

RAIZ



Forest and Paper Research Institute

**TECHNOLOGICAL
SCOUTING NEWSLETTER**

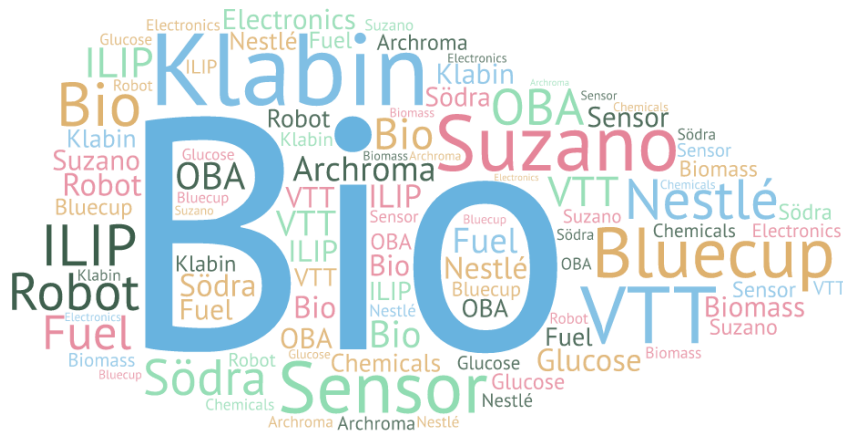
January 2019

Highlights

- Biodegradable food packaging was the dominant subject for this January 2019 Tech Scout Newsletter, with developments from Suzano, ILIP, and Nestlé
- New electronics products based on paper and bioplastics were announced
- Technological forest developments by Scion, with a new Lidar scanner, and by Pöyry, with new Smart Forestry offerings planned in the near future

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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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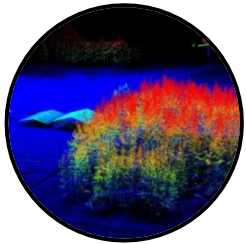
FOREST

Photo: Scion

Scion: new Light Detection And Ranging (Lidar) scanner

Scion, the Crown Research Institute (CRI) of New Zealand, has a new top-of-the line Lidar scanner – the Riegl MiniVUX-1 UAV Snoopy V-series, manufactured by LidarUSA.

The new equipment has higher resolution and accuracy than Scion's current scanner, and has an increased range. With the new equipment, being able to capture data at greater than 60 m above ground, and up to 120 m, UAV sight flying is much easier, and the UAV is safely clear of tree tops. The new scanner will be a powerful addition to Scion's Forest Informatics team's tool kit for its work on monitoring tree growth, health and inventory, and in the phenotyping research programme.

Read more > [scion](#)

● Forest



Pöyry working on new Smart Forestry offerings

Pöyry and Simosol, a Finnish leading forestry digitalization service provider, have signed a partnership agreement to further develop Pöyry combined offering in Smart Forestry solutions. Combining Pöyry's deep knowledge through forest based value chains with Simosol's wide experience in digital solutions, a wide range of improved services are expected, in forest valuation/appraisal, GIS, remote sensing, advanced analytics and information system development in forestry to (pre-)feasibility studies in forestry development, wood supply chain optimization, forest carbon strategies and monitoring as well as in carbon balance analysis.

Read more > [globenewswire](#)

● Forest

BIOREFINERY



photo:
embalagemmarca

Suzano's new 100% plastic-free cupstock

Suzano introduced the Bluecup Bio, a 100% biodegradable and compostable cupstock made from renewable sources, said to be the result of two years of R&D efforts. The paperboard constituting the cup is produced by Suzano, using certified eucalyptus, and the production is carried out by the Brazilian BOpackaging. The Suzano paperboard is said to have a uniform surface, with high smoothness and whiteness, allowing a high quality printing. The cup structure was designed to be adaptable to hot and cold drinks, offering high thermal insulation, increased grip and comfort while drinking. The commonly used coating with polyethylene was replaced by a biodegradable material. The developed product is integrated into Suzano's Carbon Neutral program, as the surplus of carbon generated during the production process is compensated by Suzano.

Read more > [TAPPI](#) | [embalagemmarca](#) | [celuloseonline](#) | [arede](#) | [envolverde](#) | [celuloseonline](#)

News also addresses **Klabin**, to be also developing a similar biodegradable product to be launched in early 2019. No more details are available but Klabin already has the KLACUPBIO, a paperboard specifically developed for the cup stock market. It is made from pine and eucalyptus fibers, a mix that offers greater resistance and a unique print quality. It also has a biodegradable barrier, replacing the use of polyethylene. Two product ranges are available, the white regular paperboard and a second product with a brown paper layer, for following the sustainable and environmentally friendly packaging trend.

Read more > [Klabin](#)

BIOREFINERY



Italian ILIP new range of cellulose-based plates and cups

Driven by the growing need for cellulose-based products in large-scale distribution, this Italian producer of thermoformed plastic food packaging announced a new range of products: biodegradable cardboard plates and cups. Suitable for cold and hot beverages and fast food, the developed packaging solutions are said to be made from renewable raw materials. No additional information is available on the product composition. New wooden cutlery products were also added to complement the new product line.

Read more > [ILIP](#)

● Product Development

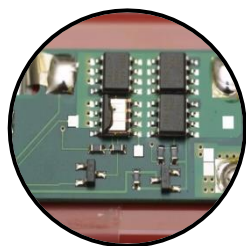


photo:
biobasedworldnews

Bio-on's new company for bio-plastics in the electronics sector

This Italian bio-plastics producer created the company Eloxel to exploit the use of bio-plastics in the electronics sector. Revolutionary applications are expected in the area of organic electronics, a form of advanced technology that can be applied in the development of solar cells or computer screens able to be rolled up and, for instance, placed in our pockets. The starting knowledge resides on Bio-on's patents which describe that Bio-on's bioplastic polyhydroxybutyrate (PHB) can produce and store electricity as a result of mechanical stress.

Read more > [biobasedworldnews](#)

● Technological
● Product Development

BIOREFINERY



photo: fastcompany

Nestlé accelerates action to tackle plastic waste

Nestlé described its broader vision to achieve 100% of its packaging recyclable or reusable by 2025, with some actions involving paper based developments:

- Starting in February 2019, Nestlé will begin to eliminate all plastic straws from its products, using alternative materials like paper, as well as innovative designs to reduce littering;
- Nestlé will also start rolling out paper packaging for Nesquik in the first quarter of 2019 and for the Yes! snack bar in the second half of 2019. Smarties will start rolling out plastic-free packaging in 2019 and Milo (chocolate and malt powder) will introduce paper-based pouches in 2020.

Read more > [Nestlé](#)

● Product Development



photo: paperage

VTT: low pressure, low temperature biomass gasification technology

Although biomass gasification is not new, VTT's technology is a small-scale approach: low-pressure, low-temperature steam gasification, simplified gas purification and small-scale industrial syntheses, facilitating the integration with communal district heating plants or forest industry power plants.

Not one of the large gasification plants that have been planned for Europe has yet been built. VTT says that the smaller scale of this solution makes it easier to secure funding for building plants based on this new technology.

Read more > [paperage](#)

● Technological
● Product Development

NEW SOLUTIONS FOR PAPERMAKING



photo: archroma

Archroma's new OBA for packaging and paper

A new optical brightening agent (OBA) was developed by Archroma. It was specially designed for food packaging and paper, suitable for food contact, for stock application and for use in formulations containing polyvinyl alcohol and carboxymethyl cellulose or casein. The developed disulphonated OBA is branded as Leucophor® AFCN liq.

Read more > [archroma](#)

● Technological

NEW PAPERBASED PRODUCTS



photo:
innovationtoronto

Fully inkjet-printed glucose sensor on paper

Researchers from the King Abdullah University of Science and Technology, Saudi Arabia, have developed a technique enabling enzymes to survive inkjet printing, for producing paper based disposable sensors that can measure glucose concentrations in human saliva, presenting a promising alternative to routine blood screening exams faced by diabetic patients.

Using a commercial ink made from conducting polymers, the team printed microscale electrode patterns onto glossy paper sheets, commercially available. Next, a sensing layer containing an enzyme, glucose oxidase, was printed on top of the tiny electrodes. The biochemical reaction between available glucose and the enzyme creates electrical signals easily correlated to blood sugar levels.

Read more > [innovationtoronto](#)

● Technological

INDUSTRY 4.0

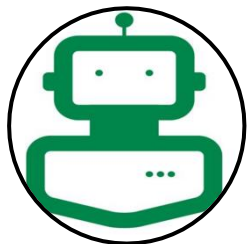


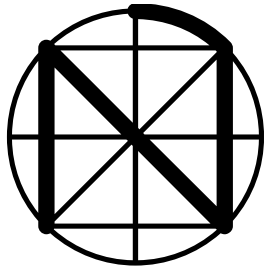
photo: Södra

Södra's first robot employee

Södra has a new uncommon employee: Clerk, a digital robot. Clerk is a software robot working at Södra's six departments on repetitive and time-consuming tasks, such as invoice processing, book-keeping and the preparation of reports. Södra's Chief Digital Officer, says that the long-term vision is to 'employ' more digital employees in 2019, to increase the number of departments that these can assist and to view software robots as a natural resource for the future. Freeing time up for Södra's employees, so that they can spend more time on tasks that create additional value, is expected to strengthen the Group's competitiveness.

Read more > [lesprom](#)

● Technological



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