

RAIZ



Forest and Paper Research Institute

TECHNOLOGICAL
SCOUTING NEWSLETTER

March 2019

FOREST



photo: BillerudKorsnäs

BillerudKorsnäs's Centipede project: developing an innovative forestry machine

BillerudKorsnäs is joining companies within the forestry industry, such as Komatsu Forest Machines, in a new project for developing a forest operations machine that will put less pressure on the ground, thus generating less impact on the forest while simultaneously improving operator comfort. The machine is also intended to boost productivity and provide a more regular flow of timber to the industry over the year as a whole. The project, which has been named "Centipede", comprises studies on how to form the concept machine, and how batch production may subsequently be established. It is expected that the concept machine will be ready in 2020. A variety of technologies will be evaluated as part of the work to design the new machine.

Read more > [BillerudKorsnäs](#)

● Forest

BIOREFINERY: PACKAGING SOLUTIONS



photo: JujoThermal

JUJO THERMAL develops new recyclable and biodegradable paper for flexible packaging

Finish thermal papers manufacturer, Jujo Thermal, part of Nippon Paper Group, is developing a new and environmentally friendly specialty paper, with applications in flexible and sustainable food packaging, replacing plastics or aluminium barrier films. The new product is based on Nippon Paper's SHIELDPLUS® paper-based barrier material, providing superior barrier properties against oxygen, water vapor and flavor penetration. The new product concept, said to be completely recyclable and biodegradable, is currently in the market validation stage.

Read more > [JujoThermal](#)

● Technological
● Product Development

BIOREFINERY: PACKAGING SOLUTIONS



photo: Stora Enso's Trayforma

Stora Enso's new formed fiber products production line

Stora Enso is investing € 5 million to build a new production line of formed fiber products at its Hylte Mill in Sweden. Formed fiber products are manufactured by pressing pulp into a desired shape in a molding machine. Potential products include plastic-free cups, bowls, clamshells, plates and coffee cup lids.

For now it is not clear if a new technology is involved or if it is the same as the one originating the Stora Enso products Trayforma and Cupforma.

Read more > [Stora Enso](#) | [Trayforma](#) | [Cupforma](#)

● Technological
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photo: Metsä

Metsä Tissue and Amerplast: first circular economy tissue packaging

Metsä Tissue's Serla brand and the Finnish plastics packaging maker Amerplast are partnering to introduce the first Circular Economy Tissue Packaging, the Serla's Green Pack packaging.

Recycled plastic from industrial and households sources will be combined with biobased polyethylene.

After use, the Green Pack packaging is fully recyclable through existing recycling streams, and converted to raw material for new tissue packaging.

Read more > [Amerplast](#)

● Technological
● Product Development

BIOREFINERY: PACKAGING SOLUTIONS



photo: Biome

Biome Bioplastics and Futamura develop compostable multilayer packaging

UK's Biome Bioplastics and Futamura have partnered to demonstrate a range of bio-based and compostable multilayer films.

The compostable multilayer films are manufactured combining Biome's biodegradable sealant resins with Futamura's compostable NatureFlex™ cellulose films.

The films disintegrate by 90% within 12 weeks and biodegrade by 90% to water, CO₂ and biomass within 180 days.

Dry food pouches with good oxygen barrier and moisture barrier properties as well as with efficient sealability, are said to be produced using the films developed.

Read more > [Biome](#)

● Technological
● Product Development

BIOREFINERY



photo: Valmet

Brazil's GranBio Acquires USA's American Process

Created in June 2011, GranBio operates the first commercial scale cellulosic ethanol plant in South America, in Alagoas, Brazil, where biomass from sugarcane residue, straw and bagasse are converted into cellulosic ethanol and lignin.

Driven by the intent of reaching further large scale production of biofuels, biochemicals, and advanced renewable materials, GranBio has now completed the acquisition of 100 % of American Process Inc., including its pilot biorefinery unit, R&D center, operations, research, business development staff and an extensive intellectual property portfolio in the biorefinery, biofuels, biochemicals, and nanocellulose fields, with over 200 granted and pending patents.

Read more > [BiofuelsDigest](#)

● Technological
● Product Development

BIOREFINERY



photo: Fazer

Fazer to build a 40-million-€ xylitol factory in Finland

Finnish food manufacturer Fazer is investing in a xylitol manufacturing facility for entering the xylitol market. The raw material will be oat hulls from Fazer's oat milling process side streams.

Not much information is made available on the technology used. Only that it is a patentable new technology due to the used raw material which, and as said by Fazer, until now, is used mainly for energy production.

Read more > [Fazer](#)

● Technological
● Product Development



photo: Valmet

Valmet signs lignin extraction project with Klabin

Klabin continues the search for new routes of technology for the manufacture of renewable and sustainable wood based products, such as the ones lignin derived.

In order to test various types of lignin, Klabin decided to implement a Valmet Lignoboost pilot plant at its technology center in Monte Alegre, Paraná. Operations are expected to start later this year.

Lignins are expected to be produced from Klabin's variety of processed woods, i.e. eucalyptus, pinus and different mixtures of both.

Read more > [Tissue online](#)

● Technological
● Product Development

BIOREFINERY



photo: UPM

UPM BioVerno diesel reduces tailpipe emissions

UPM BioVerno fuel, made from crude tall oil, a natural wood extract of mainly softwood origin and a by-product of the pulp production process, shows to be able to reduce tailpipe emissions of off-road vehicles. Partnering with VTT, the test focused on measuring the tailpipe emissions of a Volvo wheel loader. Both the nitrogen oxide and particle emissions were around 10% less when compared to a fossil reference fuel.

Read more > [UPM](#)

● Technological
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NEW PAPER BASED PRODUCTS DEVELOPMENTS



photo: Bangor Daily News

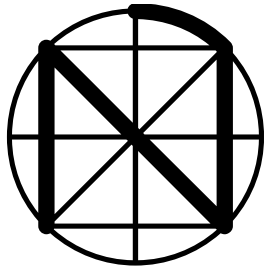
Sappi developing paper based solutions for the medical field

At its Westbrook Technology Center, USA, and in collaboration with the University of Maine, Sappi is expanding its texturing expertise to create paper products with miniscule textures that can be used to inhibit microbial growth without requiring chemicals.

Other mentioned project is the development of a paper-based medical test device, consisting of a paper imprinted with special microfluidic patterns.

Read more > [Bangor Daily News](#)

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

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

mariana.oliveira@thenavigatorcompany.com

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**THE NAVIGATOR
COMPANY**