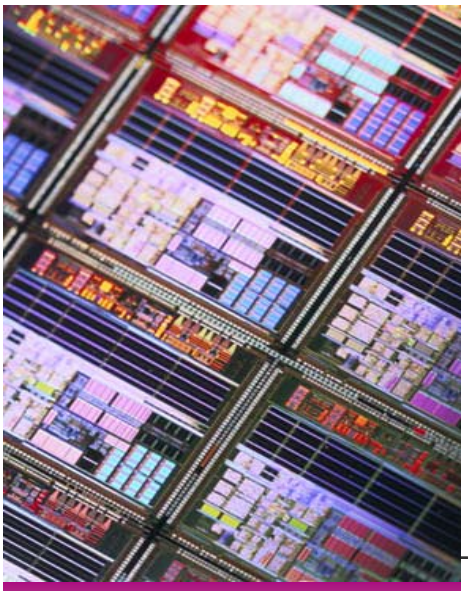

AIR LIQUIDE ELECTRONICS

Fremont, Calif., January 12, 2012

Air Liquide Electronics completes expansion of ALOHA™ materials production

press release

Contacts :

Air Liquide Electronics
Jean-Marc Girard
+81 (0)3 5573 8081

Ashutosh Misra
+1 972 995 7552

aloha@airliquide.com

U.S. Corporate Communications
George Smalley
+1 713 624 8021

Air Liquide Electronics

With over **3,000 employees and $1.5 billion revenue in 2010**,

.Air Liquide Electronics is the global organization of Air Liquide dedicated to the semiconductor, photovoltaic and flat panel market.s.

Air Liquide Electronics supports the Group's customers worldwide by providing ultra-high purity gases and precursors at each step of the manufacture of devices, enabling fluid dispense systems, on site Total Gas and Chemical management services, as well as Analytical services.

The Electronics division management is based in Tokyo to enhance its proximity to the semiconductor, TFT-LCD and PV markets in Asia .

Air Liquide Electronics today announced the **successful completion** of a series of expansions at its ALOHA™ manufacturing sites in California, United States, Chalon, France, and Tsukuba, Japan. These expansions enable Air Liquide to **double its production capacity of advanced precursors** and bring multiple products online.

The USA facility in Fremont, set up in 2006 to support mass production of the **ALOHA™ family** of precursors, has doubled its production floor area, including a **new laboratory** dedicated to joint development projects with customers and technology providers aimed at developing and scaling up next generation, enabling advanced deposition materials.

Similarly, the Europe and Japan based ALOHA™ facilities have completed expansions focused on increasing capacities in key products the industry relies on.

As semiconductor manufacturing is well into **nanoscale levels, Air Liquide's precursor technology** has helped increase the electrical and mechanical performance of film materials used in microelectronics fabrication, accelerating a variety of emerging applications.

The range of highly engineered precursors currently ramping up at ALOHA™ facilities include:

- **ZyALD™**, ALOHA's proprietary precursor for second generation ZrO_2 high-k materials for advanced DRAM, for which critical Intellectual Property has recently been granted
- **Silicon precursors** for a variety of sub 32nm applications such as patterning and gapfill, used in memory and high-end logic chips
- **High-k/ metal gate precursors** now qualified on major OEM platforms
- **Metallization precursors** for applications ranging from copper capping or barrier layers to DRAM capacitor electrodes, including expansion of **TORuS™** production capacity for Ruthenium metallization.
- **Low-k precursors and ancillary materials** for advanced back-end dielectric stacks
- **New materials** for new devices such as Resistive (ReRAM) and Phase Change (PCRAM) memory devices.

Francisco Martins, Vice President of Air Liquide Electronics said, ***"Air Liquide's strong investment in advanced and differentiated products to meet cutting-edge semiconductor technologies is paying off. Our ALOHA family is playing an increasingly important role in the technology ecosystem and we are committed to supporting and growing with technology providers globally. The additional capacity and the next generation products in the pipeline will enable our customers to meet their technology roadmap challenges."***

ALOHA™ Advanced Precursors:

The ALOHA product line includes all the advanced CVD and ALD precursors for sub-65 nm device manufacturing, with capabilities ranging from ton-level of silicon precursors and high-k materials down to few grams of exploratory R&D products.

ALOHA's precursors come in a comprehensive package including, , ultra-high purity canisters, extremely tight specifications, backed by its world class Air Liquide-BALAZS analytical expertise, and when applicable, with the license to use the precursor according to Air Liquide's intellectual property rights,.

Air Liquide is the world leader in gases for industry, health and the environment, *and is present in* ***80 countries*** *with* ***43,600 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 2010, the Group's revenues amounted to* ***€13.5 billion****, of which more than 80% were generated 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.*