

## PIPAc Collaboration Enables New Compact, Mobile and Frugal Approach to Active Pharmaceutical Ingredient (API) Manufacturing

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The companies NovAliX, Alysophil, De Dietrich Process Systems and Bruker have joined forces to bring to market a new approach to active pharmaceutical ingredient (API) production. The partnership will leverage its complementary skills to provide a complete, standalone, and location-independent API manufacturing solution to a pharmaceutical company or contract manufacturing organization (CMO).

Based on a Smart Production of Active Ingredients model, **the PIPAc (Production Intelligente de Principes Actifs)** project aims to bring the API manufacturing to the next level, by breaking the long and often complex supply chains associated with pharmaceutical production and creating rapid-response mobile API production units that are ready to deploy worldwide.

PIPAc combines breakthrough synthesis, continuous flow chemistry and in-flow analysis with artificial intelligence to create this next generation, autonomous and optimal production unit. It is a project with an investment of more than 3.5 million euros and a lifetime of two years for designing, manufacturing, and testing. The presentation of the fully fledged industrial demonstrator is scheduled for the first quarter of 2024. A task force was assembled around the project with more than 30 professionals from the four companies that constitute the PIPAc Consortium, and an additional contribution from another 50 scientists. More than 90% of the staff are located in the Grand Est region (France), and the rest in other countries of the European Community, where both Bruker and De Dietrich Process Systems have centers of expertise in the disciplines that are critical for the success of this project.

Luis Carrillo, Group Innovation & Pharma & Green Solutions (P&GS) France Manager, at De Dietrich Process Systems commented on the collaboration: "With the global pharmaceutical CMO market expected to reach up to US\$ 200 billion by 2027, now is the ideal time to introduce this next generation API production solution. The pandemic has fueled this growth, with many of the big pharma companies outsourcing manufacturing to French CMOs. This disruptive solution will enable them to meet the need for growth in production capacity in line with the societal challenges of our century."

Philippe Robin, President-Co founder, at Alysophil: "This important initiative is partially funded by the Banque Publique d'Investissement (BPI France) in recognition of the need to change the current manufacturing model, heavily reliant on an international supply chain, to a more dynamic, flexible, and resilient API production solution in line with modern market needs."

Dr. Anna Codina, Director of the Pharmaceutical Business Unit at Bruker BioSpin added: "We are proud to be part of this collaboration and provide spectroscopy tools, software and services to support the development of breakthrough solutions that help to shape the future of pharma."

Dr Julien Marin, VP, Director Research Services at NovAliX, concluded: "This consortium of four companies expert in their field gathered to build a brand-new API production solution is unique and perfectly tailored for success. PIPAc will integrate cutting edge technologies and will set new standard in manufacturing."

This project is financially supported by the French government as part of the "Plan de Relance" (industrial Recovery Plan). In this sense, given that this project will be developed to a large extent with public funds, it is the will of this Consortium to report publicly and regularly with full transparency on the progress of the project, with this premise being an undoubted commitment of the PIPAc Consortium.

### About NovAliX, Alysophil, Bruker and De Dietrich Process Systems

Novalix is a drug discovery CRO renowned for the development of new chemical processes in batch and continuous flow. Alysophil brings its experience in chemical industry and the use of artificial intelligence for molecule development and flow chemical process piloting. Bruker, a high-performance scientific instrument, and high-value analytical and diagnostic solutions provider, will contribute with PAT (Process Analytics Technologies) proven solutions to monitor critical process parameters and quality attributes needed to optimize the continuous production process. De Dietrich Process Systems, as a reputed experts in chemical process engineering and one of the most reference companies in pharma sector, will be the constructor of the compact production unit integrating the above technologies and know-how, as well as innovative solutions regarding the continuous reaction modules and the supervision and automation system, ensuring that this innovative production unit is FDA and GMP compliant.

### For more information, please visit:

- [novalix.com](http://novalix.com)
- [alysophil.com](http://alysophil.com)
- [dedietrich.com](http://dedietrich.com)
- [bruker.com](http://bruker.com)

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