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UPM PULP



RFID is paving the way for full transparency



Support + research = better value



Bernd Eikens – broad perspective and unique insights



Healing fibres in a new pulp-based wound care product

RFID is paving the way for full transparency

Transparency in the supply chain is essential to improve business efficiencies, meet stringent sustainability requirements and to scale up operations. Radio Frequency Identification (RFID) might be one technology that could streamline pulp deliveries and possibly create a new industry standard.

TEXT Pekka Vanttinen / IMAGES UPM

Across many industries, businesses are being seized by the digital wave and scrambling to update their systems and processes. The pulp and paper industry is no exception and leading players are exploring different technologies to make the product cycle more transparent, using the opportunities that digitalisation brings to provide more value-added services. After a few years testing and piloting the process, Radio Frequency Identification – RFID – is one of the technologies that UPM Pulp is planning to use to improve the traceability of its pulp deliveries.

Identification serves traceability which serves transparency. Transparency equals

smooth operations and logistics, real-time delivery and consumption data, correct stock data and product availability.

Customers and end users alike want to be aware of the origins of raw materials in their products throughout the supply chain. For pulp buyers improved traceability could bring significant savings.

“Today pulp traceability is increasingly required by customers and other parties in the supply chain due to certifications and regulations – for example relating to food safety and container weight control,” says **Janne Neuvonen**, Project Manager at UPM Pulp.

“We are currently building foundations for the utilisation of RFID technology and plan to produce the first tagged bales at the

end of August. Our aim is to identify pulp units made up of pulp bales, trace these units along the supply chain and in future make the whole delivery as transparent as possible,” explains Janne.

Optimising the supply chain

The benefits that could be created with RFID are apparent in every step of the supply chain.

“Pulp units are identified when leaving the production mill and before shipping. That phase is mandatory. Authorities and transport companies require the exact number of units and their weight. Here the RFID technology minimises human error. Then we inform the destination port about the arriving units,” explains Janne.

The UPM Communication Papers business area has experienced the advantages of using RFID first hand as they have been receiving pulp deliveries tagged with RFID for nearly two years at the UPM Kaipola paper mill in Finland. After this pilot run, the system is now being implemented in UPM’s other paper mills.

A longer term goal for UPM’s paper mills is to automate procedures – reducing manual work and human error. Identified stocks and transparency are an essential asset when optimising and managing incoming and outgoing traffic effectively and reliably. Streamlined warehouse management saves time and money, especially when demand and supply become erratic.

“In a hypothetical situation where there might be a shortage of pulp at our paper mills, real-time inventory visibility would make it easier to prioritise and channel material to the mills most in need,” says **Kimmo Sell**, Director, Raw Material Execution at UPM Communication and Specialty Papers.

“In addition, in the not too distant future, data on pulp quality carried by RFID tags could bring savings in paper production. When there is exceptionally high quality pulp available, it can be reserved and stored for the most demanding products. Real-time quality data can enable the adjustment of production parameters. That could mean

lower energy or chemical usage in the production process,” Sell explains.

Creating an industry standard

A standardised and transparent tracking system would bring global communication and automated procedures a step closer. The future lies in lower barriers and more efficient processes. Data on deliveries, consumption and stocks will make the entire process exponentially smoother and faster.

So how far along are we on this road?

Experiments to utilise RFID in the pulp and paper industry commenced in 2006 and it took roughly four years to develop suitable tags to be fixed to pulp units. Tags typically comprise an antenna for transmitting and receiving signals and an RFID chip. With each new generation of devices the advantages of this technology – the device’s read range and reliability – will improve even further.

“The pulp and paper industry is far

less standardised than, for example, the automotive industry, partly because pulp as a material is quite challenging if you think about identification and tagging. Pulp is a dense material that contains quite a lot of water,” says **Ville Kauppinen**, the Managing Director of Turck Vilant, a company that provides RFID information systems for various industries.

The use of RFID would bring full value to pulp customers if there were common standards. That’s why UPM, together with some of the other leading pulp suppliers, is working on an initiative to create an industry-wide standard for RFID identification. ∞

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The benefits that could be created with RFID are apparent in every step of the supply chain.

UPM Pulp will start RFID tag application at the end of August. Reading of RFID tags will follow after implementation of the new ERP system at the beginning of 2020.



SUPPORT + RESEARCH = BETTER VALUE

UPM Pulp's Technical Customer Service and R&D have joined forces. From now on customers will get their support, fibre optimisation and innovation services all from the same place.

TEXT Niko Kilkki / IMAGE UPM

The change follows UPM Pulp's aim to better serve customer needs today and tomorrow.

"The chain from our mills to our customers and their customers is shorter than ever. There are fewer layers a customer signal must travel through. And that means faster, more efficient and meaningful service," says UPM Pulp's Director of Technical Customer Service and R&D **Mats Backman**.

The introduction of the new organisation has been made as easy as possible for customers.

"Basically you don't have to change or do anything. Your old primary contact remains the same whether it's our sales or technical customer service contacts," Mats explains.

Proactive instead of reactive

One of the key goals of the reshuffle

is to enable and encourage technical development work on multiple levels and timeframes.

Mats says that in a business environment where things happen at an increasingly faster pace no-one has the luxury of concentrating on a single task at a time.

"We need to lay out plans and actions together with the customer for the short, medium and long term. Our new organisation makes this possible."

From the Technical Customer Service point of view, short term actions often tend to include day to day tasks such as quality reporting, technical fine-tuning and troubleshooting.

"These all are – of course – important assignments, but I think the focus should be set also further away. We want our customers to come out as winners in the long run and now we are better able to suggest to them what will boost their competitiveness also in the future."

We want our customers to come out as winners in the long run.



Deep pulp knowledge and commitment

UPM Pulp's own development story has been consistent. The company began their journey as a trusted market pulp player by concentrating on the uniformity of their products. Mats thinks that now is the perfect time to take the next step.

"Development should always be systematic – with clear objectives set on a shared roadmap," he underlines.

"We are in a position to help customers take full advantage of our pulps and their own assets. This means process optimisation, refining simulations, innovation workshops and fibre mix consultation. Just for starters."

UPM Pulp's new Technical Customer Service includes support teams and R&D centres in Finland, Central Europe, China and Latin America. ∞

Bernd Eikens – broad perspective and unique insights

Since March, Bernd Eikens has headed UPM Biorefining, a business area that covers UPM's Pulp, Timber and Biofuels businesses as well as wood sourcing and forestry operations. While new in his current role, Bernd is no newcomer to the industry – he joined UPM in 1998 and has headed both the Communication Papers and Specialty Papers business areas.

TEXT Saara Tahvanainen / IMAGES UPM

As a papermaker, I have followed the pulp business from a customer perspective. While I'm still on a learning path on the finesses of pulp making, the customer view is something I intend to hold on to," Bernd says. "I know first-hand how important the quality of pulp and reliability of supply are to customers' businesses. Trust is everything and awareness of that is something I've been very pleased to see embedded in our entire organization."

Another aspect that marks Bernd's background is his broad international experience. In addition to his native country, Germany, he lived for more than 10 years in the United States and the past three years in China. This exposure to different markets and cultures has influenced his thinking and decision making.

"I have great respect for the unique dynamics and characteristics of different markets. Especially in China I made a deliberate effort to deepen my knowledge

and understanding of the country and its culture. The 'clock speed' in China is totally different, and I believe the drive and speed of that market is still often underestimated," he says.

The potential of pulp

Following a recent organizational realignment, Bernd has also taken direct lead for UPM Pulp.

"The organisational changes we've made reflect the growing importance of pulp business at UPM," Bernd explains. "The pulp-driven operating model in the UPM Biorefining business area will further improve our efficiency and benefit customers as well as our own competitiveness. For example, in supply chain management there are tremendous opportunities related to process development and digitalization."

Bernd says that the more he learns about the business, the more enthusiastic he is about the opportunities and potential of pulp – for the company and its customers.



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Bernd Eikens,
Executive Vice President
UPM

“Setting short term market outlook and uncertainties aside, there are fundamental developments that drive us forward. Companies often talk about megatrends, but for us they come down to very concrete things. Approximately two billion people are expected to enter the global middle class by 2030. Increasing wealth and higher living standards will drive up consumption. At the same time environmental concerns are taking very concrete forms, shifting from awareness to action. The pressure and demands from consumers are increasing, and regulators are responding with initiatives such as the single-use plastic ban in Europe,” Bernd illustrates.





This is UPM Biorefining: Sustainable wood sourcing and forestry > Sawn timber > Pulp > Renewable diesel and naphtha

“When you are in a business that’s using renewable sources to produce sustainable material for the various everyday needs of a growing population, the opportunities are endless. All of us in the pulp, paper and board businesses are part of the solution, and that’s a great place to be.”

Seizing opportunities

Looking at the opportunities, Bernd sees that UPM Pulp has a solid foundation to build on with four efficient pulp mills, a global sales and service network, technical knowhow, R&D capabilities and a solid track record as the industry leader in sustainability.

Through expansion and modernization,

UPM has invested EUR 380 million in pulp in the past 5 years increasing annual pulp production capacity by 500,000 tonnes.

The next big step would of course be the potential new mill in Uruguay producing 2 million tonnes of eucalyptus pulp.

“There preparations are proceeding. In a project of this scale it’s important to ensure all the elements are in place before the final investment decision is made,” Bernd says.

Tracing back to the roots

Bernd’s area of responsibility in UPM Biorefining covers the wood sourcing and forestry operations both in Finland and Uruguay. Besides wood sourcing to our

mills, these teams also manage UPM’s own forests in Finland and eucalyptus plantations in Uruguay.

Taking over this responsibility at a time of a heightened concern over climate change and biodiversity has added extra urgency to gaining a deeper understanding of this area as well.

“One of the strengths we have as a pulp supplier is our multi-fibre portfolio that covers the whole range from Nordic softwood and birch to eucalyptus pulp from Uruguay. Sourcing all that wood sustainably is not only a compliance issue but also a matter of pride for us,” Bernd says.

“I have been in UPM and the forest

industry more or less my entire career, and I am well aware of our principles and track record in sustainable forestry and wood sourcing. Nevertheless, now that I’ve dived deeper into this area, I have been very impressed by the passion, commitment and expertise of our team. It’s the very concrete actions they take every day to foster forest growth and biodiversity that make UPM the forerunner in sustainable forestry. It really is an honour to lead a team that has a long term view, world class expertise and drive for innovation in everything we do, from forestry to customer relationships,” he concludes. ∞

UPM FOUNDATION FOSTERS THE YOUNG INVENTORS OF URUGUAY

The Jóvenes Inventores (Young Inventors) programme provides tools and training in robotics and advanced programming to teachers and students in rural Uruguay.

TEXT Niko Kilkki / IMAGE UPM

The educational initiative was developed three years ago by Uruguayan company UYRobot. The two-part programme consists of teacher training and the actual robotics workshops that include the equipment and knowledge required for electronics and rudimentary autonomous concepts.

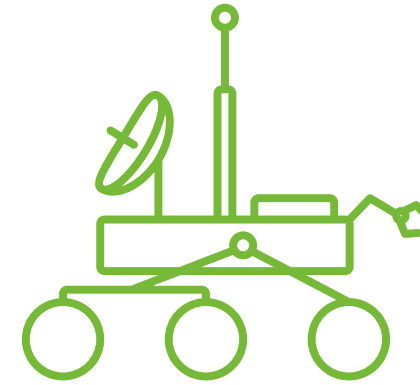
While the programme aims to satisfy locally the growing demand in the labour market for science and technology graduates, robotics is a great way to promote teamwork no matter what the subject. It has been found to improve students' capacity for abstraction, lateral and logical thinking regardless of their age, background or

locality.

The UPM Foundation has been promoting the Jóvenes Inventores since 2019 with the hope of expanding the programme's reach throughout Uruguay's interior beyond the region around the capital, Montevideo.

The Foundation's goal is to foster

education, entrepreneurship and genuine development in more than 150 rural communities in Uruguay. The programme is a perfect example of the UPM Foundation's long term work aligning projects with social organisations with the aid of community leaders. ∞



HEALING FIBRES

UPM's latest breakthrough - FibDex® - shows that wood-based pulp fibres processed to nanoscale diameter are naturally biocompatible with human cells and tissue.

TEXT Niko Kilkki / IMAGE UPM

FibDex is the first nanofibrillar cellulose wound dressing in the world to receive regulatory approval and be awarded a CE mark. This innovative product is manufactured from renewable and responsibly sourced Finnish birch wood – the same raw material used for UPM Betula hardwood pulps.

In clinical trials FibDex provided a favourable environment for healing. Thanks to its one-time-only application the dressing peels away from the treatment area once healing is complete. The end users – patients – have praised FibDex as both comfortable throughout treatment and providing improved scar quality.

Developed in collaboration with the University of Helsinki and Helsinki University Hospital, the FibDex advanced wound care product has just been launched for the European market. ∞



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Dear Reader,

UPM's strategy is to seize the limitless opportunities of the bioeconomy when delivering renewable and responsible solutions for global demand – while also innovating for a future beyond fossils. And all this begins with trees.

We believe that forests are a solution for a sustainable lifestyle and a future beyond fossil raw materials. Together with you, our dear customers, every day we turn wood into myriad products, reaching from pulp and papers even to ground-breaking biomedical innovations made from pulp.

For us it's not just crucial but also natural to keep our forests healthy and growing. In Finland, where we source the vast majority of our pulp wood, forest growth has doubled in the past 50 years despite increased demand. This is a great and concrete example of the positive impact of modern sustainable forestry.

While keeping up our foundation with sustainable forestry and hunting for wood-based innovations, we are focused and committed to continuously develop our daily business to be able to serve you better. One recent example of this is enriching our technical support and service team with pulp researchers. This is also why we are currently building systems for using RFID in our pulp supply chain and jointly with other pulp suppliers working on an industry-wide standard for RFID identification.

Best regards,
Lajos

P.S.



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