



A wholly owned AIR LIQUIDE subsidiary

*Fuel cell: the green revolution takes hold!*

*AXANE introduced  
the first range of portable generators  
with the EVOPAC™ modular concept  
In Hannover (Germany 7/12 April 2003)*

The fuel cell is an application, recognised for its reliability and used for many years in the aerospace sector. After years of inspiring enthusiasm, hopes and dreams, it has finally become reality and is being launched on the mobile industrial products market.

#### **Fuel cell: an alternative solution in harmony with environmental concerns**

Non-polluting, silent, reliable, available in a large power range, the fuel cell, in particular hydrogen fed PEM technology (Proton Exchange Membrane), is the "generator of electricity" for public transport, stationary applications, scooters or micro car, ever since the impact of Green House Gases on our environment has become a global concern.

#### **A promising outlook**

In the current climate of research into new energy sources, **AXANE**, a wholly owned **AIR LIQUIDE** subsidiary, backed up by its success during the Polar Ice Cap Mission led in 2002 by Doctor Jean-Louis Etienne with the POLAR PAC™ prototype, has chosen to step up its investment and, beginning in 2003, present an initial offer of fuel cell systems derived from the **EVOPAC™** concept.

**AXANE** is thus entering the fuel cell market, with a broad offer, intended initially to meet the needs of various markets such as isolated sites, emergency systems, domestic applications, and small hybrid vehicles.

#### **Technology to the forefront**

The combination of technological skills - of both **AXANE** and **AIR LIQUIDE** - and their know-how and progress, allows us to present, this year, **the EVOPAC™ modular concept** with power ranging from 500 W to 10 kW, for multiple use, ranging from small stationary or transport applications to portable generators.

At the last Hannover Trade Fair (Germany), **AXANE** introduced **ROLLER PAC™**, a 2 kW AC 230 V fuel cell portable output generator powered with hydrogen. **ROLLER PAC™** represents the first application of the **EVOPAC™ modular concept**, demonstrating the integration of a fuel cell in a portable generator.

*Present in 65 countries, **Air Liquide** is the world leader in industrial and medical gases and related services. The Group offers innovative solutions based on constantly enhanced technologies. These solutions help to protect life and enable our customers to manufacture many indispensable everyday products. Founded in 1902, Air Liquide has 30,800 employees. The Group has successfully developed a long-term relationship with its shareholders built on confidence and transparency and guided by the principles of corporate governance. Since the publication of its first consolidated financial statements in 1971, Air Liquide has posted strong and steady earnings growth. Sales in 2002 totaled 7,900 million euros, sales outside France accounted for more than 80%. Air Liquide is listed on the Euronext Paris stock exchange and is a component of the CAC 40 and Eurostoxx 50 indexes - Euroclear code 12 007.*

*In May 2001, after a 5 year exploratory phase in Fuel Cells, **Air Liquide** created **Axane**. **Axane** is a wholly owned **Air Liquide** subsidiary whose mission is to develop complete power generating systems, based on hydrogen PEM fuel cells for three markets segments that are most likely to commercialize in the short term : - Portable multi-application power generators (from 400 W to 10 kW) - Stationary applications (over 10 kW) - Mobile applications for small hybrid vehicles (from 5 kW to 10 kW).*

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