

Air Liquide's Healthcare Business



Press Kit

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Health stakes for Air Liquide

Today, Air Liquide serves more than 6,000 hospitals and clinics around the world and over 600,000 patients at home thanks to 8,500 dedicated employees.

▪ Main public health issues:

Considering demographic aging, an increase in chronic diseases and the emergence of new pandemics, access to medical care for all and the control of healthcare costs are more than ever the major issues for healthcare stakeholders and, in particular, healthcare authorities and payers.

▪ In the community:

- Offer patients a better quality of life at home
- Improve treatment adherence
- Prevent the need for re-hospitalization to reduce healthcare costs.



As a player in the homecare market, Air Liquide participates, together with medical teams, in efforts to improve the patient care of those facing chronic illnesses

▪ At hospital

- Offer patients a shorter and perfectly safe stay
- Reduce the duration of surgical hospitalizations, the duration of recovery in intensive care and the occurrence of nosocomial diseases
- Take pain control into account (particularly after operations, during emergencies and during examinations)



Air Liquide helps hospitals ensure the protection and safety of their patients by providing medical gas, medical respiratory equipment and hygiene products (particularly during long procedures and emergencies, in the operating room and in the intensive care unit).

Health stakes for Air Liquide

**2010 Healthcare revenue:
€1,937 million**

- **45%** in homecare
- **39%** in medical gases, equipment and medical material
- **16%** in hygiene



64% of healthcare activities are carried out outside of France



Air Liquide homecare activities

2010 homecare revenue: €863 million
No. 1 in Europe

- **In 2010, homecare strongly grew all over the world (+ 9%), notably due to:**
 - the steady development of sleep apnea treatment and mechanical ventilation,
 - the permanent widening of our service range to include new treatments, such as those for diabetes, Parkinson's disease, etc.
 - new geographical locations.

Over 600,000 patients in more than 30 countries

- **Improving adherence to treatment and patient quality of life**
Through innovative personalized support products, Air Liquide is committed to improving patient care of those with chronic illnesses for better cost control.



Air Liquide homecare activities

- **Air Liquide offers various homecare services:**

- **Respiratory assistance: oxygen therapy** for severe forms of **chronic obstructive pulmonary disease** (will become the world's third leading cause of death by 2030), **ventilation** for certain chronic respiratory insufficiencies and the treatment of **sleep apnea syndrome**, (which affects up to 5% of the global population of over 40s)



- **Nutritional assistance services, intravenous care at home** for patients with diabetes, as well as those who have Parkinson's or immunodeficiency.

- **Insulin pump therapy**

Our multi-disciplinary teams, including **pharmacists, nurses and nutritionists, make available** medical and oxygen systems for home care. They **train patients** and their families in the proper use of equipment in accordance with **safety and hygiene standards**. They are also **guarantors of good follow-up on medical prescriptions and treatment adherence**.

Air Liquide is present in over thirty countries via the **VitalAire** brand, as well as the brands **Orkyn'**, **Dinno Santé** and **ADEP Assistance** in France, and **Medicasa** in Italy.



Air Liquide's hospital activities

2010 hospital activity revenue: €1,074 million

(medical gases + medical hygiene + medical equipment)

▪ Medical gases

2010 medical gas revenue: €665 million

For diagnosis, care, pain relief, anesthesia, surgery, respiratory aid and preservation...

Manufacture and distribution

On-site service

Pharmaceutical production and distribution

▪ The main medical gases are:

- **Oxygen (O₂)**, to correct **hypoxias** (inadequate tissue oxygenation) due to various etiologies.
- **Nitrous oxide (N₂O)**, used as an adjuvant to general anesthesia and **xenon (LENOXe™)** used in the maintenance of general anesthesia in adults (except for patients with severe systemic abnormality).
- **O₂/N₂O mix** used as an analgesic for painful procedures of short duration (Kalinox™).
- **Nitric oxide (NO)** (Kinnox™ and VasoKinnox™) used in intensive care along with assisted ventilation in pulmonary arterial hypertension.



Air Liquide's hospital activities

■ Gas production

Production, transportation and administration are subject to the control of national health authorities, to guarantee safety at every step leading to patient delivery: Air Liquide medical gas production sites are classified as **pharmaceutical establishments**, approved by the national health authorities in the countries where they are located.

Medical gases are medication and they require a **market authorization**, issued by national health authorities following the examination of a certain number of criteria, including the results of pharmaceutical, clinical and toxicological studies.

They are subject to **pharmaceutical traceability** and delivered in **gaseous or liquid** form under specific transport conditions, by personnel trained to handle these products.



■ R&D involving gases

Research teams work on **three items**: a **gas** (active component), **special packaging** and a **dispensing system** to administer the medication. Possible uses include treatment for **respiratory difficulties, anesthesia, analgesia and neuro-protection**.

Air Liquide actively works on developing these products, which, if clinical trials are successful, significantly contribute to the **growth of medical gases**.

Air Liquide's hospital activities

- **Medical respiratory equipment**



2010 medical equipment revenue: €89 million

To ensure proper ventilation of patients in the recovery or intensive care room, on the operating table or at home.

In order to control the quality of homecare and hospital services from start to finish and offer patients the most up-to-date technologies, Air Liquide relies on an international brand in medical equipment, **Air Liquide Medical Systems**.

The Group's subsidiaries in France, Italy and India develop and produce equipment for respiratory assistance in emergency rooms, recovery rooms and patients' homes, in addition to aerosol therapy devices. The subsidiaries also offer systems for administering medical gases.

Air Liquide Medical Systems' range of products is distributed **in over 90 countries** through offices in Italy, China, Brazil and Russia, as well as through Air Liquide's subsidiaries and its network of specialized distributors.



Air Liquide's hospital activities

- **Medical hygiene**

2010 medical hygiene revenue: €320 million

Air Liquide is the European leader in hospital disinfection, with its disinfectants and antiseptics, particularly for operating rooms and endoscopies.

Activities of high growth and strong added value that expand Air Liquide's offer to healthcare professionals.



Hospital infection issues (nosocomial diseases) **and epidemic threats (SARS: Severe Acute Respiratory Syndrome)** are addressed by the Group's skills in these areas.

Air Liquide is supported by its two specialized brands: **schülke** -+



Air Liquide's Healthcare activities: key dates

- pre-1980** Business centered on **medical gases in the hospital**.
- 1980s** Development of **homecare**, creation of the "VitalAire" brand.
Development of a complementary offer: **medical equipment**.
- 1995** Air Liquide creates a **Healthcare division** around dedicated subsidiaries.
- 1995 - 1999** Acquisitions in the "homecare sector" in Australia, Canada, France (Orkyn'), etc.
- 1996** Development of the **medical hygiene** offer (Schülke & Mayr, Anios).
- 2004** Reinforcement of **R&D in the field of medical gases**. Creation of a dedicated research group.
Acquisition of Messer in the United States, United Kingdom and Germany.
- 2005 - 2006** **Acquisitions** in the homecare sector in Germany and the United Kingdom .
Acquisitions in medical hygiene in Europe.
- May 2007** Acquisitions of **Linde Gas UK**, enabling Air Liquide to penetrate the British hospital and homecare sectors.
- June - July 2007** **Acquisitions** of five companies, enabling Air Liquide to become the homecare market leader in Germany.
Establishment in **China**, with **the acquisition of Celki International** (respiratory products and services), present in Hong Kong and Southern China.
- Oct 2007** **Acquisition** of **Allied Healthcare** respiratory homecare services in England and Northern Ireland.
- 2008** First **Lenoxe™** anesthetics in France, Italy and Portugal.
Acquisitions in India (medical equipment) and Poland (hygiene).
- 2009** **Acquisitions** in the Netherlands (homecare) and in **Tunisia, and a sleep diagnosis lab in Berlin**.
Opening of Air Liquide's first welcome center for apnea patients in **Lebanon** and the first Homecare service in **China**
Launch of the **VitalPPC (CPAP)** program to improve treatment observance of patients suffering from sleep apnea.
Acquisition of Pacific Science (cryobiology equipment) in the U.S.
- 2010** New pain management, outside the hospital, by the medicinal gas **Kalinox™** in France.
Homecare acquisition in France (**DinnoSanté**, specialized in medico-technical services for diabetes).
- 2011** Homecare acquisition in France: ADEP Assistance, a specialist in home respiratory healthcare

Innovation at Air Liquide

- **€235 million** dedicated to research, innovation and technologies (2010)
- **R&D: more than 1,000 researchers of 30 different nationalities**
- **8 major R&D centers** (Europe, United States, Japan)
- More than **200** industrial and academic **partnerships**
- **A dedicated division to Technologies of the Future with 750 partners in Europe and the United States**



- **300 new inventions** patented in 2010 (more than one patent per day)

- The three major axes of Research and Development complement the expectations of contemporary society:
 - “for a healthier life”
 - “in a communicating world”
 - “for a sustainable environment”



The Air Liquide Group at a glance

- **The world leader in gases for industry, health and the environment.**
- Present in **80 countries**
- Over **43,600** employees
- **8 Research & Development centers, 5 Engineering centers**
- **300 patents** annually
- Innovative solutions for very diverse customers in a broad range of industrial sectors and healthcare: **gases are essential in everyday life**
- A commitment to **Responsibility** to all stakeholders
- Revenue in 2010: **€13,5 billion**
- Net profit 2010: **€1.4 billion**



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