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## Two new hydrogen filling stations in Korea

press release

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### Hydrogen, an energy vector

Used in the fuel cell, hydrogen combines with oxygen from air to produce electricity, with water as the only by-product.

Hydrogen can be produced from a various range of energy sources, natural gas, in particular, but also renewable energy sources. Hydrogen thus has great potential to provide clean energy and ensure reliability of supplies.

Air Liquide's hydrogen revenue in 2008 reached €1.2 billion.

Air Liquide is present across the entire hydrogen energy chain (production, distribution, high-pressure storage, fuel cells and hydrogen filling stations).

Access to **sustainable mobility is a major issue** to reduce the emission of greenhouse gases, pollution in cities and to lower the dependency on fossil fuels. Hydrogen, used as an energy vector, is one of the solutions to meeting those challenges.

**Air Liquide has just been chosen to supply two new hydrogen filling stations in Korea**, designed and developed by the Group's Advanced Technologies teams.

The **first station**, which will supply hydrogen at a pressure of 350 bars, will be delivered in the first quarter of 2010 for the government demonstration project, led by the automobile manufacturer **Hyundai Motors**. It will be installed within the **Korea Institute of Energy Research (KIER)**, located on Jeju island. The KIER, a research and development institute for renewable energy, is one of the beneficiaries of the South-Korean government's national plan to promote the development of hydrogen energy. This station will supply the new fuel cell vehicle developed by **Hyundai Motors**.

The **second station** will be delivered in the second quarter of 2010 to the **Korea Automobile Testing & Research Institute (KATRI)**. It will include dual pressure technology developed by Air Liquide for the different types of fuel cell vehicles. It will be used to fuel a bus at a pressure of 350 bars and various cars at pressures of 350 and 700 bars. The station will be installed close to the KATRI Gyeonggi-do race track, used for testing and research to improve vehicle safety.

Based on Air Liquide's **patented technologies**, these hydrogen filling stations enable vehicles to **fill up in less than 5 minutes in the same conditions as traditional fuels**, for a driving range that can reach up to 500 kilometers for some vehicles. Over the last four years, Air Liquide has designed, built and commissioned a growing number of **hydrogen filling stations**. **Forty six Air Liquide stations** have been installed throughout the world to date. **In Canada, the Vancouver and Montreal airports** will install these stations to supply part of their fleet of commercial vehicles. Another station will supply **the largest fleet of hydrogen buses in the world** - twenty vehicles - which will be deployed during the next **Vancouver Winter Olympics**.

**François Darchis**, Senior Vice-President Air Liquide Group, in charge of R&D, Advanced Technologies and Engineering & Construction, commented: **"These new installations in Korea are contributing to putting in place all the conditions required for the successful deployment of hydrogen energy in transport by 2015. They illustrate the**

## Hydrogen energy demonstration projects

The Group takes part in demonstration projects that aim to develop and test hydrogen energy and help it to promote its social acceptance.

The Group is notably the general coordinator of the European **Hychain** programme that tests hydrogen vehicles in 4 regions of Europe, and of the **Horizon Hydrogen Energy (H2E)** programme, supported by the French agency for innovation, OSEO.

**increasing number of demonstration projects and the development of this energy vector. Air Liquide believes that it is its responsibility, as the world leader, to support the introduction of technological innovations that will help to preserve the environment. Both Energy and the Environment are growth drivers of the Air Liquide Group."**

**Air Liquide is the world leader in gases for industry, health and the environment, and is present in over 75 countries with 43,000 employees.** Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates to enable progress, to achieve dynamic growth and a consistent performance.

**Innovative technologies** that curb polluting emissions, lower industry's energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy... Oxygen for hospitals, homecare, fighting nosocomial infections... Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society.

**A partner for the long term,** Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth. The **diversity** of Air Liquide's teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.

**Air Liquide explores the best that air can offer to preserve life, staying true to its sustainable development approach.** In 2008, the Group's revenues amounted to **€13.1 billion**, of which almost 80% were earned outside France. Air Liquide is listed on the Paris Euronext stock exchange (compartment A) and is a member of the CAC 40 and Dow Jones Euro Stoxx 50 indexes.

For more information about hydrogen, Air Liquide has opened a special website:

[www.planete-hydrogene.com](http://www.planete-hydrogene.com)