

RAIZ



Forest and Paper Research Institute

TECHNOLOGICAL
SCOUTING NEWSLETTER

October 2019

Highlights

- A new company for the first paper bottle
- World's first combined 2G ethanol and crude lignin oil closer to reality in Spain
- A new forest fire extinguishing product tested by Metsähallitus



Contents

- **Paboco: The First Paper Bottle Company**
- **Stora Enso: Paperboard tube for cosmetics**
- **MoRe Research: Pilot equipment for nanocellulose development**
- **World's first combined 2G ethanol and crude lignin oil biorefinery planned in Spain**
- **Metsä: fibre-based recyclable food tray**
- **INRA and Irstea to become a single research institute in 202**
- **Xpyro: forest fire extinguishing product**

Services Provided by RAIZ Technological Scouting:

Technological Scouting Newsletter (monthly)

Technological Scouting On Demand (specific technological issues, upon request)

Industrial Property (IP) Survey (quarterly)

For further information please contact: mariana.oliveira@thenavigatorcompany.com

PACKAGING



photo: Paboco

Paboco: The First Paper Bottle Company

In 2013 the first version of the Paper Bottle, based on recycled paper, was developed by EcoXpac, a Danish startup dedicated to the development of molded pulp solutions for packaging. It was then started the Paper Bottle Project with members such as the Danish Institute of Technology, Technical University of Denmark, BillerudKorsnäs and Carlsberg.

In April 2019, ALPLA, a leading company developing plastic packaging, and BillerudKorsnäs announced that they would form a joint venture in the company ecoXpac, for owning equal parts of the startup.

This joint venture is now an established company by the name of Paboco . Additionally, this new company brings to life the Pioneer Community, comprising, besides the owners ALPLA and BillerudKorsnäs, Carlsberg, L’Oréal, Coca-Cola and Absolut. Netherlands-based renewable chemical process developer Avantium is also participating.

The Joint Venture is expected to focus on scaling-up the production of paper bottles to significant levels, with the first generation bottle expected to be on the market in 2020.

Read more > [Paboco](#) | [Cision](#) | [BioPlasticNews](#) | [PackagingInsights](#)

● Technological
● Product Development

BIOREFINERY



photo: Stora Enso

Stora Enso: Paperboard tube for cosmetics

Stora Enso has developed a barrier-coated and grease-resistant paperboard for the primary packaging of skin creams. The runability of the board has already been tested by Aisa, a world-leading tube manufacturer. Stora Enso additionally expects to replace the tube plastic cap and shoulder by biocomposite alternatives.

Read more > [Stora Enso](#)

● Product Development



photo: Paper Advance

MoRe Research: Pilot equipment for nanocellulose development

MoRe Research from Sweden has developed a small pilot paper machine for nanocellulose trials. With a width of 225 mm, a Fourdrinier wire section, a press section and a drying section, it is additionally equipped with a Yankee cylinder for tissue and MG papers production. The unit can help in answering questions such as how should a paper machine be modified for production of nanocellulose containing materials, which white water chemistry will optimize nanocellulose retention and what happens with the nanocellulose containing web in the drying section ?

Read more > [Paper Advance](#)

● Technological
● Product Development

BIOREFINERY



World's first combined 2G ethanol and crude lignin oil biorefinery planned in Spain

UK's Sainc Energy, biomass refinery technologies developer, has announced to be entering into a contract for getting 180000 tons per annum of olive tree prunings to be used at its planned advanced biorefinery at Andalusia. The biorefinery will produce second generation (2G) ethanol alongside with crude lignin oil (CLO). The CLO is expected to be purchased by Vertoro, a Dutch startup dedicated to the valorization of lignin, and for the ethanol produced discussions with BP, Shell and Total are currently being carried out. The bio-refinery is expected to go into production by Q3 2022.

Read more > [Canadian Biomass](#)

● Technological
● Product Development



photo: Metsä

Metsä: fibre-based recyclable food tray

Metsä Board has partnered with the Finnish start-up Jospak Oy for the development of a sustainable fibre-based food tray which enables reducing the use of plastic by up to 85%, compared to traditional plastic food trays. Jospak Oy developed the tray by combining an innovative design with a removable plastic film, making it suitable for hermetically sealed packaging of fresh and processed foods. After use the consumer can easily remove the plastic film and recycle the board and plastic materials as the corrugated tray is compatible with existing packing processes and logistics of the food industry.

Read more > [Metsä](#)

● Technological
● Product Development



INRA and Irstea to become a single research institute in 2020

Two French European Forest Institute - Planted Forest Facility (EFIPLANT) members, French National Institute for Agricultural Research (INRA) and National Research Institute of Science and Technology for Environment and Agriculture (Irstea), from the 1st January 2020, are merging to form a new forest wood research institute, with more than 500 scientists and technicians, named as Inrae and with main areas of work the forests, bioeconomy and biodiversity. Research will be carried out within seven new divisions in the fields of agroecological and digital transition of agriculture, aquatic environments and the control of associated risks, management of sparsely populated continental ecosystems, economic and social evolution in agriculture, food and the agrifood industries, data sciences and artificial intelligence, robotic technologies and sensors, support for territorial transitions and management and bioeconomy and bioresources.

Read more > [EFI](#)

● Forest



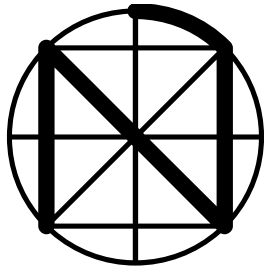
Xpyro: forest fire extinguishing product

The Finnish company Xpyro invented a forest fire extinguishing product, by developing a fertilizer-based liquid which can be spread on the ground from a tank on a trailer, tanker or even from a rucksack sprayer. Ground doused with the liquid will not catch fire. When the ground is dry, the effect of the product lasts several weeks. In rain, the pH-neutral liquid works as a fertilizer. According to Xpyro, the developed product is ready to be used, poison free and environmentally friendly. The Finnish state-owned forest company Metsähallitus tested the product last year in connection with prescribed burning. Fire spread over a ten square meter test area, but the spread area did not burn.

Xpyro has filed a patent application for the product. The manufacturing costs of the product are still high, but the goal is that the product will be priced in the same range as liquid soap.

Read more > [Forest.fi](#)

● Forest
● Product Development



RAIZ – Forest and Paper Research Institute

Quinta de S. Francisco, Apartado 15, 3801-501 Eixo

Tel: +351 234 920 130, Fax: +351 234 931 359

mariana.oliveira@thenavigatorcompany.com

PART OF
**THE NAVIGATOR
COMPANY**