bionet
ENGINEERING

BIOPROCESS DEVELOPMENT AND OPTIMIZATION

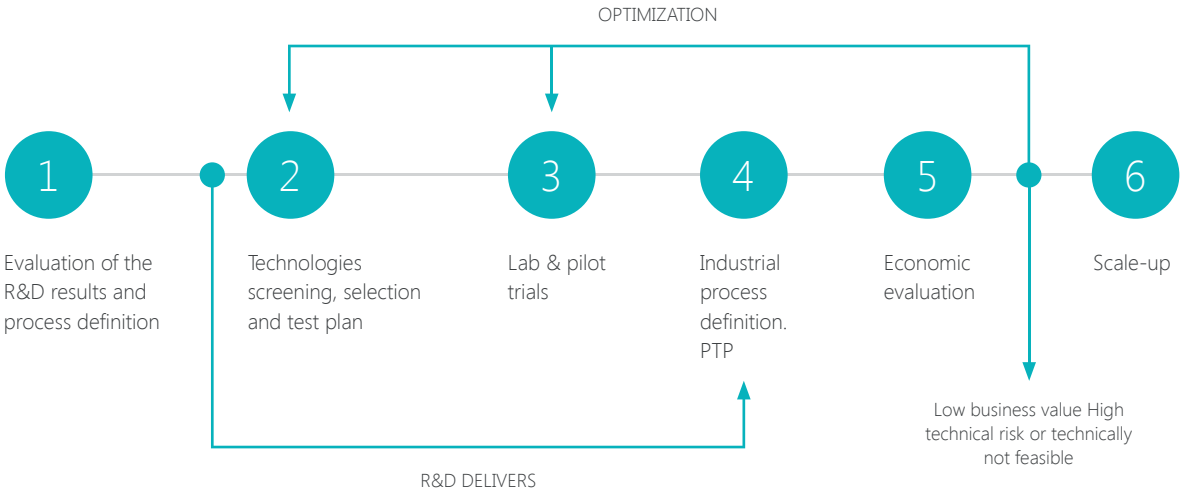
AENOR
Empresa Registrada
UNE-EN ISO 9001

THE COMPANY

Bionet is a specialist in bioprocesses engineering. We provide equipment (Bioreactors, Cross-Flow Filtration Systems and Cleaning In Place Systems) and advanced technical services.

Our services of development and optimization of up-stream and downstream bio-processes are a key tool to contribute to the success of our client projects.

The objective of BIONET process development services is to reduce the "time-to-market" and ensure/asses the viability of new developments. This work is done through a sound methodology successfully proved in many projects.



At BIONET we strive to understand your technology, production and regulation needs, to design and build the optimal solution for your process.

The process development department consists of highly qualified staff that have extensive experience, having worked in many highly complex projects, producing multiple molecules of different nature.

BIONET has its own facilities and a network of scientific and technological partners. Our laboratory and pilot plant is equipped with bioreactors and downstream equipment to perform tests at different scales, from small batches (2-3 liters) up to hundreds of liters. In addition, we can help you by producing validation or commercial batches; so as to you can advance your technical and commercial development.

UPSTREAM

Bionet has extensive experience process development/ optimization and scaling-up.

With this purpose, BIONET makes a first study of the current possibilities and alternatives to set a robust starting point and supported by previous experiences. From this point, our specialized staff will experimentally study different characteristics and parameters and their specific role in your process, in order to get the optimal process recipe that shows the highest yields:

- Optimization of process parameters (agitation, aeration, temperature, pH, additions ...).
- Media development / optimization.
- Determination of optimal inoculation volumes.
- Studies of induction processes for the production of the desired biomolecule.
- Enzymatic cocktails development and optimization.

Regarding process scaling up, our goal is to reproduce the process, as far as possible, at commercial scale. For this purpose, our specialists will perform the necessary calculations and experiments (K_La, power input, aeration...) to develop an economically profitable industrial process from your lab-scale process.

DOWNSTREAM

The design of a robust and competitive Downstream (clarification, isolation and purification) for bioprocesses is a complex process that requires knowledge, experience, in addition to the necessary technological capabilities.

Our laboratory and pilot plant are equipped with several downstream units to perform tests with different technologies such as Cross-Flow Filtration Systems, centrifugation, drying, etc. We also have access to technology suppliers that can complement our offer in order to be able to evaluate and test all solutions available.

To achieve the optimal solution requires a methodical process that may include:

- Screening of the best technology for each basic operation.
- To optimize working conditions
- Physical / chemical conditioning of the products to enable processes and optimize yields in each basic operation.
- Development and validation of cleaning processes.
- Modelling of process scaling up, including CAPEX and OPEX, to perform the viability assessment.

BIONET has real experience of over 15 years in process engineering for plant construction and process development for numerous products generated by different organisms (bacteria, yeasts, fungi ...)

Biomass, Amino acids, Antibiotics, Biogas, Biopolymers, Enzymes, Ethanol, Oils, Steroids, Plasmids, Biocides and biopesticides for agriculture, Biocides for food preservation

Bionet Engineering

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