

# Application Highlight:

## Air Liquide Selects CTI 2500 Series™ for Upgrade of Nitrogen Generation Plant

With more than 40,000 employees in 75 countries, Air Liquide is the world leader in industrial and medical gases. The company offers innovative solutions based on constantly enhanced technologies and produces air gases (oxygen, nitrogen, argon, rare gases...) and many other gases including hydrogen.



At a nitrogen generation facility in France for “L’Aerospatiale” (the European aerospace leader belonging to EADS group), AIR LIQUIDE’s engineering division “FLOXAL” selected CTI 2500 Series™ for upgrading the automation of its systems. Among the criteria that AIR LIQUIDE used in making the selection were:

- Minimum or no change to existing process software and SCADA system
- Long-term availability of support and spares
- Minimum downtime for the upgrade
- Competitive cost

A nitrogen generator extracts nitrogen from the air using “cryogen” technology, meaning distillation at very low temperatures. The chemical, metal and electronic industries use nitrogen in their processes and are the main users of these generators. Air Liquide owns the generators and is in charge of both their operation and maintenance. These units are installed at Air Liquide customer sites worldwide. Complete autonomy of our systems is a key requirement, as installations must be able to be stopped and restarted without any local human intervention. These installations are supervised using a remote data acquisition system.

### Control System Design

The control system design uses two “cabins”, the compressor and the “hot skid” where after compression, the air is filtered and purified. After the filtration, the air is distilled at very low temperature in a “cold box” in order to separate the nitrogen molecules. The electrical cabinets are integrated in the “hot skid” in order to improve the control of the process.

Air Liquide installed a new control system using CTI 2500-C100 CPU together with CTI DI, DO, and 8in/4out analog modules. The first commissioning was done in July 2008 at L’Aerospatiale. The customer was particularly impressed with the speed and quality of the upgrade process. Only a few hours of downtime was required and there were no significant problems.



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