

Out of the Woods: Nordic Countries Take the Lead with a Range of Innovative Fibres

There is a very interesting overlap between the traditional wood pulp industry and new innovative textile fibres, especially manmade cellulosic innovations coming out of the Nordics. These innovative fibres could well change the fashion business. A first hand account of the just-concluded Pulp & Beyond 2024 event in Helsinki.

By [ANNA GARTON](#) 📅 15 April 2024 🕒 6 minutes

Long Story, Cut Short

- 🔴 Twenty-four exhibitors included textile fibres in their scope of knowledge at the Pulp & Beyond exhibition and conference held at the Helsinki Expo and Convention Centre from 9-12 April.
- 🔴 Wood as an alternative for cotton and other, even synthetic oil-based textile fibres is a great opportunity for the Nordics, where there is existing renewable cellulose processing skills and knowledge.
- 🔴 What is interesting are the industry overlaps and opportunities between new sustainable textile fibre sources and wood pulp.



NEW ERA FOR PULPAPER: Pulp & Beyond gathered 8000 visitors at the Helsinki Expo and Convention Centre. On show at the exhibition was Metsä Spring's Kuura fibre made from locally sourced softwood pulp at their bioproducts mill in Centrat Finland. ANNA GARTON

Nearshoring and local production are making a comeback in the Nordics, but the question is how viable they would be commercially. This was one of the key points that came up for discussion at the just concluded Pulp & Beyond trade event in the Finnish capital of Helsinki that also weighed up how new cellulose-based textiles are changing the fashion business.

Production in the textiles industry moved out of Finland and the Nordics several decades back and so local production and knowledge of yarns and fabrics is now all but missing and would require large investments to get back. This means continuation of existing long global linear supply chains that are price driven.

The talk on how new cellulose-based textiles are changing the fashion business was chaired by the CEO of the Finnish Suomen Tekstili & Muoti, Marja-Liisa Niinikoski, and included various panelists from new and upcoming processing and production of cellulosic man-made fibres—Aspi Patel from Aditya Birla Science and Technology Company, Virpi Rämö from Kemira, Olli Ylä-Jarkko from TreeToTextile, Ari Saario from Valmet and Juha Salmela from Spinnova. The subjects ranged from challenges and opportunities for cellulosic textiles fibres, consumer perceptions, responsible resource stewardship and required partnerships.

The panel covered all the required ingredients to create new supply chains and new fibre sources for the textiles industry, but it also highlighted that each is reliant on the other.

There is no one process or player that can completely on their own produce these new alternative fibres—for example—to fill the predicted cotton gap; so they must rely on collaborations, partnerships, and each other's processing abilities.

An interesting observation that came up is the overlap between the traditional wood pulp industry and new innovative textile fibres, especially manmade cellulosic innovations coming out of the Nordics. The production processes are often similar, requiring various processing stages to utilise these natural materials. The technology and treatments can be adapted to produce suitable fibres and ingredients both from pulp and other bioproducts for the textiles industry.

There are already in commercial production various MMCF (manmade cellulosic fibre) products and new ones emerging, but full-scale production is still in its infancy. The supply chains are, however, long and thus requiring suitable feedstock, production chemically to pulp and then new fibres, which still need traditional methods to yarn, fabric and finishing.

TAGS

- 📁 **Company:** [Fiber-X](#), [Iocell](#), [Infinited Fiber Company](#), [Kemira](#), [Metsä Spring](#), [Nordic Bioproducts Group](#), [Renev](#)
- 📁 **Country:** [Finland](#)
- 📁 **Event:** [Pulp & Beyond](#)
- 📁 **Individual:** [Ari Saario](#), [Aspi Patel](#), [Juha Salmela](#), [Marja-Liisa Niinikoski](#), [Olli Ylä-Jarkko](#), [Virpi Rämö](#)
- 📁 **Organisation:** [Suomen Tekstili & Muoti](#)
- 📁 **Sector:** [Manmade Cellulosic Fibres](#)
- 📁 **Subject:** [Wood pulp](#)

EXTERNAL LINKS

- 📁 [Pulp & Beyond 2024](#)



INNOVATIVE FORUM: Pulp & Beyond is the Nordic's most attractive, influential and innovative forum for all actors in the forest-based bioeconomy ecosystem. Valmet was present at the exhibition ground with its expertise in pulping machinery and processing technologies, including solutions for sustainable fibre processing. ANNA GARTON

Forest industry and wood-based products

There has been a drive that the forest industry and wood-based products should be processed further locally, and this way retain local production and increase the economic value of the cellulose. Both researchers and the large wood industry companies have been looking into producing new biobased chemicals, glues, liquids and heat resistant layers, biofuels, carbon, battery materials, composites, medicines, and textile fibres.

Wood as an alternative for cotton and other, even synthetic oil-based textile fibres is a great opportunity for the Nordics, where there is existing renewable cellulose processing skills and knowledge. What is interesting however, are the industry overlaps and opportunities between new sustainable textile fibre sources and wood pulp. The same applies to oil-based synthetic fibres and plastics industries. The wood and pulp industry is exploring new wood-based products and markets, offering more sustainable alternatives to replace existing material sources.

The event looked at innovative wood-based products that are going beyond conventional wood products, to added value in new applications such as textiles. Sustainability was very much visible and companies are clearly wanting to show how they are offering solutions and working towards these goals in various ways.

It discussed how the treatment of wood-based cellulose and end-of-life textiles natural fibres like cotton is very similar. The production processes are often similar—using existing mechanisms, requiring various processing stages to utilise these natural materials. The technology and treatments can be adapted to produce suitable fibres and ingredients both from pulp and other byproducts for the textiles industry. There are already in commercial production various MMCF products and new ones are emerging, but full-scale production is still in its infancy and requiring investments—as we have seen this year—to scale up production from piloting to large scale.

In addition to Spinnova and TreeToTextile that use wood as a source, there are other commercial companies that have emerged with successful fibre alternatives using textile waste and blends, such as Infinited Fibre Company's Infinna, Ioncell, Nordic Bioproducts, Södra's OnceMore and Renewcell's Circulose.

The supply chains are however long, requiring many stages, need suitable feedstock, possibly blending different materials, chemically dissolving the feedstock into pulp, treatments such as bleaching, drying, and processing new fibres.

Spinnova said that their pilot production facility uses no harmful chemicals, close to zero water and minimal emissions. These whole ecosystems are however, not found locally anymore.

Full attendance

Nearly 150 international participants attended the Helsinki Chemicals Forum in person, with attendees c 150 individuals participated virtually. The next edition will be held in 2026.

The organisers

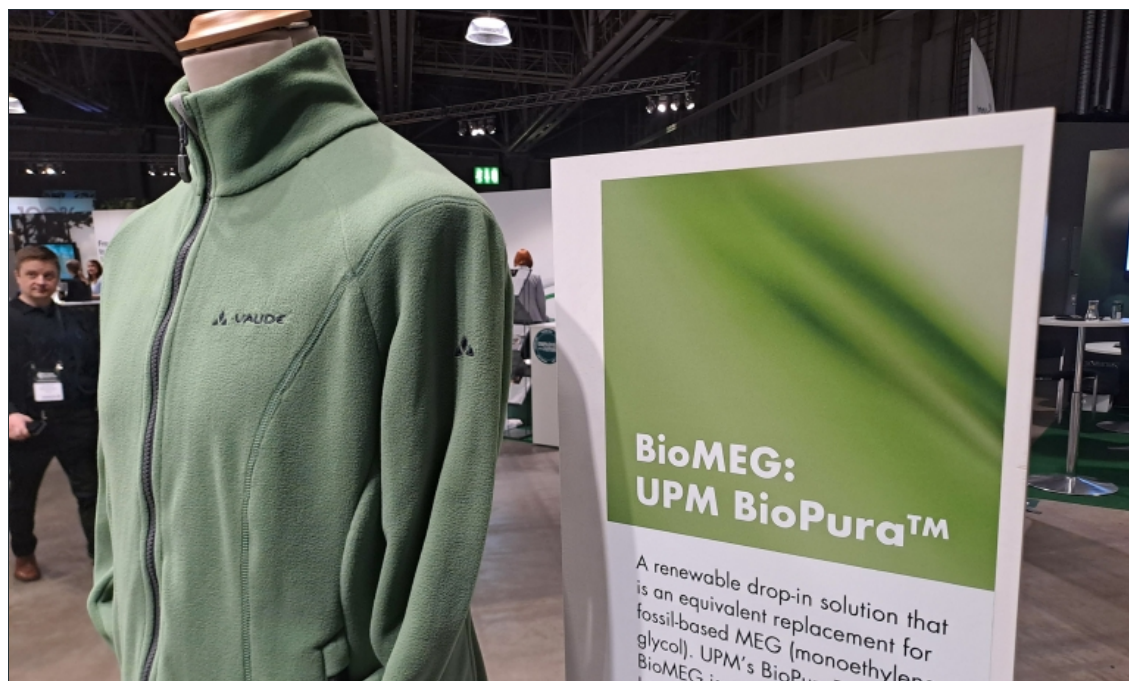
The Helsinki Expo and Convention Centre organised the international forest industry professional event Products Engineers' Association (PI) and the ChemBio Finland 2024 event in cooperation with the Finnish the Finnish Bioindustry.

Making a pulp of it

In all, 24 exhibitors included textile fibres in their scope of knowledge or interest at the four-day Pulp & Beyond exhibition and conference held at the Helsinki Expo and Convention Centre. The event has emerged as a leading forum that brings together the latest forest-based bioeconomy innovations, products, services and technologies as well as key people throughout the ecosystem. It offers new encounters, inspiration, networking and business possibilities for marketing global and sustainable solutions, products and services within the forest-based bioeconomy.

The event provided the widest available showcase on the latest trends and innovative new products within the forest-based bioeconomy, supporting learning, employer branding and development of competencies.

For the wood industry to be producing textile fibres is a logical step, with existing pulp fibre knowledge, expertise in treatments, processing and production that may be of higher value. Wood is offered as the new more sustainable and better environmental alternative to the existing fibres used in the textiles industry.



TRACK THEMES: The track themes at the event included innovative wood-based products, carbon zero future mills, and the International Control Systems Conference 2024. A large forest company, UPM, that showcased at the exhibition grounds, has joined hands with Vaude, a German outdoor apparel supplier, to produce a fleece with bio-based wood resin BioPura which intends to replace polyester. ANNA GARTON

The turn of events

On show at the exhibition was Metsä Spring's Kuura fibre made from locally sourced softwood pulp at their bioproducts mill in Central Finland. A few weeks ago, they had announced that the pre-study has

started for a commercial Kuura fibre mill in Äänekoski. Their stand drew attention with a cocoon of Kuura fibre including a seat in the middle, inviting to sit down to take selfies. Next to it was the fleece made by Japanese textile industry partner Itochu.

Another large forest company UPM has joined hands with Vaude, a German outdoor apparel supplier, to produce a fleece with bio-based wood resin BioPura which intends to replace polyester. The new BioMEG production facility will be completed by the end of the year in Leuna, Germany.

Valmet was also present with its expertise in pulping machinery and processing technologies, including solutions for sustainable fibre processing. They have supplied the processing lines for Renewcell at their Sundvall facility and Spinnova in Jyväskylä. Their services also extend into research, innovations, and piloting.

Many of the exhibition participants offered different solutions to various production stages for the traditional forest pulp from physical machinery to production optimisation software and camera technology for quality control.

One offering pulp-based materials industrial piloting and testing was Fibre-X, who concentrate on bridging technology and process engineering to develop custom solutions to help scaling. Their team of experts want to take ideas to production and are testing different methods of processing end-of-life textile raw-material to new applications and scaling.

There were also other technologies that could be adapted to the production of new textile fibres from biomaterials, even processing of textile waste and different treatments that would allow them to be made into new raw material for the textiles industry. There is a need for various mechanical processing methods to be developed for the materials so that they are in the right form so that they can be utilised by the next processor. This is where piloting and testing facilities towards industrial scale are needed from companies such as Fibrer-X.

What will remain to be seen is how the textiles industry landscape will change in the next decade due to the forthcoming legislative requirements for more sustainable materials, the commercial case and viability scenarios, and new sources of available fibres. What is certain is that the industry is heading into a new fibre era, and current dominant fibres like cotton and polyester will find competition from bio-based materials such as wood and recycled fibres.

“ Wood as an alternative for cotton and other, even synthetic oil-based textile where there is existing renewable cellulose processing skills and knowledge industry overlaps and opportunities between new sustainable textile fibre s



Anna Garton

ANNA GARTON is a post-consumer textiles expert at the LSJH (Lounais-Suomen Jätehuolto). LSJH is a municipal waste management company in Finland that coordinates the nationwide separate collection of end-of-life textiles from households. The collected and material content based sorted textiles are supplied as raw materials to industry.

[Full Bio](#)

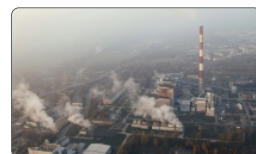
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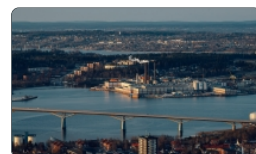
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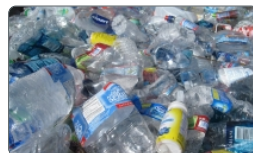
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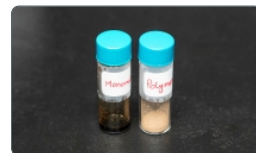
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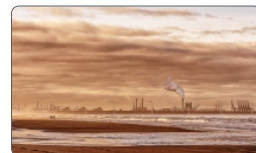
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- With sustainability as its underlying watchword, the [textash.com](#) approach is inclusive, fact-based and research-driven journalism that is beholden only to the planet and its people.

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- The [textash.com](#) mission is to
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 - foster harmonious relationships between sectors of industry.

The Website Administration theme has been built with the [Drupal](#) opensource content management system (CMS). With the [Bootstrap](#) framework as base, the website administration section runs on the customised [Oscar Wilde](#) theme developed for Fashion Research Centre by [Subir Ghosh](#) on behalf of [Inscriptions](#).