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**Procethol 2G is proud to announce the launch of an industrial first for the second-generation (2G) bioethanol production technology Futurol™.**

**Axens, responsible for marketing, has just signed a licensing agreement for the sale of the technology to Croatian operator INA. A promising step for the development of a 2G biofuel sector in Europe.**

The very first contract signed between Axens and INA represents the first commercial success in Europe for Futurol™, a competitive and sustainable technology aimed at addressing environmental challenges in the transport sector. INA will produce 55,000 tons (equivalent to 70 million liters of ethanol) of bioethanol using lignocellulosic raw materials such as agricultural waste and energy crops such as miscanthus.

The development of advanced biofuels falls within the framework of the objectives set out in the European RED II directive specifying the incorporation of a 14% share of renewable energies in fuel for transport by 2030, with a 3.5% target for second-generation biofuels. The use of second-generation biofuel reduces greenhouse gas emissions by more than 85% compared to the fossil reference.

## **An innovative technology**

The originality of Futurol™ technology lies in its four-step implementation process: steam explosion of biomass, combined hydrolysis and fermentation, ethanol separation and in-situ enzyme production.

One of its great strengths is its autonomy. Technological autonomy, first of all, thanks to the in situ production of the enzymes and the propagation of yeasts adapted to the raw materials treated. And also in terms of energy, since the technology enables total autonomy of the industrial site, and even energy exports.

The competitiveness of Futurol™ technology also lies in its adaptability to different biomass types. This flexibility enables the optimization of the local supply of raw materials, marketing on a global scale and easy integration within existing conventional ethanol production plants.

## **The industrial development of a French technology**

Launched in 2008, the Futurol™ project has been conducted with the support of 11 partners, covering the entire process, from the plant resource to the fuel tank: ARD, IFP Energies nouvelles, INRAE, Lesaffre, Office national des forêts (French National forestry Office), Tereos, Total, Vivescia, Crédit Agricole Nord Est Participations, CGB and Unigrains. The various steps in the process were successfully validated on a continuous pilot at Pomacle-Bazancourt (Marne, northern France) and an industrial demonstrator at Tereos' Bucy-le-Long site.

*“We are delighted to announce this industrial first for an innovative 2G bioethanol technology developed within the framework of the Futurol™ project, with the support of Bpifrance. It represents the culmination of an exemplary R&D partnership and illustrates the recognition of French scientific excellence and innovation capacity. We firmly believe that this initial success heralds the development of a thriving second-generation bioethanol production sector”,* explains Nathalie Alazard-Toux, President of Procethol 2G.

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