

## New xenon and krypton contracts for Space and Electronics customers

**Air Liquide has signed several new multi-year contracts worth a total of more than €50 million, and started supplying xenon and krypton since the beginning of 2018 to the semiconductor and the satellite industries in three geographies: Europe, USA and Asia.**

Air Liquide's customers benefit from the Group's **global logistics organization** deployed in 30 countries, which enables the delivery of these high value-added molecules, extracted from air gases in the Group's large production facilities.

The **semiconductor industry** uses xenon or krypton in its new processes to produce high-end flash memories at a lower cost, supporting the increasing need to store and move massive quantities of data.

In the space industry, the **all-electric propulsion satellites** also use xenon. The all-electric propulsion is based on the energy produced by the **satellite's solar panels** to accelerate and eject a gas (xenon) resulting in the motion of the satellite generated by the thrust. All-electric engines reduce the satellite's weight by about 35%, greatly reducing launching costs. In the coming years, at least half of the market is expected to adopt this technology.

**François Darchis**, Senior Vice-President and member of the Air Liquide Group Executive Committee, supervising Innovation, said: ***"We are proud to have been chosen to supply high purity xenon and krypton to the semiconductor industry and the growing all-electric propulsion satellites market. As the world leader for xenon and krypton thanks to its expertise in cryogenic technologies and its ability to manage a global supply chain, Air Liquide provides a reliable value-added molecules supply to its customers, notably in the high-tech industry."***

### Global Markets & Technologies WBU

The Global Markets & Technologies (GM&T) World Business Unit delivers technological solutions (molecules, equipment and services) to support the new markets of energy transition, maritime logistics and deep tech, in order to accelerate Air Liquide sustainable growth. GM&T employs 1,800 people world-wide and generated a 2017 revenue of €372 million.

### CONTACTS

#### Corporate Communications

Caroline Brugier  
+33 (0)1 40 62 50 59  
Christel des Royeries  
+33 (0)1 40 62 58 49

#### Investor Relations

Paris  
+33 (0)1 40 62 50 87  
Philadelphia  
+1 610 263 8277

The world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 80 countries with approximately 65,000 employees and serves more than 3.5 million customers and patients. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide's scientific territory and have been at the core of the company's activities since its creation in 1902.

Air Liquide's ambition is to lead its industry, deliver long term performance and contribute to sustainability. The company's customer-centric transformation strategy aims at profitable growth over the long term. It relies on operational excellence, selective investments, open innovation and a network organization implemented by the Group worldwide. Through the commitment and inventiveness of its people, Air Liquide leverages energy and environment transition, changes in healthcare and digitization, and delivers greater value to all its stakeholders.

Air Liquide's revenue amounted to 20.3 billion euros in 2017 and its solutions that protect life and the environment represented more than 40% of sales. Air Liquide is listed on the Euronext Paris stock exchange (compartment A) and belongs to the CAC 40, EURO STOXX 50 and FTSE4Good indexes.