huge market! They often prefer to deal with local distributors, like the ALNET distributors.

#### What is the secret of ALNET's success?

First of all, it's our teams' involvement and energy. They've examined each distributor's profitability and product lines. We've also focused our efforts on creating a coherent product and service offer and developed a strong image that they appreciate. And it works: many of them are proud to say that they're an "Air Liquide distributor".



Contributing to the protection of the environment

# Large Industries

Air Liquide supplies refineries and major chemical, energy and metal manufacturers with the gases required for their processes. The Group develops new gas and energy solutions to improve their productivity and to make their production units more environmentally friendly.

2,922
million euros
in revenue

30% of Gas and Services revenue

#### Presence

#### Industrial basins and the pipeline network

We are continuing to strengthen our presence in large industrial basins in Western countries: signing new contracts, creating additional gas production units, extending the pipeline network... A good example of this strategy are two projects launched in 2006. In the port of Antwerp, in Belgium, we decided to double the capacity of our hydrogen production unit to meet manufacturers' increased demand in the largest chemical basin in Europe. In the United States, the startup of the hydrogen unit in Bayport, Texas, doubled the capacity of the Group's pipeline network along the Gulf of Mexico, the epicenter of refining and petrochemicals in North America.

Conquest

# Metals and chemicals: the winning duo for new geographies

In countries with emerging economies, the strong demand for basic industrial goods is bolstering the steel, metallurgy and chemical sectors. The growth of the Chinese economy, in particular, remains very high. We are doing our utmost to benefit from this trend: in 2006, we had great success in China in steel as well as in chemicals. We also embarked on new projects in Eastern Europe, notably in Bulgaria and Romania, and consolidated our bases in the Middle East. Latin America was not forgotten as can be seen from the major contracts signed in the steel sector in Argentina and Brazil.

Innove hou

# Strong growth for hydrogen

Refineries need large quantities of hydrogen to remove sulfur from fuels and the trend toward outsourcing supply to industrial gas specialists has been confirmed. The result: we are recording very strong growth in our hydrogen sales, especially in the United States and Europe. This increase is also due in part to the demand of the chemical industry, which is also a heavy consumer not only of hydrogen but of carbon monoxide.



#### Hydrogen

#### Indispensable for removing sulfur from fuels

Buoyed by new developments in the refining and chemicals markets, Air Liquide continues to record rapid growth in its hydrogen sales. They jumped from 650 million euros in 2005 to over 830 million in 2006 and should exceed 1 billion in 2008. Demand is increasingly particularly quickly from refineries which use hydrogen to reduce the sulfur content in fuels to conform to new environmental regulations gradually being applied worldwide. Today, refineries still produce about 90% of the hydrogen they use, but the increase in needs is leading to a growing number of them outsourcing this production. So growth potential remains very high for Air Liquide. In the United States, for example, the Group's hydrogen revenues have doubled in the last two years. In this country, 2006 was marked by two major events: the startup of the hydrogen production unit in Bayport, Texas, and the signing of an important contract with a major player in refining in California. The new hydrogen unit being built will strengthen the Group's position in the San Francisco basin and permit it to meet the future hydrogen needs of the region's manufacturers.

Once again in the clean fuel sector, in 2006, Air Liquide also brought two large hydrogen units on line in Europe: one in France, on the petrochemical platform in the Marseilles area, and the other in Italy, in the Pirolo refining complex in Sicily.

# AIR LIQUIDE IN THE **UNITED STATES Expansion of the hydrogen pipeline in Texas**



With the startup, in July 2006, of the new hydrogen production unit in Bayport, Texas, Air Liquide took another step forward in its hydrogen expansion strategy in this region. It is one of the Group's largest units worldwide, with a production capacity of 110,000 m³/hour. It is a key element in the reinforcement of the Gulf of Mexico hydrogen pipeline: a new purification unit was built in Freeport and 37 kilometers of additional pipeline were added between Bayport and Texas City. Over half of this new unit's production supplies a large refinery in Sweeny, the rest meets the growing needs of current and future petrochemical customers located along the pipeline.

#### Large Industries

#### CHINA

#### An intense year

In 2006, Air Liquide won on all counts in Asian growth, particularly in China where the economy continues to race full speed ahead. The growth drivers in Large Industries are chemicals and steel, with an increasingly marked trend for manufacturers to outsource their gas supply. The Group is focusing its development on economic zones with high potential, notably in the Beijing-Tianjin-Shandong regions in the north and greater Shanghai in the east.

Air Liquide had two important successes in chemicals in 2006, near Tianjin, with Tianjin Soda and LG Bohai, for supplying air gases. Steel also grew very strongly in Tianjin: Air Liquide signed two contracts for similar 700 tonnes/day air separation units with De Long Steel and Zong Heng Steel. The two projects were

successfully carried out with particularly tight deadlines and in a very competitive context. These conditions are becoming more common in China and have encouraged the Group to show even more reactivity and innovation in the conception of its offer.

Air Liquide has also developed its activity in the Caojing chemical park, near Shanghai, through the SCIPIG (50% Air Liquide, 50% Praxair) joint venture. After startup in 2005 of a hydrogen production unit to supply major international customers via pipeline, Bayer chose SCIPIG to supply air gases to its new plant, which produces polymers, the basic molecule of plastics. Among the Asian success stories is an important air gas contract signed with Shell for its petrochemical complex in Singapore.

#### AIR LIQUIDE IN CHINA

#### Tianjin, a basin with high potential

Located 120 kilometers southeast of Beijing, the Tianjin zone is an important economic development center in the country. Air Liquide, whose first operation there dates back to 1997, is growing at a fast pace. Among the successes in 2006, the signing of a joint venture contract with Tianjin Soda Plant, a subsidiary of Tianjin Bohai Chemical, is a major step forward. This contract calls for the joint venture to set up two large air separation units that

will produce 2,000 tonnes/day of oxygen to supply Tianjin Soda and other companies in the Lingang industrial park. After several equipment sales, this large plant is the first "coal to chemical" reference in gas sales in China. Oxygen and gaseous nitrogen will be used to gasify coal to produce a mixture of hydrogen and carbon monoxide for the different chemical plants.



#### The Middle East

#### New projects in the Gulf states

Many projects are being developed in the Middle East to transform natural gas and petroleum into products with high added value locally. In 2005, the first concrete steps for Air Liquide were quickly in place in this part of the world, notably through the creation of joint ventures with local partners in Oman and Qatar to create gas production units and launch pipeline networks. In 2006, ALSIG, the joint venture founded in Oman, started to supply nitrogen via pipeline to the Sohar basin refineries. In Qatar, the GASAL joint venture is now building an air separation unit and is operating another one that is supplying its first customer in the Messaied basin with oxygen.

The year 2006 also marked Air Liquide's arrival in Kuwait: the Group signed a 20-year contract between its subsidiary Shuaiba Oxygen, also a joint venture, and the Equate Petrochemical Company. Shuaiba Oxygen will supply oxygen, nitrogen and compressed air to Equate's new petrochemical site in Shuaiba. Equate itself is a joint venture between Dow Chemical and Kuwaiti partners. The air separation unit that will be built to fulfill this contract will come on line in 2008.

#### Latin America

#### Dynamic markets

Latin America is another emerging economy zone where Air Liquide boosted its positions in 2006, notably in the steel market. The Group made an important breakthrough in Brazil: in the framework of a consortium of which it is the leader, it signed an air gases supply contract with CSA, ThyssenKrupp's new subsidiary in this country. This contract will mean the construction of two plants, each with a 1,600 tonnes/day capacity. In Argentina, the Group strengthened its partnership with Siderar. The Group has also invested in a 750 tonnes/day air separation unit in Trinidad and Tobago to meet the growing demand of its customers, like Mittal, as well as to supply Nu-Iron, a Nuccor subsidiary.

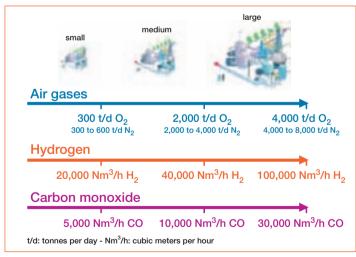
#### AIR LIQUIDE IN ARGENTINA

#### Siderar: renewed confidence

Siderar is the leader in the Argentine steel industry. For many years, Air Liquide has supported the development of its San Nicolás site, north of Buenos Aires, considered one of the most competitive in the world. In 2006, Siderar renewed its partnership with Air Liquide for 15 more years,

broadening existing agreements. Air Liquide committed to deliver 1,900 tonnes/day of oxygen as well as nitrogen, argon and compressed air. To do so, it has set up a new air separation unit on the site that completes the existing facility. It is the third unit built on the site in less than three years.

#### Size of production units



#### Western Europe

#### Resounding successes in chemicals

In 2006 in Western Europe, Air Liquide strengthened its foothold in large chemical basins. It decided to double the hydrogen production of its plant at the BASF site near the port of Antwerp in Belgium. The new unit will meet the growing needs of BASF and other major chemical manufacturers in the Antwerp and Rotterdam basins, the largest in Europe in chemicals and petrochemicals. The existing hydrogen unit is the Group's largest (100,000 m³/hour). Put on line in 2003, it has also been producing carbon monoxide since 2005.

Air Liquide won two major contracts in Estarreja, in Portugal, with Dow Chemical and CUF, already Group customers for hydrogen. Moreover, Dow Chemical uses carbon monoxide. To supply these two customers' new projects, the Group will build a new hydrogen and carbon monoxide production unit, with increased capacity that will replace the existing units.



On May 14, 2006, more than 800 visitors were welcomed at the Air Liquide Antwerp site in Belgium during an "open door" operation organized in the framework of the "Chemical Days".

Another major success in the oil and natural gas market in Western Europe is the startup of the Sannazzaro air gas production unit in northern Italy. It supplies an ENI petrochemicals group refinery for gasifying petroleum residues.

Air Liquide also proposes particularly efficient energy solutions to its customers based on the principle of cogenerating electricity and steam, a fluid that manufacturers use in very large quantities. Cogeneration is 15 to 20% more energy efficient than separate production techniques. In 2006, the Group signed a contract with the electronics manufacturer AMD to expand one of the two cogeneration units on its Dresden site in Germany.



## SOCIAL AND HUMAN COMMITMENT

#### **ITALY**

Dialoguing with the younger generations

The *lo vivo d'aria* (I live off air) program is an Air Liquide Italy initiative that has been a big success with teachers and local communities. The program creates awareness of industrial gases for pupils in elementary schools near the Large Industries air separation unit in Priolo, Sicily. The objective is to create a positive exchange between youngsters and Air Liquide.

In 2005-2006, each class received an educational kit containing brochures, posters on gases and the environment, a CD-ROM with animations and interactive games. The highlight of the program was a visit to the Priolo unit.

The *lo vivo d'aria* permitted several hundred 9 to 11-year-olds to better understand the company's business and its sustainable development values and to become more familiar with the properties of gases and their applications. The employees at the Priolo site very much enjoyed the exchanges with the pupils, particularly on the theme of the environment. Similar operations are planned in other regions in Italy in 2007.



#### Eastern Europe

#### Success in Bulgaria and Romania

At the start of 2007, Bulgaria and Romania joined the European Union. Air Liquide fits in perfectly with this political and economic expansion: in 2006, the Group continued to move forward in Central and Eastern Europe, profiting from the strong industrial growth potential in the region's countries. It strengthened its presence in Bulgaria with two major contracts for air gas sales. The first was a 15-year contract with Cumerio Med JSCo to supply its copper production plant in Pirdop, east of Sofia. The corresponding air separation unit went on line in autumn 2006. The second contract was signed with Stomana, a Bulgarian subsidiary of the Greek group Sidenor, with which Air Liquide has developed a long-term relationship. The contract is to supply air gases to the Pernik steel site, near Sophia.

The Group has also taken a stronger foothold in Romania, where it has begun to supply the new Saint-Gobain flat glass factory in Calarasi with nitrogen and hydrogen.

#### **ENVIRONMENT**

# Even "cleaner" production units

Air Liquide constantly innovates so that its gas production units will have the least impact possible on the environment. In addition to the ongoing improvement in energy efficiency in air separation units, the Group has been gradually reducing water consumption in these units' cooling circuits by implementing new processes. It has also started a refrigerant substitution program that will have an impact on the ozone layer through more environmentally friendly products.



Can you tell us about the scope of your responsibilities?
My objective is to bring in new long-term gas contracts.
The Polish economy is

#### INTERVIEW WITH Pawel Leszczynski

#### **Development Manager, Large Industries – Poland**

booming in all sectors, particularly steel. The large number of infrastructure projects and the production of cars and household appliances are stimulating the demand for high-quality steel whose manufacture requires large quantities of oxygen, nitrogen and hydrogen. I also keep a very close watch on contracts in progress because new opportunities often spring up with customers who enlarge or modify their facilities.

#### You recently took part in a training program...

In 2006, I participated, with other colleagues from around the world, in a training program specially designed for Large Industries development managers. For six intensive weeks, different Group specialists instructed us in methods to better define our customers' needs and technologies. We also deepened our knowledge on gases and Air Liquide applications through visits to

Group and customer sites. Another key aspect of the training: how to better answer bids for tender.

#### What did you get out of it?

This program helped me to better organize my thinking. I am more structured in how I approach potential customers. I understand their technology better and I know more about the Group's offer. With these new skills, my proposals have a better chance of succeeding.

More than 800 Air Liquide employees at our customers fabs



Very strong demand for our ultra-pure special gases

Atrong growth in the flat seven industry

Supporting our customers with new technologies

# Electronics

Computers, flat screens, digital music players, cell phones... Chips are everywhere in our daily life. Air Liquide strongly supports its Electronics customers throughout the world with cutting-edge technologies and very high value-adding services.

864
million euros
revenue

of Gas and Services revenue

#### Presence

# Strengthening partnerships with our key customers

We are continuing our strategy, in the electronics field, of deepening our relationships with our major customers, who are at the heart of our activity. We keep in step with their growth on their existing sites but also in new geographic territories.

The strengthening of our partnership with Hynix is an excellent example: in 2006, we won a new contract for its Icheon site in South Korea, closely following our success in 2005 in Wuxi in China.

STMicroelectronics, Toshiba, AMD and Micron have also renewed their confidence in us with new contracts all over the globe.

Conquest

# New customers, new territories

Apart from the strong links we have built over the years with major names in electronics, our ambition is to constantly win new customers. This happened in 2006 with Intel, Micron's partner in a flash memory project in the United States. We were chosen to supply ultra-high purity gases for a new unit. Conquest also means rolling out certain activities in new territories: in 2006, we decided to set up an equipment production plant in Taiwan to be more reactive to the demand in Asia.

Innove hou

# On the cutting edge of technology and service

Electronics is a field where innovation is king. It is an integral part of our daily life. So in addition to ultra-pure gases, we offer our customers new molecules adapted to the latest chip manufacturing technologies: this is the ALOHA offer, which took off in 2006, exceeding our sales objectives. Innovation also means knowing how to remodel your offer to tailor it to the customers' needs, which we did with Jumbo, a solution designed for large specialty gas consumers. It has been a resounding success. Innovation is also a key element in services: the joint venture created with Toshiba Nano Analysis in Japan is an additional step in this direction.



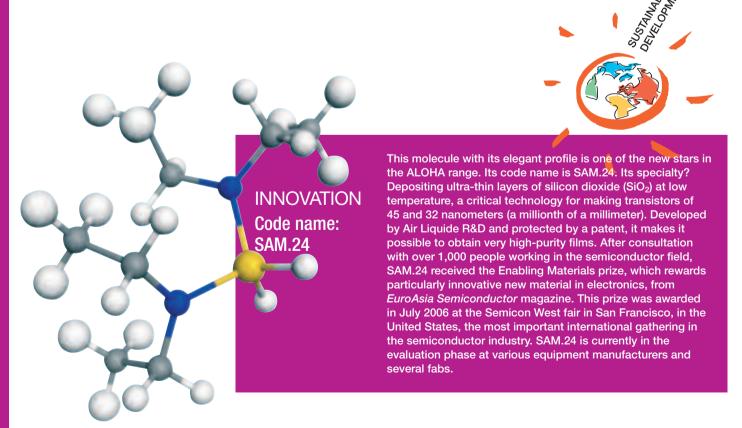
#### New molecules

## The ALOHA offer keeps its promises

The race to miniaturize chips is stronger than ever: there are now more than 1 billion transistors in a chip and this number should be multiplied tenfold by 2010. This feat is made possible by the implementation of new manufacturing technologies that use new equipment and innovative molecules. Air Liquide is a major stakeholder in this evolution alongside international semiconductor manufacturers and equipment makers. The Group currently offers its customers the latest generation molecules - called advanced precursors\* - custom-designed for their new processes. Sales of this high-technology offer, which combines molecules and implementation equipment, launched in 2005 under the ALOHA brand, exploded in 2006, and more than doubled in a year. At the same time, Air Liquide has continued to file patents on new molecules at a brisk pace. A dozen of them are currently in the advanced test phase at major equipment manufacturers.

To support this offer's international rollout, Air Liquide has opened dedicated centers, the ALOHA Centers, that combine molecule production, analysis and filling. Besides the pilot site in Dallas, Texas, two other centers were launched in 2006: in Fremont, in Silicon Valley in the United States, and in Chalon-sur-Saône in France. A third center is scheduled to come on line in 2007 in Japan.

Once again in the framework of the ALOHA offer, the Group is working in partnership with research institutes such as the CEA-LETI, in Grenoble, France, which is one of the largest European applied research laboratories in the microelectronics field. The projects being carried out with the CEA-LETI involve new insulators designed for the chips of tomorrow.



#### Specialty gases

#### Jumbo meets the needs of large consumers



To more efficiently meet the strong rise in demand for specialty gases\* and win more value in this market, Air Liquide has centralized its purchasing policy, reviewed its offer and reorganized the logistic chain. Traditional delivery in cylinders is, in fact, no longer appropriate for fabs that consume large quantities of specialty gases, particularly those that manufacture flat

screens. So Air Liquide developed the Jumbo offer, which includes supplying gases in isocontainers of several tonnes, on-site implementation facilities and a large number of services providing safety and reliability right up to when the gas is used. Launched in

2005, this range became a worldwide success in 2006, especially in Taiwan where leaders in electronics and flat screens such as AUO, CMO, ProMos and Winbond have chosen this solution, as well as in China, South Korea, Japan, Singapore, the United States and France. STMicroelectronics, the Group's first customer to adopt Jumbo, has already implemented it on three sites in Singapore and France. The Jumbo offer primarily provides silane and nitrogen trifluoride and should be expanding to other specialty gases like ammonia soon.

As for the logistics of specialty gases, the ramping up of filling and/or treatment centers, the Electronic Material Centers, gives the Group increased control over the quality and availability of gases in cylinders or containers. There are now seven of these centers, five in Asia, one in the United States and one in Europe.

Why a worldwide approach for specialty gas purchases?

The electronics market is international and our customers are global players that demand identical

#### INTERVIEW WITH Hitomi Ishiguro

#### International purchasing manager, specialty gases for Electronics – Taiwan

specifications for the gases we deliver to their production units, whatever the country. Centralizing our specialty gas purchases gives us a lot more weight in our suppliers' eves, so that we can quarantee the lowest possible prices for our customers while meeting safety requirements. As most of the specialty gases come from Asia, the Air Liquide team that handles these purchases is based in Taiwan. It manages a portfolio of over 70 molecules with at least three suppliers for each of them.

# How are specialty gases different from other markets?

Specialty gases are used in the very heart of semiconductor or flat screen manufacturing processes. These booming industries have extremely high requirements on purity and supply reliability that go hand in hand with the ongoing search for cost reduction, in accordance with Moore's law.

#### What innovations have you introduced?

We are constantly looking for new sources of specialty

gases. So we recently broadened our range of suppliers by including new competitive sources that come for example from South Korea, China or Russia. We have set up a management program for our suppliers, along with regular audits, and we stay in very close touch with them, particularly by following up their production data. All these operations have helped us to considerably improve the results of our latest negotiations.



# INNOVATION JAG innovates in recycling

Thanks to an innovative process developed by Japan Air Gases, xenon can now be recovered as it leaves the fab\*, recycled then reused. This solution is particularly interesting given that this rare gas\*, found in air at a concentration of under 1/10,000,000, is costly to produce in quantity, which can only be done in large gas separation units. The system JAG created does not entail any process modification or extra cost for the customer. Once it is captured and purified on a JAG site, the recycled xenon is then made available to customers with the same purity level as that of the original gas.

# Equipment and sites

2006: a vintage year

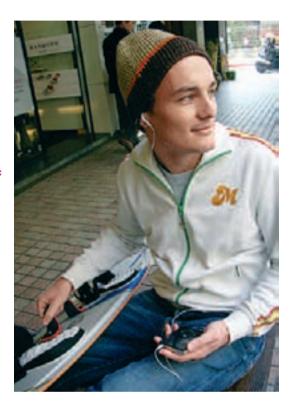
The large electronics companies made major investments in 2006, either to increase capacity in their existing units or to create new ones, generally by making a technological leap, for example, going from 200mm to 300mm-diameter wafers. For Air Liquide, this meant many successful sales of equipment and ultra-pure gas and liquid chemical distribution facilities. To better meet the extremely strong increase in demand in Asia and to be nearer

its customers, Air Liquide decided, in 2006, to set up an equipment manufacturing unit in the Taichung electronics basin in Taiwan. This new ALES (Air Liquide Electronics Systems) site will bolster the Group's reactivity in this area of northeast Asia where the overwhelming majority of semiconductor and flat screen production plants are located and 80% of all investments will be made in the next 10 years.



#### **Flectronics**

Ergonomic, practical, a global phenomenon... In five years, pocket-sized digital music players have invaded our world. About 140 million were sold worldwide in 2005, a figure that should double by 2010. At the core of these technological gems are very special semiconductors, NAND flash memories. The explosion of the digital music player market has brought about a very strong demand for these memories and the ultra-high purity gases needed to make them. In early 2006, the two semiconductor giants Micron and Intel created a joint venture (IMFT) totally dedicated to NAND memories. Air Liquide geared up to meet this manufacturer's, and more generally this market's, growing needs with a complete equipment and service offer.



#### Service

#### More than 800 Air Liquide people at the fabs

Proximity to the customer has real meaning for the Air Liquide Electronics teams: more than a third of the employees, about 800 people, are totally integrated into the customers' teams around the world. They handle the complete management of ultra-pure fluids in the fabs (Total Gas and Chemicals Management) and provide many complementary services, notably in analytical expertise. The service offer is continuously expanding. In 2006, new TGCM\* contracts were signed with AMD in Dresden, Germany, and with Micron in Lehi, Utah, in the United States.

The Fabnet information system developed by Air Liquide to control, in real time, the supply chain for all products entering the fab, was adopted by STMicroelectronics and rolled out in five of its sites worldwide in 2006. This highly technical solution is a very efficient reporting tool for the customer, who has access to all the data via intranet and Internet portals.

# AIR LIQUIDE IN **JAPAN Going further in service**

In Japan in 2006, Japan Air Gases seized an opportunity to broaden its service offer through the creation of a partnership with Toshiba Corporation. JAG bought 51% of TNA (Toshiba Nano-Analysis), a Toshiba unit specialized in the analysis and evaluation of materials for electronics

and other advanced industries. These sectors have very strong growth and high-technology service requirements in common. The new TNA's goal is to become a leading player in its field, in Japan and in the other Asian markets.



#### A universe in motion

#### New projects everywhere in the world

Air Liquide clearly profited from the dynamism of the international electronics industry in 2006. It signed a large number of carrier gas\* contracts throughout the world. The Group notably strengthened its partnership with Hynix in South Korea, number two worldwide in memories. Air Liquide signed a 10-year agreement to supply ultra-high purity nitrogen to its new 300 mm fab in Icheon, South Korea. A few months earlier, it had started up the ultra-pure carrier gas unit that supplies the Hynix-STMicroelectronics joint venture site in Wuxi, China. Air Liquide is also Hynix's supplier for its other South Korean fabs in Chungju and its unit in Eugene, Oregon, in the United States. In Europe, AMD selected the Group to supply its latest generation fab (fab 38) in Dresden, Germany, with carrier gases.

Air Liquide also supports young innovative companies that are rapidly expanding. One example is Soitec, a French startup. This firm has developed a silicon wafer manufacturing technology that improves the wafers' electrical properties and enables chip manufacturers

to operate them at higher frequencies. Air Liquide, which supplies the Soitec site near Grenoble, France, was chosen to provide ultra-pure gases to its future production unit in Singapore, the first in Asia.



These two photos were taken barely 17 months apart. A record time for building the two twin fabs of the Hynix-STMicroelectronics joint venture in Wuxi, near Shanghai, in China. Air Liquide was selected as its partner to supply ultra-high purity gases. At the inauguration on April 28, 2005, Hynix-STMicroelectronics announced its plan to double the site's capacity in a very short time (six months). This is a perfect illustration of the speed at which the electronics world in Asia changes. Air Liquide has taken up the challenge and is bringing everything into play to meet this demand for speed and reactivity.



In September 2006, Air Liquide received the 2005 trophy for performance, the "World Class Supplier Achievement Award", from AMD in recognition of the outstanding quality of its service and reactivity.





From the hospital to the home, at your side day after day

# Healthcare

Air Liquide, a specialist in medical gases and respiratory treatments in both the hospital and the home, develops new therapeutic applications, gases and services. Its teams work hard to strengthen its position as a major player in the healthcare sector.

1,478
million euros
revenue

16% of Gas and Services revenue

## Prosence

#### Growth in market shares and efficiency

In the countries where we are already present, in particular in Europe, we are continuing our strategy of strengthening our positions. The acquisitions carried out in 2006 in healthcare in Germany and hygiene in Italy are good examples. We have also modified our organizations in several countries (Canada, Italy, etc.) to increase efficiency in managing the administration of patients' files. This area is growing rapidly in all healthcare sectors and notably in homecare. And once again in the area of efficiency, we have started to roll out a European computer system dedicated to homecare.

# Conquest

#### New territories

Even if we are the leader in healthcare in Europe, there are still sectors in which we can grow. In homecare, for example, we made our first acquisition in Sweden in 2006 and we started up an activity in Poland. Asia is one of the big markets of the future: we opened an office, in Shanghai, in China, and we are working with the Chinese medication agency on registering several medical gases. There has also been good growth in Latin America: our revenue is increasing nicely on the continent and the opening of offices for our hygiene and medical equipment businesses will bolster this dynamism.

## Innove hou

#### Therapeutic gases and new services

Launched in 2001, our strategy for developing therapeutic gases has now taken root: three new medical gases are being marketed in several European countries and are being gradually rolled out continent-wide. A fourth should be launched in 2007. We are also innovating in service, for example, by exploring new opportunities such as home hospitalization or offering state-ofthe-art solutions for preserving biological tissues through cryoconservation. These advances in the medical gases and services sector go hand in hand with the development of innovative medical equipment to administer these gases. One example is Félix Dual, a new device that dispenses xenon and nitrous oxide for anesthesia.



## Medical gases

## Ramping up of therapeutic gases

Medical gases are everywhere in the hospital from the operating room to the patient ward, from the emergency room to the resuscitation room. They are indispensable for fighting respiratory ailments, relieving pain, administering an anesthetic or operating. In a growing number of countries, they have the status of a medication, which means Air Liquide's medical gas subsidiaries are in fact pharmaceutical laboratories subject to the same quality, purity and traceability requirements. Apart from oxygen and nitrous oxide, found everywhere, Air Liquide has been developing new therapeutic applications for the last few years. Three new gaseous medications were launched in five years. Kalinox (an analgesic), marketed in France since 2001, made its début on the Spanish market in 2006. It has had excellent performances in these two countries. For Kinox (pulmonary arterial hypertension),

sold in France since 2002, marketing authorization has been requested for Europe. The last launch to date: medical xenon, a powerful anesthetic gas, marketed in Germany in 2005. It should also grow quickly on an international scale. To support this strategy of expanding therapeutic gases, Air Liquide is building a dedicated production center in Antwerp, Belgium, that should be on line in 2007. The Group is also developing new adapted equipment through its subsidiary Taema and is carrying out research on new generation therapeutic gases.

Along with supplying medical gases, Air Liquide provides hospitals with a host of services to guarantee that its gases are always available. It manages all the cylinders and maintains installations. Caregivers are also provided with training. Lastly, thanks to its expertise in medical gas networks, it plays an important role in hospital construction sites (for example, in the framework of the 2007 hospital plan in France).



## AIR LIQUIDE IN **SPAIN Kalinox is successfully launched**

After France in 2001, Luxembourg in 2002 and Belgium in 2004, Kalinox received market authorization in Spain, where it was given an enthusiastic welcome in the medical community. By the end of 2006, a dozen large hospitals had already referenced it. Kalinox is an analgesic gaseous medication that relieves pain caused by short medical procedures such as lumbar punctures, sutures, burn treatments, in-hospital dental care, etc. Its effect stops immediately after it is administered and may be used for very young children as well as adults. Hence the success it has encountered, especially in pediatric departments.

The Lagoon vacuum regulator, developed by Taema, received the 2006 "Janus de la Santé" from the French Institute of Design. This prize rewards the efficiency and ergonomics of this product, which was just launched in France and will be exported worldwide in the very near future.



## Medical equipment Opening new territories

The Group's healthcare offer also includes an equipment segment run by its subsidiaries Taema and Markos Mefar. They develop and market medical gas distribution systems as well as anesthesia, resuscitation, ventilation and aerosol therapy\* equipment. Taema and Markos Mefar have been working in the same medical equipment business unit since 2006 to develop synergies, commercial in particular.

Business was strong in 2006, especially in emerging countries. The Extend resuscitation device, for example, recorded good performances in India and China. Taema also opened a sales office in Russia and Brazil. In the latter, Air Liquide won two major contracts with a group of private hospitals to supply 70 intensive care respirators. The new Saõ Paolo office increases proximity with Latin America customers.

Medical gas administering equipment also benefited in 2006 from the construction of a large number of hospitals in the developed countries.

## Cryoconservation

#### Going further in service

Blood cells and biological tissues to be used at a later time for therapeutic, diagnostic or research purposes are preserved at very low temperatures through cryoconservation\* using liquid nitrogen. Air Liquide designs and manages cryoconservation rooms in several European countries and signed its first contract in the United States in 2006. The Cryosmart information system, created by the Group to run these rooms, received recognition at the Air Liquide 2006 Innovation Day awards.



SOCIAL AND HUMAN COMMITMENT

PARAGUAY Children who smile again The goal of Operation Smile, an international humanitarian organization, is to repair, free of charge, cleft palate and other facial malformations in children from disadvantaged families. When one of their missions was recently launched in Paraguay, the Air Liquide subsidiary, the country's leader in medical gases, immediately answered the call and supplied the oxygen and equipment needed for these operations. Air Liquide Paraguay contributed its expertise to a team of over 50 volunteers from six different countries: plastic surgeons, anesthesiologists, nurses, pediatricians, dentists, speech therapists, etc. Thanks to this team effort, the operations took place, with successful outcomes, for five consecutive days at the Ejército San Jorge hospital in Asunción, literally putting a smile back on the faces of 142 children and teenagers.



## Hygiene

#### A constant concern

Hygiene has become a top priority for hospitals faced with the problem of nosocomial illnesses and the increase in resistance to antibiotics. The appearance in recent years of worldwide epidemics such as SARS or avian flu has heightened this concern. The principal means of prevention is strict hygiene for hands, surfaces and the ambient air. To carry this out, hospitals have implemented draconian measures.

The leader in hospital disinfection in France, Air Liquide offers a complete range of disinfection products through its subsidiaries Anios and Schülke&Mayr. Both had excellent performances in 2006 in Europe as well as internationally. Hydro-alcoholic solutions for disinfecting hands were particularly successful. To manage the boom in the hygiene market, Anios built a new plant near Lille, in France, which went on line in

late 2006. This plant will enable it to double its current production capacity. Another high point for Anios in 2006: the acquisition of the Italian company Farmec, the leader in its country of the hospital hygiene products market.

Sterilizing surgical instruments is another way of fighting nocosomial infections and a certain number of hospitals have decided to outsource this operation. Air Liquide offers this service through its subsidiary Omasa.

Air Liquide is just as vigilant about hygiene for its own homecare activity. All equipment returned from the patients' homes is rigorously cleaned and disinfected by a process developed with Anios and Schülke&Mayr. Once it is disinfected, each piece of equipment is checked and wrapped in airtight film to prevent any risk of contamination. These measures guarantee maximum protection for the next patient as well as for Air Liquide personnel.



Where are the growth opportunities in your sector?

We cover 24 countries in Eastern Europe and the Middle East. We hold a good market share in Eastern Europe and growth

#### INTERVIEW WITH Andrea Docekal

#### Manager of the Export Department of Schülke&Mayr – Vienna (Austria)

forecasts are excellent, particularly in the dental area and for our range of Octenisept antiseptics. The outlook is just as good in Turkey and the Middle East: Syria, Lebanon, Iran, Saudi Arabia and the Persian Gulf states. These markets have a high potential and the hospitals are frequently very well equipped, but have real needs in hygiene products, services and training.

## What are the challenges in these countries?

Each country has its own systems and standards or deficiencies. And we mustn't forget that there are

enormous cultural and political differences. You need a lot of energy and time, two years on average, to penetrate a country. It's easy to get a foothold but just as easy to lose one if you take a false step! It's vital to have a trusted local partner for support: it facilitates our movements, hospital access and relations with the medical teams so that we can see how things work in the field. This helps us to design complete and adapted hygiene solutions.

## What do you like about your work?

After 10 years, I still find it as exciting as ever... A single day doesn't go by without a new opportunity. The potential is so great that we have to use our resources selectively. But when you start to see a return on your investment, like in Iran or Syria where we are in five hospitals and are moving toward consulting and training in hygiene, it's extremely rewarding for me and my team.

#### Homecare

#### New positions in Europe

Through its homecare activity, which celebrated its 20th anniversary in 2006, Air Liquide supports over 300,000 patients treated at home primarily for respiratory ailments, sleep apnea or diabetes. This figure has increased fivefold in 10 years and will continue to climb in the future. Homecare is steadily becoming more commonplace in developed countries because it is less expensive for the state than hospitalization and allows the patient to be treated in more comfortable surroundings. So healthcare systems are gradually moving toward better coverage of homecare.

Most of Air Liquide's services are provided through the VitalAire, Orkyn' and Medicasa brands. These include supplying oxygen and the related equipment for respiratory assistance (oxygen therapy\*, ventilation, aerosol therapy\*, etc.) or the treatment of sleep apnea. Air Liquide also provides insulin pumps for diabetics and is broadening its offer to ambulatory perfusion and enteral nutrition\*. The service end is especially important: quick intervention, 24/24 emergency service, managing administrative files, train-

ing the patient and his family, working with medical and paramedical personnel and reimbursement structures.

In this dynamic market, which benefits from the evolution of the age demographic, Air Liquide continued its growth strategy in 2006, particularly in Europe, where it is the leader. In Germany, where homecare is booming, the Group strengthened its position by buying the Nord Service Projects (NSP) company, near Hamburg, closely following two 2005 acquisitions (Rubel, Zuther & Hautman). It was also buoyed in the Swedish market by the purchase of the Aiolos Medical company in Karlstad, west of Stockholm. The Group is looking to Eastern Europe: it started up a homecare activity in Poland, in the Warsaw area.

Air Liquide has continued its homecare development in Japan, notably by acquiring the Toray Medical company in 2005.



## INNOVATION

# HOMES Mobile information technology at the service of homecare

Homes is a mobile data exchange tool that improves Air Liquide's homecare service efficiency. This mini computer terminal is designed for the Group's technicians, medical-technical counselors and delivery people, who visit patients at their home. It increases the speed and reliability of technical information transmission. Apart from reducing errors by eliminating handwritten instructions, Homes gives them access in real time to all relevant information on the patient's condition or treatment. It also enables a certain degree of standardization, for example, in medical equipment maintenance. In the end, this system improves the competitiveness of Air Liquide's homecare activity by paving the way for new valueadded services. Homes was singled out in 2006 at the Air Liquide Innovation Day awards. It is now on line in Spain and Australia and its international rollout is underway.



#### **TRAINING**

#### Partnership with the French Red Cross

As the homecare profession is relatively recent, there are still no specific training programs in France in this field. Aware of this vacuum, Orkyn' took the initiative in 2000 by creating a training program with the French Red Cross to grant a medical-technical counselor diploma. The 450 hours of training spread over 18 months focus on skills in communication, counseling and evaluation of the patient's global environment. Regulatory, economic and public health issues are also dealt with. This diploma, on its way to being professionally certified, should be recognized by the state in the very near future. It will be the first official diploma in healthcare in France.

## An increasingly demanding profession

The growth in homecare goes hand in hand with an increased demand for the professionalization of those who work in the sector. In many countries. healthcare authorities are gradually setting up a regulatory framework that spells out the qualifications required for the various professionals in the field. Canada is at the forefront as diplomas have been granted for the different technology and service professions in homecare for many years. Germany requires a specific qualification and knowledge level for ventilation administered in the home. Since 2006, in France, homecare services for the treatment of diabetics must be carried out by medical personnel who are at least equivalent to nurses. Air Liquide is playing a pioneering role in qualification: it has set up a training program with the French Red Cross.

Home hospitalization is another trend that is emerging in several European countries, and is starting to attract private operators. Until now, this service was only provided by the hospital and the patient was monitored at home by a medical team from the hospital. Air Liquide is now involved in experiments in outsourcing this service in Spain and Italy. This market should develop in the coming years.



Safety is a priority in homecare as it is in all the Group's activities.
Considerable progress has been made in the last few years. Everywhere in the world, awareness campaigns bring home the following message: "Take as good care of yourself as you would your patients". Example: this poster distributed in Japan.

#### Handling information circulation

Monitoring patients at home involves several participants: prescribing physicians, Air Liquide teams, healthcare organizations, etc. Information circulation and processing are vital to the quality of the service. And to meet this need, VitalAire has developed a new tool in France for prescribers: VitalWeb. This computerized system provides them with access to technical data collected by Air Liquide to monitor their patients: equipment parameters, maintenance reports, patient adherence to the treatment, etc. So physicians can consult their patient's file at any time, especially during a visit. This service fulfills a real need for the medical profession.

A concentrate of immovations and technologies

A wide nauge of exipients and surfactions

We're everywhere, even where you don't expect us

# Related activities

The technological know-how Air Liquide has developed in the gas business takes concrete form in complementary activities: engineering, sophisticated cryogenic systems, the aerospace sector, the fuel cell, welding, diving, specialty chemicals, etc. All of them use cutting-edge expertise.



# Aeronautics and space

#### From airplanes to the Ariane rocket



Air Liquide has been involved in the European space adventure since its very beginnings over 40 years ago. Several of the Group's units take an active part in it. In French Guiana, a structure is dedicated to the European Ariane 5 launch pad in Kourou, supplying all the related gases and services. The Cryospace subsidiary (55% Air Liquide, 45% Astrium) in Les Mureaux in the Paris area, designs, develops and manufactures the oxygen tanks for the launcher's main stage, which contain nearly 160 tonnes of liquid hydrogen and oxygen. The Group's Advanced Technologies Division, located near Grenoble in France, builds oxygen tanks for the

cryogenic upper stage of the new, more powerful Ariane 5CA launcher, which became operational in 2006.

Air Liquide has developed cutting-edge expertise in aeronautics, put to use in onboard oxygen (OBOGS) and nitrogen (OBIGGS) production systems. The OBIGGS generators, based on membrane\* technology, are used for fuel tank inerting. They have garnered one success after another with several contracts signed in 2006, in particular in Spain, Italy and India. Airbus proposes the OBOGS oxygen generator, which is based on adsorption\* technologies, to airline companies to supply oxygen masks for the A380.

## Specialty chemicals

## An activity driven by cosmetics and pharmaceuticals

Air Liquide's subsidiary SEPPIC designs and manufactures surfactants\* for the cosmetics and pharmaceutical sectors and for special industrial applications. It is one of the international leaders in this field and has had solid growth, particularly in cosmetic ingredients and animal vaccine adjuvants. Driven by the strong demand in these adjuvants in Asia, SEPPIC built a production unit in Shanghai, which will go on line in 2007.

In 2006, the Castres site in the south of France finished its revamp, started in 2003, to lower the risk level as it is now surrounded by residential areas. Ethylene oxide and propylene oxide-based production was transferred to a new unit in the heart of the Antwerp petrochemical complex in Belgium. The Castres site now focuses on production that uses renewable raw materials of natural origin (primarily glucose). This ambitious project, executed in close cooperation with local partners, is an outstanding example of Air Liquide's interest in better protecting the environment.

## Cryogenics

## Very low temperatures to serve science

Air Liquide, through its Advanced Technologies Division, is a recognized specialist in extreme cold, and its researchers carry out ever more specialized work in the knowledge of matter, as one example. The cryogenic solutions they develop, using helium, hydrogen or nitrogen in particular, are implemented in many scientific and technical fields. The enormous liquid helium distribution system delivered to CERN\* in Geneva at the end of 2006, is unique in the world. It represents a new step in particle physics and will move research on the origin of the universe forward. Very low temperature cryogenic applications are also widespread in the aerospace sector. The Group designed and built the cooling systems

for the onboard infrared detectors in the European Herschel and Planck space observation satellites, to be launched in 2007. It also built the cryogenic core of the MELFI refrigerator, which has been functioning on the International Space Station since 2006 and is used to preserve biological samples.

# Hydrogen energy and the fuel cell\*

## An approach focused on sustainable development

For the last several years, Air Liquide has used its hydrogen know-how to search for clean energy solutions based on the fuel cell, an operation that fits in perfectly with its sustainable development approach. It takes part in many projects on transportation in Europe and North America, hydrogen storage, vehicle fuel supply (service stations) and the fuel cell. With its subsidiary Axane, specialized in the fuel cell, Air Liquide is the leader of the European Hychain-Minitrans project, which is testing, in real-life situations in four regions in Europe, 158 vehicles that run on hydrogen.

#### A difficult challenge

Jeffrey N. Williams, the NASA astronaut, puts biological samples into the MELFI cryogenic refrigerator. On July 4, 2006, MELFI went onboard the Discovery space shuttle to dock with the International Space Station and became operational on July 19. The MELFI is a cryorefrigerator that can preserve biological and other scientific or experimental samples at up to -95°C before their return to earth. Air Liquide designed and developed the cold production turbomachine that is the dynamic part of MELFI.

The Group's specialists responded to a difficult challenge: focusing on a very small part of equipment that is usually found in industrial installations while providing the high level of reliability and safety required for manned flights.





ENVIRONMENT
The fuel cell

Air Liquide and Axane are continuing the rollout of fuel cell-based stationary generators to supply mobile telephone relay stations with energy. After a first project in Greece in 2005, the Group was once again successful in this field in Spain in 2006, with Telefonica. Other projects are underway, notably in Canada.

#### Related activities

The new TopTig torch system was a big success in 2006 in Europe and Japan.



## Diving

#### State-of-the-art diving equipment

Agua Lung International, an Air Liquide subsidiary, offers an enormous range of equipment and products for competitive, recreational, military and professional diving as well as swimming. It is the leading manufacturer of diving equipment worldwide. Its number one position results from a policy focused on quality products, based on the expertise of its R&D centers and production sites and a particularly extensive and efficient worldwide distribution network. There are a dozen units in Europe, North America and Japan and about 50 distributors in other regions. Swimming and military diving were especially strong activities in 2006. The result is a global rise in revenue that strengthens Aqua Lung's leadership position, with the American and Russian markets having the best performances.

## Engineering

#### 2006: an extremely active year

Air Liquide Engineering has over 1,400 employees in five centers around the world (France, the United States, Japan, China and India). These teams design and build production units for the Group and its third-party customers, constantly improving production technologies to increase the units' efficiency and reliability. Engineering was extremely active in 2006. Many units were put on line throughout the world, in particular to produce air gases and hydrogen. Three large hydrogen units for the energy sector started up in 2006 in the United States (Bayport, Texas), France (near Marseilles) and Italy (Priolo, Sicily). Moreover, the Group signed a large number of contracts, especially in air gases in the emerging economies (China, Eastern Europe, the Middle East, Latin America). Large Industries brought off new coups in hydrogen that will entail building three very large units in California, Belgium and Portugal.



Aqua Lung diving equipment specially designed to match male and female bodyshapes, most importantly with diver safety and comfort in mind.

## Welding-cutting

#### New energy-related markets

Air Liquide's welding and cutting business is handled through Air Liquide Welding. It focuses on the production and marketing of equipment (welding units, metal-cutting machines, etc.) and consumables (flux-cored wire, covered electrodes, flux, etc.). Strong growth in the energy sector means a sizable increase in the demand for welding consumables. Air Liquide Welding has developed a complete range of solutions for the new cryogenic pipelines that transport liquefied petroleum gas. It has also launched innovative solutions for offshore platforms, especially for welding high-strength steel, and for the nuclear industry to manufacture the latest generation of radioactive waste storage containers.

The year 2006 also marked the international rollout of TopTig, a torch system that appreciably improves welding quality on thin sheet metal by eliminating any projections and producing very smooth welds. Another highlight of the year: the new welding unit ranges Digi@wave and Citowave, launched in 2005, received a "Janus de l'Industrie", a prize awarded by the French Institute of Design.

The brand portfolio was refocused on five commercial brands, replacing the previous 15. Three are for industrial markets: SAF-FRO, Oerlikon and Cemont. The fourth brand, Weldline, targets the welding environment (gloves, welder's protection, etc.) and the last is for the general public and is called Weldteam.



What does your work entail?
I run a team of 17 researchers who develop

#### INTERVIEW WITH Chantal Amalric

#### Manager, Hygiene and Care research department – SEPPIC

and test ingredients used in the cosmetics industry. We're specialized in hygiene and skincare products, a very specific area. For the last few years, we've been working on extremely specific ingredients and compositions with high added value, protected by patents.

How do you identify your customers' needs?
We regularly invite them to our site, for example, so that we can work together. This

proximity makes exchanges easier and is both interesting and stimulating. But although France is still the leader in cosmetics, our customers are becoming more international. So we've opened cosmetic training centers in the United States and China. These centers welcome participants and provide counseling and technical support so that we can keep in step with our customers in development of their new products.

#### What motivates you the most?

First, being in a team. We work closely with our customers, our salespeople, other researchers and the production teams. In the end, when I'm in a beauty products stores, I really enjoy picking up an item and seeing the name of our product on the list of ingredients!

## Income statement

#### Year ended December 31

In millions of euros	2005	2006
Revenue	10,434.8	10,948.7
Purchase	(3,945.5)	(4,240.6)
Personnel expenses	(1,856.4)	(1,939.5)
Other income and expenses	(2,218.0)	(2,201.2)
Operating income recurring before depreciation and amortization	2,414.9	2,567.4
Depreciation and amortization expense	(897.3)	(908.2)
Operating income recurring	1,517.6	1,659.2
Other non-recurring operating expenses	(44.8)	2.6
Operating income	1,472.8	1,661.8
Net finance costs	(163.1)	(155.4)
Other net financial expenses	(49.1)	(42.2)
Income taxes	(370.7)	(419.8)
Share of profit of associates	36.5	27.7
Profit before minority interests and discontinued operations	926.4	1,072.1
Net profit from discontinued operations	80.6	
Profit for the period	1,007.0	1,072.1
Minority interests	73.6	69.8
Net profit (Group share)	933.4	1,002.3
Basic earnings per share (in euros)	7.86	8.35
Diluted earnings per share (in euros)	7.82	8.28

The notes to the financial statements are in the second part of the Reference Document.

## Balance sheet

#### Year ended December 31

In millions of euros	2005	2006
ASSETS		
Non-current assets	11,200.6	10,973,6
Goodwill	2,646.1	2,614.7
Other intangible assets	386.0	367.2
Property, plant and equipment	8,168.5	7,991.7
Other non-current assets	872.1	814.2
Non-current financial assets	294.1	240.6
Investments in associates	166.1	171.4
Deferred tax assets	411.9	402.2
Total non-current assets	12,072.7	11,787.8
Current assets	4,215.7	4,507.5
Inventories and work-in-progress	653.8	694.3
Trade receivables	2,429.7	2,490.7
Other current assets	429.6	358.4
Current tax assets	38.3	34.1
Fair value of derivatives (assets)	66.1	32.5
Cash and cash equivalents	598.2	897.5
Total assets	16,288.4	16,295.3

In millions of euros	2005	2006
EQUITY AND LIABILITIES		
Shareholders' equity	5,930,5	6,285.8
Share capital	1,204.9	1,332.6
Additional paid-in capital	147.6	75.3
Retained earnings	3,719.0	4,004.1
Treasury shares	(74.4)	(128.5)
Net profit (Group share)	933.4	1,002.3
Minority interests	278.2	281.0
Total equity	6,208.7	6,566.8
Non-current liabilities	6,943.9	6,470.5
Provisions and employee benefit commitments	1,648.8	1,505.1
Deferred tax liabilities	1,149.4	1,130.5
Non-current borrowings	3,978.4	3,674.9
Other non-current liabilities	167.3	160.0
Current liabilities	3,135.8	3,258.0
Provisions and employee benefit commitments	155.4	122.9
Trade payables	1,280.7	1,330.8
Other current liabilities	1,011.1	965.8
Current tax payable	192.0	142.2
Current borrowings	417.7	668.6
Fair value of derivatives (liabilities)	78.9	27.7
Total equity and liabilities	16,288.4	16,295.3

## Statement of cash flows

#### Year ended December 31

In millions of euros	2005	2006
Cash flow from operating activities before changes in working capital	1,804.8	1,889.3
Changes in working capital	5.2	(108.8)
Other	(89.9)	(13.8)
Net cash from operating activities	1,720.1	1,766.7
Investing activities		
Purchase of property, plant and equipment and intangible assets	(975.2)	(1,128.2)
Acquisition of subsidiaries and financial assets	(76.2)	(72.3)
Proceeds from sale of property, plant and equipment and intangible assets	91.3	102.7
Proceeds from sale of financial assets	26.7	2.1
Proceeds from sale of divested activities	162.8	
Net cash used in investing activities	(770.6)	(1,095.7)
Financing activities		
Dividends paid		
– L'Air Liquide S.A.	(391.1)	(432.0)
- Minority interests	(84.8)	(47.1)
Proceeds from issues of share capital	78.4	108.1
Purchase of treasury shares	(59.8)	(131.1)
Increase (decrease) of borrowings	(635.0)	64.2
Net cash used in financing activities	(1,092.3)	(437.9)
Effect of exchange rate changes and change in scope of consolidation	1.8	28.5
Net increase (decrease) in cash and cash equivalents		261.6
Cash and cash equivalents at beginning of period 700.4		559.4
Cash and cash equivalents at end of period	821.0	

## Net indebtedness

Year ended December 31

In millions of euros	2005	2006	
Non-current borrowings (long-term debt)	(3,978.4)	(3,674.9)	
Current borrowings (short-term debt)	(417.7)	(668.6)	
Total gross indebtedness	(4,396.1)	(4,343.5)	
Total cash and cash equivalents	598.2	897.5	
Derivative instruments (assets) – fair value hedge of borrowings	58.1		
Derivative instruments (liabilities) - fair value hedge of borrowings	(0.6)		
Total net indebtedness at the end of the period	(3,739.8)	(3,446.6)	

# Statement of changes in net indebtedness

Year ended December 31

In millions of euros	2005	2006	
Net indebtedness at the beginning of the period	(4,012.5)	(3,739.8)	
Net cash from operating activities	1,720.1	1,766.7	
Net cash used in investing activities	(770.6)	(1,095.7)	
Net cash used in financing activities excluding increase (decrease) of borrowings	(457.3)	(502.1)	
Effect of exchange rate changes and change in scope of consolidation	(219.5)	124.3	
Change in net indebtedness	272.7	293.2	
Net indebtedness at the end of the period	(3,739.8)	(3,446.6)	

## Business glossary

#### A dsorption

Retention of gas molecules on the surface of a solid, called an adsorbent. This process is used in gas separation and purification.

#### Advanced precursors

The introduction of new elements such as tantalum and hafnium in semiconductor manufacturing enables increasingly smaller and more powerful chips to be produced. To integrate these elements into the latest generation of chips, Air Liquide provides its customers with new molecules, called advanced precursors. They are generally in a liquid state and add the active element wanted to silicon wafers.

#### Aerosol therapy

Treatment by inhalation of medications in the form of very fine particles mixed with a breathable gas.

#### C arrier gases

Carrier gases (nitrogen, oxygen, hydrogen, etc.) are used to transport and dilute process gases or to protect semiconductors from minute dust particles.

#### ■ CERN

CERN is the European Organization for Nuclear Research. It is a laboratory where scientists explore the components of matter and the forces that provide its cohesion. It is located on either side of the French-Swiss border, near Geneva.

## Chronic obstructive pulmonary disease

Patients with this ailment, also known as "smoker's disease" cannot breathe properly and have trouble oxygenating their organism.

#### ■ CO<sub>2</sub>

A mixture of carbon and oxygen,  $CO_2$  is the chemical formula for carbon dioxide. It is produced when living beings breathe and during combustion and fermentation.  $CO_2$  is found in very small quantities in the atmosphere, about 0.035%. Its impact on the greenhouse gas effect is at the heart of the environmental issue.

#### Cogeneration

The simultaneous production of steam and electricity. Cogeneration enables more efficient use of primary energy and produces less air pollution, particularly carbon dioxide (CO<sub>2</sub>) emissions.

#### Cryoconservation

Conservation, mainly of organic products, at very low temperatures in cryogenic fluids such as liquid nitrogen.

## E lectronics specialty gases

Specialty gases (silane, arsine, etc.) or process gases are used in every stage of the wafer manufacturing process to create molecular-scale deposits.

#### ■ Enteral nutrition

Enteral nutrition consists in supplying nutriments to the digestive tract via a catheter to cover daily nutritional needs or to help prevent malnutrition.

#### ■ Euro 5

European emission standards that set maximum levels for polluting emissions from vehicles. The increasingly strict Euro standards are applied to new vehicles. Its objective is to limit air pollution from transportation. The Euro 0 standard was applied to new vehicles in 1988. The Euro 5 standard targets new vehicles to be sold in 2009.

#### ■ Expert/Senior Expert/Fellow

The Group has created a formal recognition system for its technicians and engineers called the "Technical Career Ladder". This system has four expertise levels: Expert, Senior Expert, Fellow, Senior Fellow.

#### F ab

A plant that makes semiconductors.

#### Fuel cell

A device that combines a hydrocarbon or hydrogen with another element, usually oxygen, to produce electricity. A hydrogen fuel cell produces electricity and only discharges water.

#### G as quenching

Traditional "quenching" consists in plunging metal parts into oil, after having been heated to a high temperature, to modify their mechanical properties. The parts then have to be washed and the oil recycled. Gas quenching, which uses nitrogen, is an environmentally friendly alternative as it eliminates washing and recycling.

#### ■ Greenhouse effect

Just like a greenhouse's alass structure, the atmosphere allows penetration of the sun's rays. When heated by these rays, the earth reemits infrared radiation, some of which passes back through the atmosphere, but the rest is sent back to the earth by "greenhouse" gases in the atmosphere. The main greenhouse gas is carbon dioxide (CO<sub>2</sub>). The infrared radiation that is sent back to the earth maintains the planet's surface temperature. More and more scientists believe that the current warming of the planet is probably due to the increase in the concentration of greenhouse gases.

#### K now-AL

A program designed to mobilize experienced employees to be "lent" for up to six months to a Group subsidiary for a specific need.

#### M embrane

Through a phenomenon similar to the filtration of a liquid through a fabric, permeation of a gas mixture, usually through a polymer-based membrane, permits these gases to be separated. This permeation process is often used to recover hydrogen from a refinery's waste gases.

#### Nox

Nitrous oxides are among the pollutants that cause acid rain. They are found in motor vehicle emissions and are also produced during all high-temperature combustions that use air. Air is mainly composed of oxygen and nitrogen, which can recombine to form these nitrous oxides. Replacing air with oxygen prevents these oxides from forming as there is no longer any nitrogen present.

## On-site production unit

Industrial or medical gas production unit installed on the customer's site and operated by Air Liquide.

#### Oxygen therapy

The treatment of chronic respiratory insufficiency by administering extra oxygen to the patient.

#### Plasma

A gaseous medium in an excited state. It is the fourth state of matter, after solid, liquid and gas. It is produced when an electrical charge is set off in a gas at a very high temperature (several tens of thousands of degrees).

#### R are gases

Rare gases are natural, inert products found in the air we breathe in very small quantities: argon (0.9% of air), neon (0.002%), krypton (0.0001%), xenon (0.00001%).

#### S leep apnea

Sleep apnea is when respiration temporarily stops in someone who is asleep. It is one of the most frequent sleep problems and affects 2 to 4% of the adult population. Over 100,000 sufferers today are helped by Air Liquide equipment.

#### Surfactant

A surfactant is a chemical that can combine with both a fatty substance and water, enabling a wide range of fat-in-water mixtures to be produced. Soap is the most common surfactant. Surfactants have many applications in industry, cosmetics and healthcare.

## ■ Synthesis gas or syngas

A mixture produced by natural gas or naphtha (a petroleum byproduct) reformers. It contains hydrogen, carbon monoxide and carbon dioxide in variable proportions depending on the process used. It generally cannot be used as such, but after being purified, hydrogen and/or carbon monoxide are produced. It is mainly used by the chemical and refining industries.

#### T GCM

TGCM (Total Gas and Chemical Management) is a service offer for gases and liquid chemicals, both upstream (procurement, quality control, measurements, maintenance) and downstream (gas and waste recycling) of semiconductor production.

#### ■ TGM

TGM (Total Gas Management) is a service identical to TGCM, but only for gas products.

#### Wafer

A slice of silicon cut from a silicon ingot with a diameter of 150, 200 or 300 mm and used as a semiconductor base.

## Financial glossary

#### A djusted price

Share price adjusted to take account of changes in capital (issue of new shares, share split, etc). The adjusted share price is used to produce meaningful comparisons of price changes over time.

#### asic earnings per share (EPS)

Consolidated Net Profit divided by the number of shares in circulation.

#### Bonus dividend

Dividend increased by a maximum of 10%, granted to loyal shareholders for all registered shares held continuously for more than two calendar years.

#### ■ Bonus share allocation

Transaction by which the company issues new shares at no cost to shareholders in proportion to the number of shares already held. Air Liquide has allocated bonus shares on a regular basis.

#### C AC 40

Share market index, weighted by the free float, which tracks the 40 most actively traded stocks on the Euronext regulated markets in Paris. Inclusion is based on size and liquidity criteria.

#### Capital employed

Financial resources used by a company to develop its business. It is the sum of equity, minority interests and net debt.

#### ■ Capital gain

Gain realized on the sale of a security, that is, the difference between its sale price and its original purchase price, or book value.

#### ■ Cash flow

Cash generated by a company's operations. It is either reinvested or distributed to shareholders (dividends). Cash flow corresponds roughly to after-tax earnings plus depreciation and amortization, less minority interests.

#### Custody account fees

Fees charged by a financial intermediary for maintaining share records. They generally represent a percentage of the portfolio or a set fee per line of shares held. Air Liquide's Shareholder Services provides this service free of charge for shares held in a direct registered account.

#### Dividend

The part of the company's Net Profit distributed to shareholders. Shareholders determine the dividend at the General Shareholders' Meeting after approval of the financial statements and the allocation of earnings proposed by the Board of Directors.

## uronext Paris

Name of the firm which organizes, manages and develops the securities market, and acts as market regulator (financial transactions, monitoring of companies listed on the stock market) with the delegated authority of France's Financial Market Authority.

#### ace value

The issue price of a share as defined in a company's Articles of Association.

A company's total capital is the face value of the share multiplied by the number of shares in circulation.

#### ■ Free float

The part of a company's capital in public ownership and tradable on the stock markets. The higher the free float, the greater the liquidity of the shares. 100% of Air Liquide's capital is floated.

## ■ French Financial Market Authority (AMF)

It governs and oversees the conduct and professional ethics of the markets and protects the interests of investors and shareholders.

#### Goodwill

Difference between the purchase price of a company and its net tangible assets on the day of the acquisition.

# FRS (International Financial Reporting Standard)

Put into effect on January 1, 2005 to facilitate comparing companies' financial statements.

#### ■ Investment club (in France)

Group of 5 to 20 individuals that jointly manages a securities portfolio by making regular payments and sharing the income and capital gains.

#### L iquidity

Ratio of the volume of shares traded over the total number of shares in circulation.

#### M arket capitalization

A company's market value equal, at any given time, to the quoted share price multiplied by the number of shares in circulation.

#### N et Profit

Profit or loss made by the company. It is calculated by netting operating income recurring, other non recurring operating expenses, net finance costs, other net financial expenses, share of profit of associates, profit (loss) from discontinued operations, then subtracting taxes and minority interests.

## operating income recurring

Annual sales minus the cost of producing, distributing and selling products and the depreciation or amortization of capital expenditure. It indicates a company's ability to generate the margins necessary for its operation and growth.

## Preferential subscription right

Tradable right giving shareholders priority in subscribing to a number of new shares in proportion to the number of shares already held in the event of a share issue.

#### OCE (Return On Capital Employed)

The ratio of Net Profit before interest expenses and after taxes over average capital employed. It reflects the net return on funds invested by shareholders and those loaned by banks and financial institutions.

#### ■ ROE (Return On Equity)

The ratio of Net Profit over shareholders' equity. It represents the net return on money invested by shareholders.

#### Share

Tradable security representing a portion of the company's capital. The owner of a share, the shareholder, is a partowner of the company and enjoys certain rights.

#### ■ Shareholders' equity

The part of the company's capital belonging to its shareholders. It includes the value of issued shares, retained earnings and Net Profit for the financial year.

#### ■ Stock split

Split of a share's face value to improve its liquidity. A stock split leads, in the same proportions, to a split in the share's market value and the multiplication of the number of shares comprising the capital.

# More about quide

# Over 100 years of history



## **1902** Origin

Foundation of the Company following the invention of a process for the liquefaction of air that enabled oxygen production in much greater quantities than previously possible. This, via the collaboration of two men, Georges Claude, a passionate researcher, and Paul Delorme, a diligent and far-sighted business man.

#### 1907

# International development

- From the earliest days, Air Liquide set its sights abroad,
- First, in European countries (1906), then in Japan (1907) and in Canada (1911),
- First steps in the United States in 1916 and, in 1986, a major move into North America via the takeover of Big Three,
- Continuing expansion in Europe and Asia.

#### 1913

#### Shareholders

- The original shareholders played a critical role in the first few years steadfastly standing by the expanding Company,
- Listed on the Paris Stock
  Exchange on February 20, 1913,
- A strong relationship was born between Air Liquide and its shareholders.
- In 1987, Air Liquide established the Shareholders' Communication Committee,
- Today, there are 365,000 individual shareholders of whom 146,000 are registered shareholders

#### 1930

# Gases serving countless industries

All the way from welding to the environment, through diving, metals, chemicals, food processing, electronics, refining, etc.

#### 1970

## A tradition of invention

- Establishment of the Claude-Delorme Research Center.
- Scores of new processes in gas production and application,
- From cylinders to cryogenics, through cogeneration, membranes, and the production of increasingly pure gases and certain specialty gases for electronics,
- Air gas production plants now operate on a massive scale (up to 4,200 tonnes of oxygen per day).

### 1985 Customer service

- From 1985, full service for Electronics customers,
- After oxygen and nitrogen, the offer widens to include hydrogen and steam in order to become more efficient and protect the environment,
- From 1993, Air Liquide moves closer to customers deploying new structures throughout the world,
- Creation of specialized teams in major international markets.

#### 1995 Air for life

- Originally, just a supplier to hospitals,
- Air Liquide became a true healthcare specialist,
- Full range of service to hospitals.
- An expanding network of homecare teams,
- Creation of a dedicated entity in 1995: Air Liquide Healthcare,
- Expansion into hygiene.

# 2002 A century of adventures

Innovation was the keynote for Air Liquide's anniversary year as the Group celebrated 100 years of pioneering work in industrial medical gases and related activities.



#### 2003

## New century, new momentum

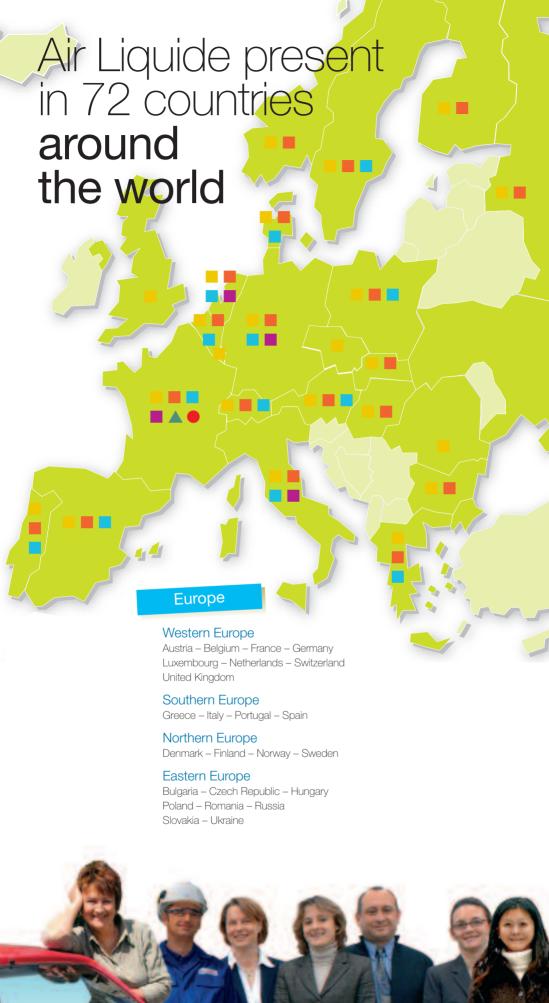
- Creation of Japan Air Gases.
- Acquisition of Messer's activities in Germany, the United Kingdom and the United States.
- Growth in new markets and new geographies.

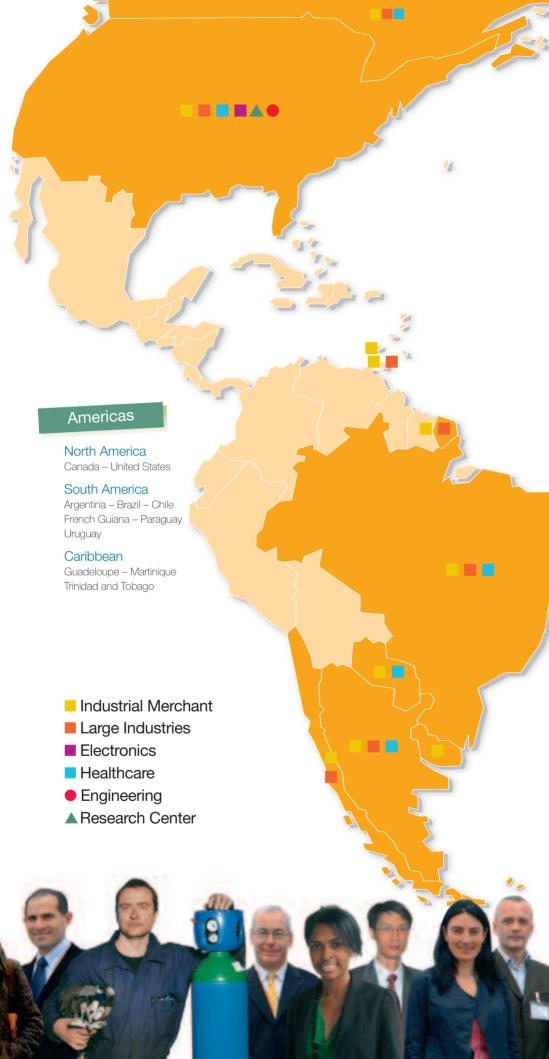
#### 2006

## Presence, conquest, innovation

- Ramping up of hydrogen: over 830 million euros in sales.
- Development in homecare through acquisitions, over 300,000 patients treated worldwide.
- Delivery of the largest cryogenic system in the world.
- Nearly 37,000 employees today, in 72 countries.

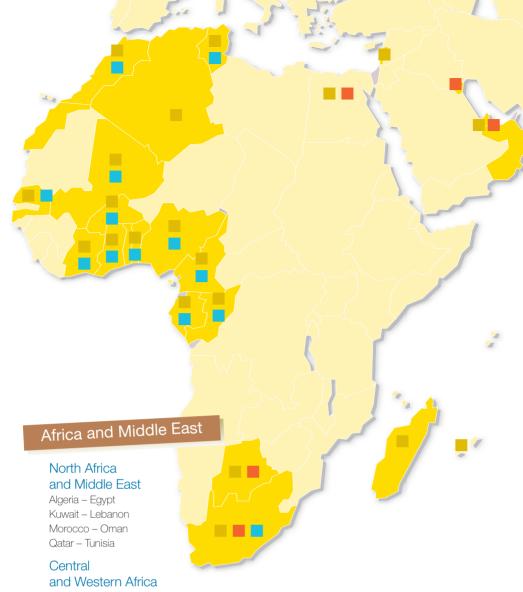












Benin

Burkina Faso

Cameroon

Congo

Gabon - Ghana

Ivory Coast

Mali – Nigeria

Senegal - Togo

Eastern and Southern Africa

Botswana

Madagascar

Reunion Island

South Africa

- Industrial Merchant
- Large Industries
- Electronics
- Healthcare
- Engineering
- ▲ Research Center



## What are our gases used for?



Mission: constantly innovating with our customers, and providing them, worldwide, with reliable and high-quality solutions that meet their key challenges both today and tomorrow, through our technological know-how and our networks of experts and researchers.

#### Motor Vehicles and Manufacturing

Improving the productivity of assembly line processes, incorporating new functions and preserving the operators' working environment.

#### Food and Pharmaceuticals

Proposing new development paths while offering producers and consumers of beverages, food products and medications the quality and traceability quarantees they are looking for.

#### Materials and Energy

Reducing our customers' energy consumption and optimizing their manufacturing processes through the implementation of clean technologies.

#### Technology and Research

Contributing to the boom in the technologies of tomorrow from research centers to production units, through the scope, differentiation and globalization of our offer.

#### Craftsmen and Distributors

Offering products, everywhere, that are the easiest and safest to use.



Mission: offering gas and energy solutions to large industries around the world to improve their process efficiency and help them become environmentally responsible.

#### Refining and Natural Gas

- Hydrogen is increasingly used by refineries to desulfurize fuels and "crack" heavy hydrocarbons,

- Oxygen is used to stimulate certain elements or to gasify petroleum residues. It is also used to transform natural gas into fuels or methanol.

#### Chemicals

The chemical industry consumes large volumes of air gases, as well as hydrogen and carbon monoxide; the latter is used in the manufacture of polyurethane (foam) and polycarbonates (CD, DVD...), which are both used in everyday

#### Metals

- Improvement of steelworks' productivity, energy efficiency and emission levels using oxygen,
- Transportation of coal pulverized with nitrogen to supply blast furnaces.
- Stainless steel manufacture using argon.







#### Electronics

Mission: supplying the flat screen and semiconductor industry, a user of leading-edge technologies, with ultra-pure gases and fluids.

#### ■ Ultra-pure Fluids

Carrier gases (nitrogen, oxygen, hydrogen, argon, helium, etc.), specialty gases (silane, etc.), liquid chemicals: the fluids used in fabs are ultra-pure. New molecules are constantly being developed.

#### ■ Fluid Management

Teams working at customer facilities take full charge of managing fluids onsite.

#### Equipment

Design, manufacture and installation of fluid distribution equipment.





#### Related Activities

Mission: developing expertise in fields complementing the Group's core business lines.



#### Healthcare

Mission: supporting patients in hospitals and in their homes through the provision of a range of services and equipment.

#### Homecare

Treatment of respiratory ailments, sleep apnea and diabetes. Maintaining patients at home and improving the comfort of patients notably suffering from chronic respiratory pathologies.

#### Medical Gases

Therapeutic gases (nitrous oxide, oxygen, etc.) are medications. They are used to cure ailments, relieve pain, anesthetize, in operations, assist respiration, preserve cells...

#### Medical Hygiene

A large range of disinfection and sterilization products and services to fight nosocomial infections.

#### ■ Respiratory Medical Equipment

At the hospital, in resuscitation rooms, the operating room, the recovery room, medical equipment provides patients with ventilation.

#### Specialty Chemicals

- Surfactant products for pharmaceuticals and cosmetics.

## ■ Welding-Cutting Equipment and Consumables

- Complete range of materials (welding units, metal cutting machines) and consumables,
- Automation and robotic solutions.

#### ■ Engineering and Construction

- Design and construction of industrial gas production units for the Group and third-party customers,
- Development of new production technologies,
- Development of state-of-the-art cryogenic equipment, especially in relation to very low temperatures.

#### Diving

- Products and equipment for professional and recreational diving.

#### ■ Space and Aeronautics

- Ariane 5: building cryotechnic tanks, supply of gas and related services to the Kourou (French Guiana) launching pad,
- Satellite equipment,
- Onboard gas generating systems for airplanes.







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#### L'Air Liquide

Corporation for the study and application of processes developed by Georges Claude with registered capital of 1,325,557,618 euros



All these documents are accessible on

www.airliquide.com



Air Liquide's Reference Document comprises two separate volumes:

- the Annual and Sustainable Development Report 2006,

- the Management Report, the financial statements, the resolutions proposed at the AGM and additional information.

The reference document was filed with the French Financial Markets Authority (AMF), on April 13, 2007, in accordance with article 212-13 of its General Regulations. It may be used in support of any financial transaction if it is supplemented by a prospectus approved by the AMF.

Air Liquide would like to thank its shareholders, customers and employees who collected or contributed to these photographs.

Design and production: Air Liquide Communication Department

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