



New Cotton Project Releases Midway Update

- Pioneering EU Horizon 2020 New Cotton Project demonstrates successful implementation of the entire value chain as it initiates commercial production
- The consortium reveals first insights at midway point and releases its first white paper, exploring the benefits of the circular economy and its potential for the fashion industry
- adidas and H&M will reveal the pioneering garments this Fall/Winter 2022

28th July 2022, Amsterdam - The New Cotton project is pleased to announce the completion of the first half of the three year project, which has seen the consortium demonstrate the successful implementation of the entire value chain. The milestone marks the release of the first set of insights garnered by the consortium as it prepares for the commercial run of the adidas and H&M garments, and releases its first white paper through Aalto University.

It is currently estimated that just under 1% of all textiles worldwide are recycled into new textiles. With an urgent need to reduce pressure on the earth's precious resources, the EU revealed its intention to drive adoption of the circular economy within the textile sector. This also includes plans to increase textile waste collection, sorting, re-use and recycling by 2025. In an industry first, the New Cotton Project launched in 2020 in answer to this, bringing together twelve pioneering players from across the manufacturing value chain along with leading research institutes. The initiative set out to harness technology and collaboration to demonstrate a potential circular model for commercial garment production.

Scheduled across a three year timeline, the consortium set out to collect and sort end-of-life textiles, which using pioneering Infinited Fiber technology could be regenerated into a new man-made cellulosic fibre called Infinna™ which looks and feels just like virgin cotton. The fibres are then manufactured into different types of fabric to be designed, produced, and sold by adidas and H&M. When the pioneering pieces launch in Fall/Winter 2022, they will be the first to be produced through a collaborative consortium dedicated to demonstrating the potential of a circular model for commercial garment production, testing a new, innovative, and more sustainable way of working.

The midway point sees the consortium celebrate the successful implementation of the entire value chain from textile sorting to the production of garment samples. The textiles sorting and mechanical processing phase of the project has been completed by Frankenhuis, who analysed fabric composition of sorted textiles and explored pre-processing techniques to identify the correct feedstock for the Infinited Fiber Company process. These initial steps were supported by REvolve Waste, whose ongoing work to map the location and content of textiles waste across Europe will continue through-out the project.

Scientific institute, Xamk has optimised the pre-treatment process for scale whilst Infinited Fiber Company utilised its unique technology to produce high-quality regenerated textile fibre, Infinna™. The initial batches were processed by manufacturers Kipas, Inovafil and Tekstina to test and produce high-value yarns and fabric in order to run quality checks and test dyeability, which has yielded highly positive results. Brands adidas and H&M successfully tested and developed styles made with the unique fabric and are now preparing for the commercial production run. Answering another critical consideration for the project, adidas has also run a series of consumer surveys in order to understand consumer attitudes towards circular and recycled fashion. Through-out the process Aalto University has worked to blueprint

the material flow and produce the consortium's first white paper exploring the value of implementing the circular economy within the fashion industry.

The process to date has highlighted a number of challenges and opportunities for the future of closed-loop end-of-life solutions in textiles:

Sorting and designing for circularity

- Sorting for recycling is key to empowering circularity within the industry, but there are many challenges and opportunities in this process. Fibre identification technologies have limitations and there is a lack of a unified way to sort. With a unified system, feedstocks will be more consistent and make the best use of the current technology.
- Mandatory reporting requirements for fibre composition in textile products help to assess the recyclability of materials on the market in a more reliable way.
- Designing for circularity and end-of-life solutions is key: the recyclability of a textile product is determined at the design phase; elastane use, multiple layers of different textiles and unnecessary fibre blends should be minimised.
- New ways of communicating and working through-out the value chain needs to be implemented to build closer collaboration between designers, sorting facilities and recycling technologies. The New Cotton Project is a test and learn process that offers an insightful example of how this new way of working has the potential to empower transition towards circular practices. adidas and H&M have designed their capsule garments following insights shared from key stakeholders in the value chain, ensuring the pieces have an end-of-life solution.

Consumer awareness/attitudes

- The EU identified culture as one of the key barriers to the adoption of the circular economy within Europe. An adidas quantitative consumer survey conducted across three key markets reveals there is still a lack of understanding around circularity in the context of textiles highlighting a need for greater ongoing consumer education.
- The adidas survey although also did reveal that more than half of consumers want to engage with brand-independent take-back schemes*, with adidas' garments from this project designed to be "Made To Be Remade" and included in its circular services return program.
- The survey also highlighted an overall positive perception of recycled fabrics, and willingness to accept differences in recycled fabric, indicating that a larger offer of recycled clothing will be well received in the market.

The learnings so far highlight the challenges and opportunities that lie ahead for scaling closed loop end-of-life solutions, with each stakeholder in the value chain playing a critical role in the transition towards circular practices.

Second phase

As the New Cotton project enters the second phase, the consortium will continue to focus on data collection and analysis in order to highlight relevant insights for the industry, which will be disseminated by Fashion for Good. adidas and H&M garments will launch in Fall/Winter 22 whilst upcoming white papers from Aalto University include a focus on circular business models and a blueprint of the circular ecosystem. Finally RISE will develop the Life Cycle Assessment, identifying progress opportunities to further develop the concept.

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For press requests and more information on the New Cotton Project and upcoming activity please contact:

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<https://newcottonproject.eu/>

Notes to Editor

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* MOM Markendienst for adidas: quantitative consumer survey December 2021 'New Cotton'

adidas Made To Be Remade apparel are products created with an end-of-life solution from the outset. Once returned, each can be fully made into brand new yarn and reused to knit the next apparel piece. Both chemical and mechanical recycling technologies can be applied depending on the material of the products, whilst the loop creation process ensures no loss of performance between generations. Product will be worn, worn out and returned to adidas.

About Aalto University

Aalto University is a community of bold thinkers where science and art meet technology and business. We build a sustainable future by creating novel solutions to major global challenges. We value responsibility, courage, and collaboration.

By merging three leading Finnish universities in 2010, Aalto was founded to work as a societally embedded research university. In a short space of time, we have since become a forerunner in our key areas. We are renowned for our sense of community and culture of entrepreneurship and innovation.

Design research in Aalto University fosters goal-oriented research, imaginative experiments, critical discussion and cross-disciplinary enquiry. We work with businesses, scientists, technologists, sociologists, policymakers, public sector organisations and communities of interest towards a more just and sustainable world.

About adidas

adidas is a global leader in the sporting goods industry. Headquartered in Herzogenaurach/Germany, the company employs more than 61,000 people across the globe and generated sales of €21.2 billion in 2021.

adidas' sustainability mission is to help End Plastic Waste through innovations and partnerships that are focused on rethinking materials, redesigning processes, reducing carbon footprint and driving behavioural change. adidas has set big goals for the coming years: replacing virgin polyester with recycled polyester wherever possible by 2024, (by the end of 2021 already 91% of its polyester was recycled), 15% reduction of value chain GHG emissions per product by 2025, 30% value chain GHG emissions reduction by 2030 and climate neutrality (CO₂e) in the entire value chain by 2050. For more information visit: adidas.com/sustainability.

About Fashion for Good

[Fashion for Good](#) is the global platform for innovation.

At its core is the Global and Asia Innovation Programme that supports disruptive innovators on their journey to scale, providing hands-on project management, access to funding and expertise, and collaborations with brands and manufacturers to accelerate supply chain implementation.

To activate individuals and industry alike, Fashion for Good houses the world's first interactive museum dedicated to sustainable fashion and innovation to inform and empower people from across the world and creates open-source resources to action change.

Fashion for Good's programmes are supported by founding partner Laudes Foundation, co-founder William McDonough and corporate partners adidas, BESTSELLER, C&A, CHANEL, Inditex, Kering, Levi Strauss & Co., Otto Group, Patagonia, PVH Corp., Reformation, Stella McCartney, Target and Zalando, and affiliate and regional partners Arvind Limited, Birla Cellulose, Norrøna, Pangaia, Teijin Frontier, Vivobarefoot, Welspun and W. L. Gore & Associates.

About Frankenhuis

Salomon Frankenhuis started the company Frankenhuis in 1874, in a time where the cotton industry was growing fast in Twente, Holland. Today Frankenhuis BV is a privately owned company, as part of Boer Group which has been collecting, sorting and preparing textiles, worn clothing and shoes for reuse for over 100 years. The entire process, transparent, under one roof with 750 employees sort approximately 112,5 million kg of used textile every year.

Frankenhuis B.V specialises in mechanical recycling of post-consumer textiles. With 30 full time employees, they produce between 6000- 8000 tonnes of fibre per year.

Besides making fibre, Frankenhuis also prepares post-consumer textile streams as feedstock for chemical recycling of textiles. To be able to do so, Frankenhuis "deep-sorts" post-consumer garments and defines the best suited recycling method and prepares the stream for the next step in the recycling process.

About H&M Group

H&M Group is a family of brands, driven by the company's desire to make great design available to everyone in a sustainable way. H&M Group offers fashion, design and services, that enable people to be inspired and to express their own personal style, making it easier to live in a more circular way. Read more here: <https://hmgroupp.com/about-us.html>

H&M Group's sustainability vision is to lead the change towards a circular and climate positive fashion industry, while being a fair and equal company across its entire value chain. With customers around the world, the company creates large-scale demand for sustainable materials and circular solutions. H&M Group's long-term approach means supporting innovations and making them scalable while driving increased transparency throughout the value chain.

About Inovafil

Inovafil is a spinning mill, located in the north of Portugal, with a manufacturing unit in Vila Nova de Famalicão and headquarters in Guimarães. It produces a wide variety of special blends, both melange and ecru yarns, using conventional ring, open-end and, recently, air-jet spinning technologies. Thanks to its cutting-edge technology, Inovafil can produce natural, artificial and synthetic fibres. In recent years, the market has started to demand more and more specific products, not only in terms of functionality, but also in terms of comfort, safety and environmental friendliness. To meet these demands, Inovafil invested in innovation by creating a very complete and diverse portfolio. Due to

increasing environmental sustainability awareness, Inovafil focuses on sourcing eco-friendly raw materials - fibres resulting from different types of waste; biodegradable fibres; recycled fibres etc. Also, in order to maintain its core values of honesty, transparency and social-environmental responsibility, Inovafil is certified Oeko-Tex® Standard 100, Global Organic Textile Standard (GOTS), Organic Content Standard (OCS), Global Recycled Standard (GRS), Forest Stewardship Council (FSC), Better Cotton Initiative (BCI) and Supima®.

About Kipas Textiles

Kipas Textiles, established in Kahramanmaraş in 1984, with a turnover exceeding \$450 million and 6500 employees, is one of the leading companies in Turkey and its region with an annual production capacity of 80 million metres of fabric, a daily production of 450 tonnes of yarn and over 5 million garments annually.

As one of the most preferred suppliers of the world's leading brands, Kipas Textiles works on the sustainable production of yarns, fabrics and denim with minimum resource usage in water, energy and hazardous discharge. Kipas Textiles is tackling waste and pollution through environmentally friendly production methods and the latest recycling technologies. Committed to making a positive impact in the fashion industry, 60% of Kipas' production is made with sustainable resources. As a company, Kipas contributes to the Sustainable Development Goals in our daily practices and our sustainable production methods are audited regularly. Because of their vertically integrated textile mill, Kipas is one of the largest sustainable yarn, fabric and denim manufacturers and preferred suppliers of the world's leading brands. Kipas Textiles has a wide product range such as upholstery, deco, shirting, sport and casual clothes fabrics, denim and technical textiles.

About REvolve Waste

REvolve specialises in textile waste, recycling and circular materials flows. Recycling alone is not enough, and it's also very clear circularity is impossible without recycling. Therefore, REvolve focuses on delivering the data, insights and systemic developments needed for a rapid transformation of business as usual in the textile industry. Today, REvolve works with companies, nonprofits and consortiums to map textile waste, define the short and mid-term circular opportunities within it and develop networks that effectively (re)cycle textile resources over and over again.

About RISE

RISE is the Swedish research institute and innovation partner for every part of society. Through international collaboration with industry, academia and the public sector, we contribute to a competitive business community and a sustainable society. Our more than 2,700 employees drive and support all types of innovation processes. RISE is an independent, state-owned research institute that offers unique expertise and about a hundred testbeds and demonstration environments for future-proof technologies, products and services. Read more at ri.se

About Tekstina

TEKSTINA is a leader in the manufacture of sustainable textiles and is a private SME with a workforce of around 75 people. Tekstina operates in one location in Ajdovscina in Slovenia with in-house research and development, design, testing and manufacturing facilities. Production facilities include warping, weaving and finishing plants with highly qualified specialists for dyeing, chemical treatment and finishing. In the last year Tekstina invested in a new printing house with roto-screen and digital printing machinery. The company management system is certified to ISO environment standards and the occupational health and safety norm. Products are certified under the Oeko-Tex Standard 100. Tekstina is the leading supplier of textile solutions for fabrics. Their innovative, customer focused approach

ensures that they can design, develop, test and deliver a wide variety of fabrics across Europe to many of the world leading companies.

About Xamk

South-Eastern Finland University of Applied Sciences - Xamk is a higher education institution that profiles as a strong implementer of research, development and innovation (RDI) activities. The goal is to help businesses thrive and to generate new entrepreneurship. In RDI projects the experts find, test and develop new products and services, or conduct research for the needs of businesses and the world of work. In collaboration with the international partners, the experts strive to solve the common challenges of the future.

The RDI focus areas include Digital Economy, Forest, the Environment and Energy, Sustainable Wellbeing and Logistics and Seafaring. These feature national and international top expertise serving the needs of the largest companies in Finland and the export industry. The research cooperation partners include businesses, various organisations and public bodies, universities and universities of applied sciences and research institutes. The primary sources of research and development funding include EU structural funds, other EU and international research programmes, Business Finland, Academy of Finland, together with foundations, businesses and other organisations.

South-Eastern Finland University of Applied Sciences (Xamk) started operating at the beginning of 2017, when Kymenlaakso University of Applied Sciences (Kyamk) and Mikkeli University of Applied Sciences (Mamk) merged. For more information see our website <https://www.xamk.fi/en/rdi/>