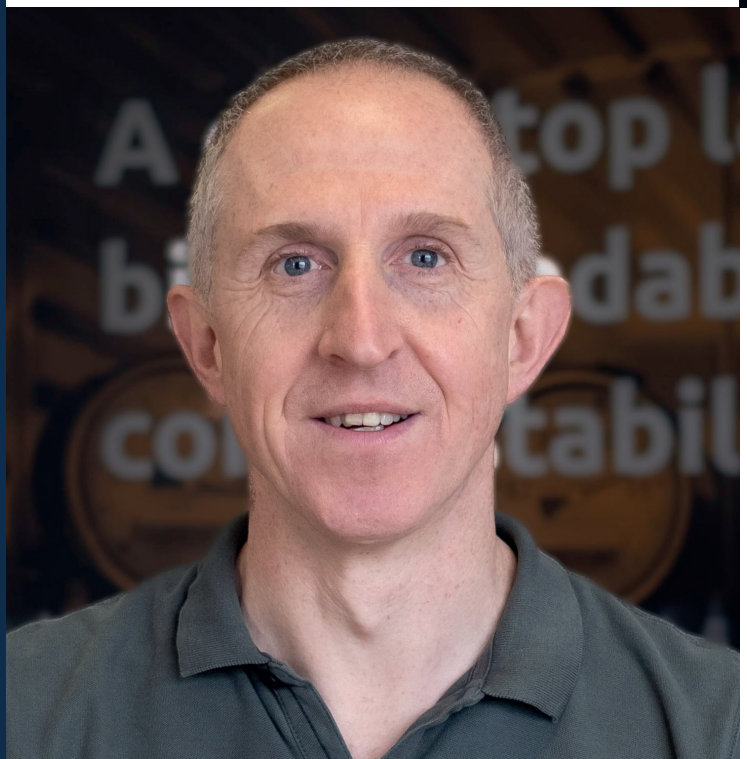
Newsletter issue 6

Reinventing a smart, circular and competitive textile industry with advanced myco-fibres

Global climate change, political agendas, and consumers' demands are pushing all industries in a move towards sustainable processes and products. **The H2020 MY-FI project** aims to answer this demand by **providing textile, fashion, automotive, and luxury industries with innovative, biobased, and sustainable materials derived from mycelium.**
Mycelium is the vegetative part of fungi and allows growing innovative materials on plant matter and organic substrates. Through **fungal fermentation carried out on residues from other industries**, mycelium can be grown and processed into clusters of myco-fibers to produce **advanced materials**, taking advantage of their **unique properties** while **valorising industrial byproducts and leftovers**.



> Mycelium is a natural product that degrades in the environment. However, to transfer it into an innovative, high-performing fabric, several advanced pretreatment steps must be performed. Normec OWS investigates the impact of these pretreatments on biodegradability and compostability to obtain a sustainable, environmentally friendly product.

Steven Verstichel, WP6 Leader
Normec OWS

Mogu srl

Universiteit Utrecht

Institut textile et chimique de Lyon

Acondicionamiento Tarrasense Associacion

Asociacion de investigacion de la industria textil

Forschungsinstitut fur leder und kunststoffbahnen Ggmbh

Bio Base Europe Pilot Plant

DYLOAN Bond Factory srl

Organic waste systems NV

Centro ricerche fiat scpa

Volkswagen AG

Spin 360 srl

Axia innovation UG

France Croco

Consortium Meet us

Normec OWS

Who we are

Normec OWS was originally founded in 1988 as Organic Waste Systems (OWS), a private company under Belgian law. The company is a global market leader in the biodegradability and compostability testing of different types of material. They offer a wide range of additional services such as auditing, controlling & sorting waste, sustainability studies.

Our role in MY-FI

Within the MY-FI project, Normec OWS is WP6 leader, being responsible for the evaluation of biodegradation and organic recyclability of mycelium fabrics, in different stages of the production and post-processing processes.

Contacts

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Normec OWS website

SPIN 360

Who we are

SPIN 360 is an organization based in Milan, specialized in the advancement of sustainable business models, and pioneering technological and organizational solutions across various industries. The partner assists companies in formulating and executing long-term sustainability and compliance strategies, curating platforms to monitoring, assessing, and enhancing production processes for sustainable innovation.

Our role in MY-FI

Within the MY-FI project, SPIN360 is responsible for LCA and LCC assessment of the most promising mycelium materials, and for the development of an LCA/LCC based Decision Support System tool in order to improve and optimize production processes. Finally, SPIN360 is in charge of communication activities of the project.

Contacts

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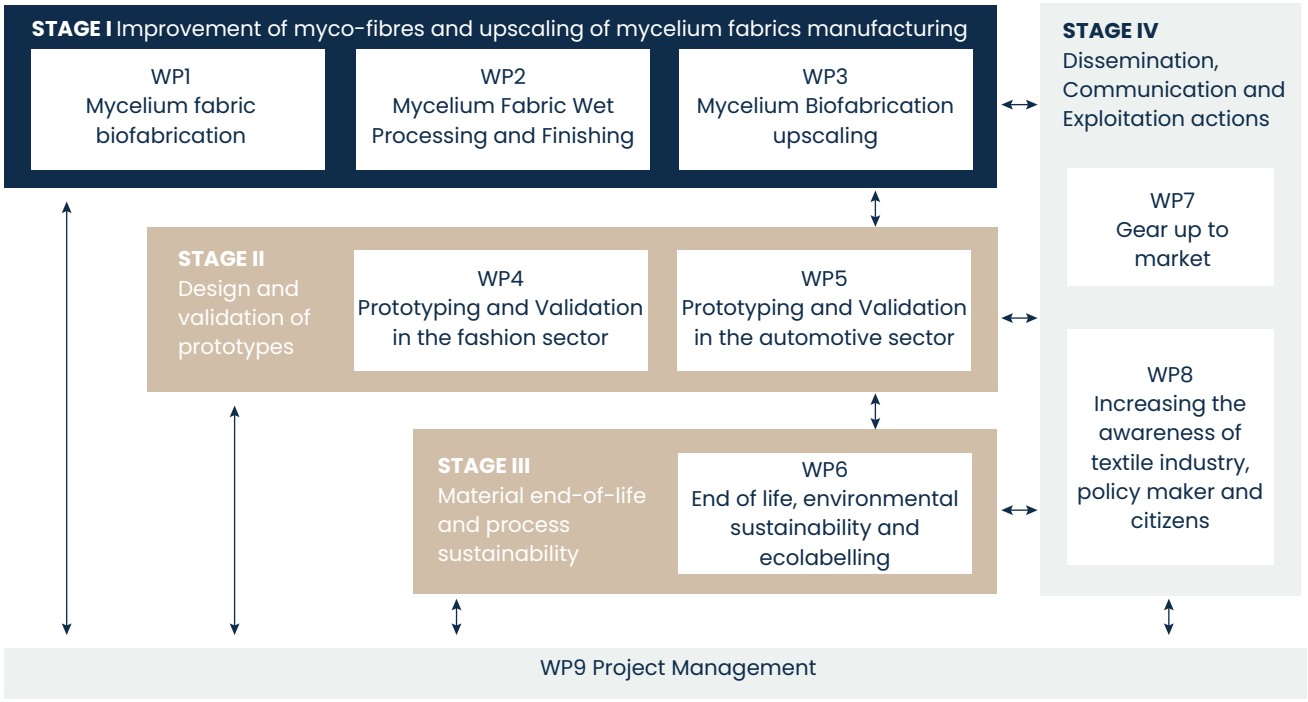
SPIN360 website



MY-FI WPs Focus on WP6

Work Package 6 focuses on assessing environmental performances of mycelium-based materials and verifying their end-of-life options. Normec OWS is leading these activities, and it is supported by **SPIN,** and **LEITAT.** The main goals of Work Package 6 are to obtain high quality LCA/LCC data on the most relevant inputs foreseen to be utilized during mycelium materials' biofabrication, post-processing and manufacturing operations. By the end of the project, WP6 partners will provide an advanced tool enabling the partnership to scientifically analyse the performances of MY-FI's mycelium-based material, and formulating hypothesis for improvement, testing ideas and validating the results. Moreover, one of the goal of the project is to assess the biodegradability of the material in all phases of the production process, in order to verify the suitability of organic recycling such as industrial composting as end-of-life options. Therefore, the materials have been examined according to the harmonized standard EN 13432, involving not only biodegradation and disintegration testing, but also evaluation for environmental safety and effect on compost quality. Finally, WP6 partners are assessing the compliance of the mycelium fabric with the EU Ecolabel criteria.

The industrialization phase of MY-FI material wet processing

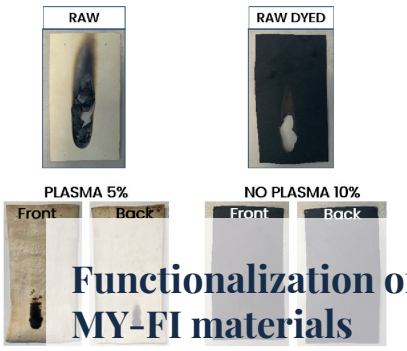
As part of the MY-FI consortium, FRANCE CROCO TANNERY (KERING Group) contributes to the industrialization of the innovative mycelium-based material. In these last months, France Croco is testing the post processing protocol with a considerable batch of biofabricated panels obtained through Surface Liquid Fermentation. The resulting finished materials will be then employed for testing the manufacturing processes.

Find out more

MY-FI fifth General Meeting

From October 25th to 26th, DYLOAN BOND FACTORY - PATTERN GROUP hosted the fifth General Meeting, the third Stakeholder Advisory Board Meeting (SAB), and company visit in its headquarters of Chieti. These days offered each partner the opportunity to understand the prototyping activities carried out by DYLOAN BOND FACTORY - PATTERN GROUP (fashion sector), by CENTRO RICERCHE FIAT and VOLKSWAGEN GROUP (automotive industry).

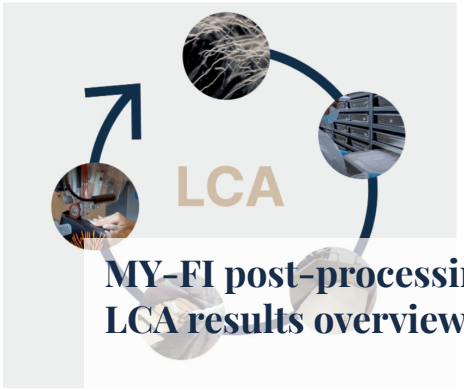
Find out more



Functionalization of MY-FI materials

Among WP2 consortium partners, LEITAT TECHNOLOGICAL CENTER has taken on the responsibility of functionalizing the mycelium material with bio-based products, in alignment with the sustainable objectives of the MY-FI project. While various functionalities were considered, the primary focus within the project has been on fire retardancy, with exploration into phosphorous-based compounds as bio-based alternatives.

Find out more



MY-FI post-processing LCA results overview

As part of the MY-FI project, SPIN360 is conducting an environmental impact assessment on the most promising post-processing recipes for mycelium-based materials produced by project partners, utilizing the Life Cycle Assessment (LCA) method. Conducting an LCA analysis during the Research and Development phase is challenging, but the results prove instrumental in making informed decisions during the industrialization phase.

Find out more

Latest news

Twin projects

Launched in October 2020, the EU funded twin projects share a common goal to develop holistic bio-based solutions for some of the fashion industry's biggest sustainability challenges. The projects come together to share knowledge to amplify value and impact for each project and the fashion industry. Bringing together key players from across the value chain, each project focuses on combining technology innovation, data sharing and collaboration to develop scalable solutions for a more sustainable model of textile production.

The **HEREWEAR project** aims at the creation of a European ecosystem for locally produced circular textiles and clothing made from biobased resources. Within the project, a community of like-minded actors along the circular, bio-based value chain is being built.
This community building complements the technical work on bio-based textiles for clothing applications, which is in full development at the moment. The HEREWEAR community brings together a broad range of businesses, associations and institutions interested in learning about bio-based fibres, carrying out joint projects, building local and networked business ecosystems, and exploring possible impacts and policy scenarios.

Herewear website

The New Cotton Project harnesses collaboration and cutting-edge technology to create circular fashion

The New Cotton Project explores a solution for preventing cotton-rich textile from being wasted and using it instead to create new raw materials for the industry. The project brings together twelve pioneering players from across the value chain to demonstrate a circular blueprint for commercial garment production. Textile waste is collected and sorted, and regenerated into a new, cellulosic fiber, Infinna™, using Infinited Fiber Company's technology. The fibres will be used to create different types of fabrics for clothing that will be designed, manufactured and sold by global brands Adidas and H&M in 2022.

New Cotton Project website

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Learn more about MY-fI:
MY-fI website

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