

Following its integration within the TWB consortium, Heurisko puts its cutting-edge technology at the service of biotechnology R&D

Since 2007, Heurisko designs automated devices enabling manufacturers and researchers to optimise the conduct of their R&D projects. The Heurisko technology, aimed at accelerating the development of new microbial strains, has been introduced into the Toulouse White Biotechnology (TWB) center of excellence. The objective for Heurisko is twofold: to be at the heart of innovation in the field of biotechnology and to be in permanent contact with manufacturers, actively involved in this center.

Innovative equipment for the natural selection of microorganisms

Heurisko develops, operates and markets culture automatons for optimising the development of microorganisms. In concrete terms, the proprietary device developed by Heurisko relies on natural selection mechanisms by maintaining the growth and proliferation of microorganisms under controlled conditions.

With a proprietary, non-GMO labelled technology, this equipment makes it possible to control and automatically adjust culture conditions, in order to direct evolution towards applications of interest. Moreover, the automation limits costs as well as the risk of culture contamination by the operator. This technology can be applied to various application areas such as food, health or chemistry.

For example, ethanol which forms part of the composition of biofuel is produced from sugar by yeasts. However, ethanol is toxic to the yeasts that produce it and therefore has an inhibitory effect on their growth. The approach implemented by Heurisko makes it possible to naturally select yeasts that have become more resistant to ethanol. Ultimately, a higher ethanol concentration is achieved, which reduces production costs.

Improving the economic feasibility of industrial biotechnology

The directed evolution of microbial populations contributes to the relevance of R&D projects in the field of industrial biotechnology. The Heurisko equipment aims at reducing the cost and duration of R&D projects to make them compatible with the necessary economic feasibility. The Heurisko technology, a unique tool for the development of non-GMO strains for regulated applications such as the food industry, has also demonstrated its relevance for supporting strain development by genetic and metabolic engineering.

In addition to the provision of culture automatons, Heurisko also provides its customers with its know-how and expertise in the field of computational biology and metabolic selection.

Within TWB, Heurisko, whose technology is now integrated on the demonstrator's biotransformation and culture platform, intends to make its equipment as accessible as possible, in particular to the start-ups and partners of the TWB consortium. Heurisko hopes thereby to rapidly further its reputation and accelerate its development through the collaborations proposed by TWB.

"Heurisko is honoured to supply its technological brick to TWB's strain development and cultivation platform. In a context of rapid advance in genome sequencing and manipulation technology, the ability of our systems to adapt microorganisms to industrial needs opens up strategic avenues to knowledge and intellectual property. TWB's accompaniment will allow us to develop fruitful collaborations in the field of industrial biotechnology", said **Simon Trancart, CEO of Heurisko.**

For his part, **Julien Cescut, Manager of TWB's Biotransformation & Culture platform**, said: *"The innovative Heurisko technology perfectly complements TWB's range of services. This system provides an original solution for improving the performance of culture processes, adapting non-GMO strains to the stresses of industrial conditions and increasing the robustness of newly engineered strains."*

About TWB:

Toulouse White Biotechnology (TWB) is a preindustrial demonstrator whose goal is to speed up the development of industrial biotechnologies by facilitating exchanges between public research and industry. Its vocation is to contribute to the expansion of a bioeconomy based on the use of renewable carbon in various fields (chemistry-biochemistry, materials, energy, etc.). Various kinds of collaborative research and development projects are proposed, as well as personalized services for businesses. Since 2012, TWB has supported a total of 79 projects including 33 finalized at the end of 2016. In March 2011, TWB was awarded the call for project for the Investments for the Future Program (PIA – Programme Investissements d'Avenir). It receives State aid through the ANR (Agence Nationale de la Recherche - National Research Agency). TWB is a UMS (Unité Mixte de Service – Mixed Service Unit) managed by INRA under triple INRA/INSA/CNRS tutelage. With €18.6 M of signed contracts since its creation, TWB confirms the relevance of its role at the interface of the public/private transfer.

More information: [here](#)

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