

RAIZ



Forest and Paper Research Institute

TECHNOLOGICAL
SCOUTING NEWSLETTER

June 2020

Highlights

Several paper/fiber- based food packaging developments, from trays, frozen food packs to flute cups.

A new 50 million € R&D programme in circular bioeconomy.

Demonstration/pilot units announced for lignin conversion into bioplastics and bio-based carbon.



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Services Provided by RAIZ Technological Scouting:

Technological Scouting Newsletter (monthly)

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

Industrial Property (IP) Survey (quarterly)

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START-UP OF THE MONTH



Lactips is a French start-up which produces water soluble and biodegradable thermoplastic pellets and films based on milk protein. After starting a cooperation with BASF, for the use of Lactips' products, this French start-up has now raised 13 million € in new capital in an investment round, including from the Mitsubishi Chemical Holdings Corporation. The capital is expected to be applied on the speeding up of its product development and industrial facilities. In fact, a new production plant is expected during 2021.

Lactips is also looking to apply its water soluble and biodegradable thermoplastics in packaging markets in the food and construction sectors as well as in the single-use packaging.

Read more > [packagingtoday](#) | [digitalfoodlab](#) | [bioplasticsmagazine](#) | [Lactips](#)



FOREST

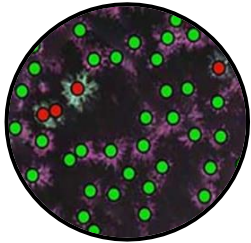


photo: Stora Enso

Stora Enso: drone research and multispectral camera to detect insect damages in forests

The Stora Enso Forest division connected a multispectral camera to a drone for detecting spruce bark beetle exposure in Finish forests. The multispectral camera, connected to the drone, identified the trees whose fluid circulation was disturbed by the beetle, since the exposed trees appeared in different colors than the healthy trees. The gathered data can be used to plan forest management, timely silvicultural work and harvesting.

Read more > [Stora Enso](#)

● Forest

BIOECONOMY



Metsä: 50 million € R&D programme in circular bioeconomy

Metsä and the energy company Fortum announced they are joining forces with Business Finland to create a world-class R&D programme which has pulp fibre from renewable and sustainable sources as its center. During the 4 years ExpandFibre project, ground-breaking technologies and smart business concepts, required for converting straw and wood pulp fibre into novel bioproducts, such as textile fibres, are to be developed. The 20 million € R&D programme will be focused on seven research themes: textiles, biocomposites, packaging materials, other new fibre products, hemicellulose, lignin and sourcing and fractionation of straw.

Read more > [Metsä](#)

● Technological
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PACKAGING



photo: Södra

Huhtamaki and Södra: bio-based material of the year

As noticed at the TS Newsletter of May 2019, Huhtamaki and Södra have been working together on the project FRESH, aiming at the production of wet-moulded food contact products as sustainable alternatives to plastic food trays. The new trays are manufactured by Huhtamaki using its molded fiber technology and the fiber base material is supplied by Södra. Following the success of the new product testing at the supermarket chain Waitrose when used for ready-made meals, it has now been awarded as the winner of the Bio-based Material of the Year at the annual International Conference on Bio-based Materials, organized by nova-Institute.

Read more > [Södra](#) | [FRESH](#)

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photo: Smurfit Kappa

Smurfit Kappa: paper-based alternative for EPS frozen food packaging

Following the request from a global supplier of fresh and frozen foods, Smurfit Kappa has developed a new and sustainable pack which keeps frozen and chilled foods fresh throughout the supply chain. The developed 100% paper-based combination of Smurfit Kappa's solutions Hexacomb and Corrugated, the new Thermo Box, keeps frozen food at temperatures similar to expanded polystyrene boxes. Additionally, Thermo Box is 100% recyclable, can be stored flat, reducing warehouse costs, different sizes can be easily created and the corrugated exterior offers good branding opportunities, posing greater flexibility than EPS alternatives.

Read more > [Smurfit Kappa](#)

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PACKAGING



photo: Metsä

Metsä: new paperboard flute cup

Metsä, along with the Finnish start-up company Esbottle, developed a paperboard flute cup for celebration drinks and for reducing the use of plastic products for those purposes. The flute consists of two parts enabling the cup and base sections to be stored inside each other so they can be transported and recycled efficiently. Additionally, the flute can be personalized using traditional printing methods and special effects.

Read more > [Metsä](#)

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photo:
biomarketinsights

Fazer: new wood-based packaging

Start-Up Sulapac is already known by its several partnerships with different companies interested in developing wood-based packaging, namely Stora Enso. Sulapac products are made from wood chips and natural and biodegradable binders. Now Fazer, one of the largest food companies in Finland, is partnering with Sulapac for the development and testing of plastic-free and biodegradable packaging solutions for foodstuffs.

Read more > [Sulapac | biomarketinsights](#)

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FOOD PAPER PRODUCTS



photo: ipwonline

Drewsen: paper straws competence center

German specialized papers producer Drewsen established a competence center for paper straws, with the main objective of understanding the interaction between paper, glue and the drinking straw machine. For that, Drewsen installed a paper straw machine and additional processing systems for straws at their headquarters. Collaboration with glue manufacturers, machine manufacturers and straw producers is also expected.

Read more > ipwonline

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photo: UPM

UPM: new biocomposite cutlery line

Along with Finish Akvila Cutlery, UPM is applying its new biocomposite Formi EcoAce in the production of reusable cutlery. Formi EcoAce contains the renewable polypropylene polymers TRUCIRCLE™, from the Saudi chemical manufacturing company SABIC, manufactured using UPM's BioVerno naphtha produced from the pulp making process residue tall oil. The developed products are stronger and more durable than single-use cutlery, with a guaranteed heat resistance of over 100 °C and suitable for dishwashing.

Read more > UPM.FormiEcoAce | UPM

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LIGNIN



photo: rencom

RenCom: demonstration unit for lignin bioplastics

RenCom is a Swedish innovation company that has developed an energy-efficient method for transforming lignin into a bioplastic branded as RENOL, which can then be blended with virgin and recycled thermoplastics creating new types of bioplastics. Now, the Swedish Energy Agency has granted 1.3 m € to help scale-up its lignin technology. RenCom's product can be converted into plastic bags, packaging materials, bottles or injection moulded pieces.

Read more > [biomarketinsights](#) | [bioplasticsnews](#) | [rencom](#)

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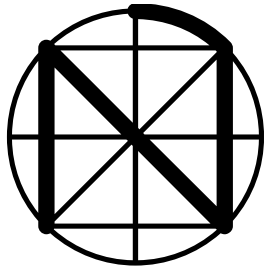
photo: Stora Enso

Stora Enso: pilot plant for renewable bio-based carbon from lignin

Stora Enso is currently building a pilot plant at its Sunila mill, in Finland, for producing renewable bio-based carbon. Stora has developed a method for converting dry lignin into a graphite replacement material for applications in consumer electronics and in the automotive industry. The Sunila mill industrially produces lignin since 2015, with an annual production capacity of 50 000 tonnes. The pilot plant is expected to be completed at the beginning of 2021.

Read more > [Stora Enso](#)

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