Mauzé/ le Mignon – Press release



A breakthrough technology patented,

UNIFERTEX (UNIversal FERmenTor EXpert) offers a unique opportunity to microbiologists to carry out solid and liquid state fermentations in parallel.

Microbial fermentation technology has recently introduced new techniques to facilitate the implementation of experiments. However, the whole shape, accessories and processes have remained the same for centuries. Few operators act in the field and the market is shared among them with equivalent offers. With the experience of Platotex developed by CNRS and built by Pierre Guerin and an international benchmark and survey including various operators and end-users, CNRS and Pierre Guerin developed a clear idea on how to move beyond the state of the art by covering every application in the microbial fermentation field. This is what we call the "**UNIVERSAL FERMENTER".**

With this innovative approach, new technology and an available operational device for demonstration, TASCMAR will achieve one of its key project objectives. The Work Package dedicated to the development of this new fermenter benefits from a lasting interaction and complementarity between the two involved partners, the successful building of an operational unique device and the results obtained in other work packages of TASCMAR project. The black box approach to the development of new technology consists of listing **the ideal requirements for the equipment**: liquid state cultivation & solid state cultivation, coupling extraction steps, up-scale & down-scale shape, liquid & solid sampling technology, liquid & viscous inoculation accessories, being compact from laboratory to industrial version, easy handling, remote control, international safety requirements.

"To integrate all of the requirements in one device"

Although challenging it is the aim of the project to integrate all of the requirements in one device. The prototype consists in a 300L WV fermenter with innovative tools and accessories, able to support micro-organisms cultivation under sterile conditions. We established the main characteristics of the prototype such as working volume capacity, shape of the vessel, raw materials, dimensions, accessories foreseen to be implemented within the equipment, instrumentation for measuring and controlling process parameters such as temperature, pressure, etc. Pierre Guerin project team has 'translated' the User Requirement Specifications into technical specifications in accordance to industrial regulations: design according to construction codes: CODAP, PED; compliance to international regulations and standards: ASME BPE, GAMP, 97/23/EC, ISA; using advanced tools including: INVENTOR CAD system for full 3D design and ANSYS MECHANICAL for mechanical constraints calculations.

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