

BIOHUB® PROGRAM FOR THE DEVELOPMENT OF NEW CEREAL-BASED BIO-REFINERIES

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The use of renewable raw materials of vegetal origin constitutes one of the most promising areas of development for sustainable chemicals.

The R&D programs launched in numerous countries for the production of biofuels is currently coming to fruition with significant production of bio-diesel and bio-ethanol, and constitutes one of the first major steps towards the exploitation of renewable raw materials.

Conversely, the chemicals industry still remains highly oriented towards the development of processes based on raw materials of fossil origin. The rarefaction of these resources and the increase in crude prices are factors that will lead to a progressive change in the chemicals industry towards the introduction of new biorefineries.

Today's starch-production plant is a good example of a bio-refinery, which uses enzymatic and/or chemical conversion to produce a broad range of products, including starch, glucose, sorbitol and derivatives such as isosorbide.

Since the mastery of catalytic systems and processes allow us to obtain very pure products in a competitive manner, and enable the development of biotechnologies, they promise to significantly broaden the range of starch-based products, in areas of application traditionally reserved to the world of petrochemicals.

To this end, ROQUETTE and its scientific and industrial partners have presented in April 2006 a program to the Agency of Industrial Innovation (All) : the BioHub® program. The BioHub® program was accepted by the All in April 2006 and by the European Commission in December 2006.

The program is led by ROQUETTE in partnership with seven other industrial entities, including the chemicals companies ARKEMA (France), DSM (Pays-Bas), SOLVAY (Belgium) and COGNIS (Germany), the roadway-design company EUROVIA (VINCI Group), SIDEL, a company specialized in polymer-bottling systems, and TERGAL INDUSTRIES, a producer of PET.

The partnership also includes METABOLIC EXPLORER, a young start-up based in Clermont-Ferrand, which specializes in the industrial application of biotechnology techniques.

The CNRS, meanwhile, is also well represented in the BioHub® program, with teams from the National Institute of Applied Sciences (INSA) from Lyons and Rouen and from the Institute of Molecules and Condensed Materials of Lille (IMMCL).

The goal of the BioHub® program is to develop new channels of production for chemical products based on renewable agricultural raw materials such as cereals.

Among the new products arising from this research program are biopolymers, biosolvents, bioplastics, biocomplexants, and active and intermediary ingredients for synthesis.

With the BioHub® program, ROQUETTE expects to play a leading role in industrial innovation in the service of chemistry for sustainable development.