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IN 2024, PRODEVAL, IN COLLABORATION WITH AVENTECH AND INSA LYON, WILL LAUNCH THE FIRST EUROPEAN INDUSTRIAL PRODUCTION LINE FOR BIOGAS UPGRADING SYSTEMS AND CO₂ LIQUEFIERS.

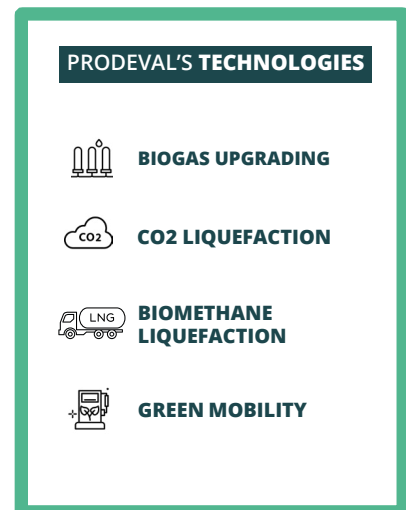
PRODEVAL, AVENTECH, and INSA Lyon join forces to offer decarbonized and sustainable industrial solutions in the energy sector. The ALLIANCE project aims to equip the Biogas industry with an innovative and unprecedented solution for globally standardized production of Biogas upgrading systems and CO₂ liquefiers. This initiative aims to significantly contribute to addressing the major challenges of energy independence and decarbonization.

A WORLD FIRST IN THE BIOGAS SECTOR!

By combining the expertise of AVENTECH, a European leader in the design, industrialization, and manufacturing of critical electrical/industrial equipment, with the proficiency of PRODEVAL, a leader in Biogas treatment and upgrading, ALLIANCE aims to develop an industrial and innovative production tool in Europe.

A 20,000 m² factory will come to life by the end of 2024 to support this multi-million euro project. Fully financed by AVENTECH, this facility will house certain AVENTECH activities, particularly the manufacturing of electrical equipment, electrical and process shelters/containers (piping, etc.) all in one location, a strategic and economic area in the South of France.

5,000 m² will be exclusively dedicated to the new production line for Biogas upgrading units and CO₂ liquefaction developed by PRODEVAL. Currently, no production line of this scale exists in the global Biogas market. Beyond the technical expertise controlled by PRODEVAL, the contributions of AVENTECH and DISP (INSA Lyon) will be crucial to ensuring a high level of product industrialization from conception, delayed differentiation, and online reconfiguration.



AN INDUSTRIAL AMBITION THAT ADDRESSES ENVIRONMENTAL CHALLENGES AND SIGNIFICANT REINDUSTRIALIZATION ISSUES

ALLIANCE represents a new and unique dynamic for the entire Biogas sector in Europe. To address the major challenges related to greenhouse gas emissions reduction and contribute to the energy sovereignty of territories, the new production line aims to manufacture nearly 450 units per year, compared to the current 150. This unprecedented production capacity will enable the structuring and standardization of the sector to deploy solutions across various territories such as in Europe. The challenge for ALLIANCE lies in the replicability of its international production line. This will enable the efficient and consistent reproduction of complex environmental technologies in various contexts, while overcoming logistical, regulatory, and cultural challenges specific to each location.

THE STANDARDIZATION - «DESIGN FOR MANUFACTURING AND MAINTENANCE»

It is a true revolution for the Biogas sector given the market's growth potential, estimated to reach several billion euros by 2030. The innovation of the ALLIANCE project lies in combining Biogas upgrading and CO₂ liquefaction solutions while developing the exportable nature, at the local level, of the deployed industrial solutions.

As a result of this project, the VALOPUR® DFM (Design For Manufacturing & Maintenance) skids will complement the existing VALOPUR® containerized membrane upgrading ranges, tailored to the needs of sites and clients.

The factory is expected to be operational by the end of 2024.

THE CHALLENGE OF ALLIANCE

- Replicability
- Simplified maintenance
- Increased modularity of equipment
- Shortened production lead times
- Optimized quality



The future AVENTECH factory spanning 20,000 m² in France
Photo Credit: AVENTECH



The industrial production line for Biogas upgrading systems and CO₂ liquefiers | Photo Credit: AVENTECH



5,000 m² dedicated to PRODEVAL's activity
Photo Credit: AVENTECH



A world first in the Biogas sector!
Photo Credit: PRODEVAL

VERBATIM'S

Sébastien CERISE - General Manager of AVENTECH

« Both of our companies thrive on challenges: PRODEVAL in technological aspects and AVENTECH in technical and industrial domains. Together, with our shared set of human values, we humbly aspire to tackle the challenges that lie ahead:

- **Decarbonizing energy:** by reducing greenhouse gas emissions associated with energy production and consumption. To achieve this, AVENTECH and PRODEVAL are developing technologies and equipment that promote the growth of decarbonized and renewable energies, thereby reducing dependence on fossil fuels.
- **Environmentally conscious production:** by designing and manufacturing products that adhere to sustainable development principles. Companies must utilize new technologies to create 'green' products that consume less energy and are reusable. The development of new technologies will enable us to establish new production methods, optimize processes, reduce waste and emissions, and involve stakeholders in the value chain. This is the focus of our collaboration with INSA Lyon.
- **Participating in societal transition:** by meeting the expectations and needs of present and future generations. To achieve this, companies must enhance their social responsibility and ethics, ensuring respect for human rights, reducing inequalities, promoting diversity and inclusion, and improving the quality of work life.

The challenges are immense, both at our level and on a national scale. Our commitment will be unwavering as we strive to contribute to these challenges.»

Sébastien PAOLOZZI - CEO of PRODEVAL

« At a time when our society is experiencing and will continue to face significant upheavals (global warming, economic crises, shortages...), it is time to unite forces and the best skills of each to meet the numerous challenges ahead.

I am particularly proud of the ALLIANCE project between AVENTECH, INSA, and PRODEVAL. This project will bring together the energy of two local companies to industrialize and internationalize process solutions that reduce the carbon intensity of new energies.

The project will be innovative in many aspects, thanks to the involvement of INSA Lyon: technology, shared facilities and tools, pooling of skills, collaboration with local businesses, and it will be a global first in the field of biomethane and related gases.

It is well known that we are stronger together; the ALLIANCE project will bring resilience to our companies and create jobs locally. »



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AVENTECH

AVENTECH, a French company, is an european leader in the design, industrialization, and manufacturing of electrical and industrial equipment for various sectors including energy, decarbonization, and infrastructure. The company specializes in Nuclear, Hydroelectricity, energy storage, Biogas (exclusive to PRODEVAL), Hydrogen, waste heat, industrial decarbonization, railways, energy transport and distribution networks, Defense, and more. With 350 employees and production sites around the Valence Agglomeration, AVENTECH achieved a turnover of nearly €90 million in 2023

PRODEVAL

PRODEVAL, a French company, is an european leader in the treatment and Biogas upgrading from the anaerobic digestion of organic waste. Over the past three decades, PRODEVAL has enhanced its expertise to provide clients with solutions for the production and distribution of Biomethane in CNG (Compressed Natural Gas) and LNG (Liquefied Natural Gas), as well as for CO₂ valorization. The company is actively engaged in the energy transition and the fight against climate change, demonstrating a commitment to reducing greenhouse gas emissions through innovative, responsible Biogas and bioCNG solutions that align with environmental goals. Operating in around ten countries worldwide through its six subsidiaries, the company now boasts over 475 operational installations and achieved a turnover of €141 million in 2023.

INSA LYON - DISP

The DISP (Decision & Information for Production Systems) at INSA Lyon (a prominent French engineering school) is a research laboratory that brings together researchers and teacher-researchers with dual expertise in Industrial Engineering and Information Technology for enterprises. The lab conducts research on the design and deployment of decision support methods and information systems to enhance the performance, agility, and resilience of production systems for goods and services, as well as global logistic chains. Its dual expertise, grounded in skills such as Modeling, Operations Research, Simulation, Software Engineering, Artificial Intelligence, Planning, Scheduling, and Decision Support, enables it to address these complex systems in their technical, structural, organizational, and human dimensions simultaneously.