



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.**



“In a changing world, the automotive sector is facing a disruptive evolution. Materials have become protagonists of new solutions and interfaces, while sustainability has become a priority parameter. The MY-FI project made it possible to transform an idea, the mycelium-based product applied to mass-market products, into a feasible innovation through the improvement of the mechanical properties and texture of the material for a such demanding sector as automotive.”

SILVIA GIOVANNA AVATANEAO, WP5 PROJECT LEADER
CENTRO RICERCHE FIAT S.C.P.A



Mogu srl



Utrecht University
Universiteit Utrecht



Institut textile et
chimique de Lyon



Acondicionamiento
Tarrasense Associacion



Asociacion de
investigacion
de la industria textil



Forschungsinstitut
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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



CENTRO
RICERCHE
FIAT

Who we are

CRF has the mission to develop and transfer innovative products, processes and methodologies in order to improve the competitiveness of the products of the FCA group. Also, through the cooperation with a pan-European and increasingly global network, CRF conducts collaborative research initiatives at the national and international levels targeting specifically the industrial exploitation of research.

Our role in MY-FI

Within the MY-FI project, CRF is Work Package 5 leader. The research center was involved in the definition of requirements and benchmarking for the automotive sector. Together with Volkswagen, CRF oversees the design, the production, testing and validation of prototypes for the automotive sector.

Contacts

Contact person: Silvia Avataneo



CRF website

VOLKSWAGEN

AKTIENGESELLSCHAFT

Who we are

The Volkswagen Group comprises twelve brands from seven European countries. Each brand has its own character and operates as an independent entity on the market. With its "TOGETHER – Strategy 2025" future program, the Volkswagen Group is paving the way for the biggest change process in its history: the realignment of one of the best carmakers to become a globally leading provider of sustainable mobility.

Our role in MY-FI

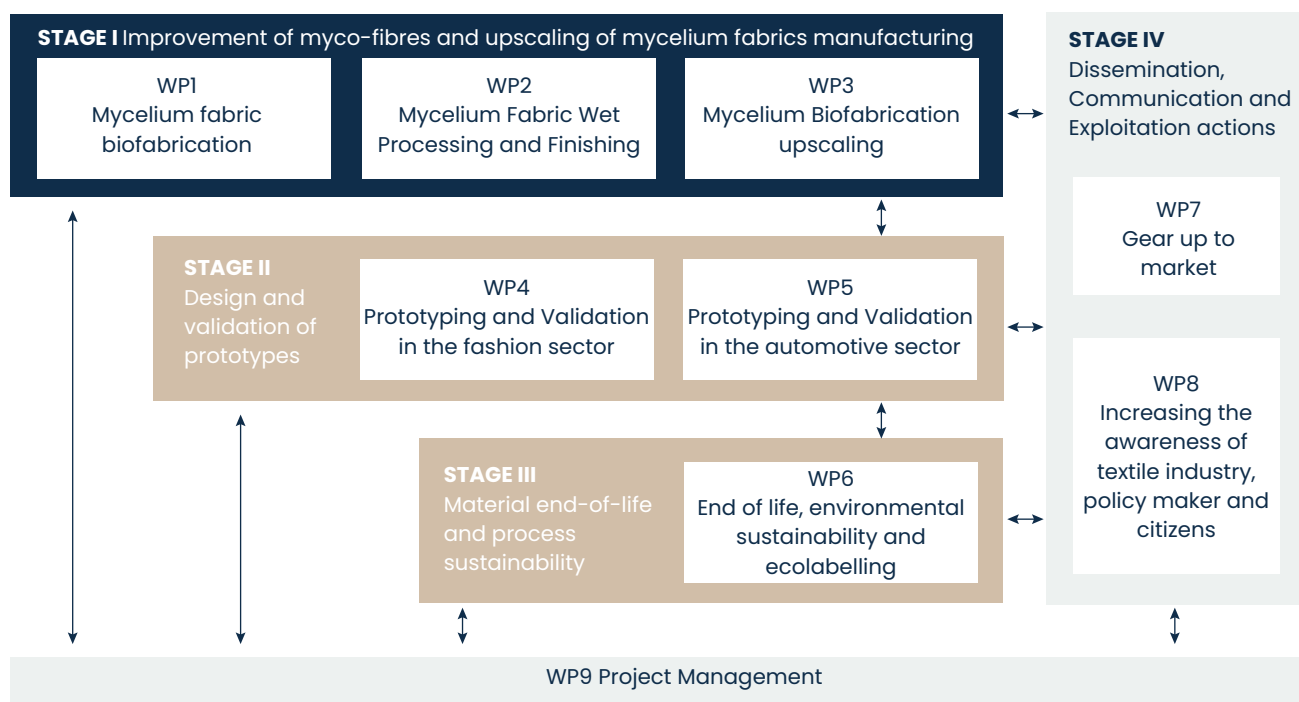
Within the MY-FI project, Volkswagen was involved in the definition of requirements and benchmarking for the automotive sector. Together with CRF, Volkswagen is in charge of the design, the production, testing and validation of prototypes for the automotive sector.

Contacts

Contact person: Martina Gottschling



VOLKSWAGEN website



MY-FI WPs

Focus on WP5

Work Package 5 focuses on prototyping and validation of MY-FI materials in the automotive sector. CRF is leading these activities, and it is supported by **FILK, VW, MOGU, LEITAT, AITEX, SPIN,** and **AXIA**. The main goals of Work Package 5 are to define material requirements, select potential components and benchmarking of competitive solutions. Moreover, the assessment of mechanical, ageing and functional performances are included in the evaluation of a mycelium-based textile material for automotive applications, based on the FCA standard MS.50016 - Vinyls and vinyl alloys expanded supported materials. The specifications are converted into scientific targets suitable for the intermediate and final prototypes. Potential components that can benefit from the project are: dashboard and door panels, depending on the material performances. Furthermore, during the project, WP5 will be in charge for the design and production of automotive part integrating new mycelium-based upholstery skin. The verification of the compliance with existing technologies (film deposition, lamination and coupling with backside fabric will be performed) and testing are among the tasks included for this purpose.

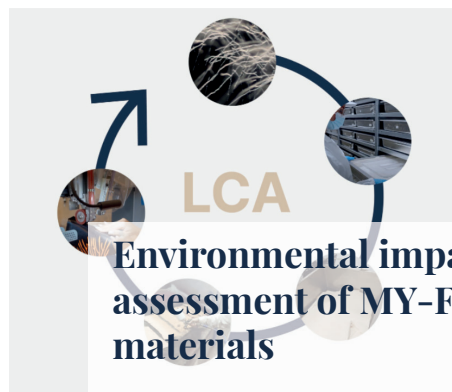




Textile waste valorization

It is no secret that the textile industry causes a huge environmental impact. Within the MY-FI project, AITEX is working on the mechanical recycling of cellulosic post-consumer textile waste, in order to obtain materials with good technical properties, contributing to solve the problem of textile waste and closing the loop of the textile value chain. Check out our website to find out more!!

[Find out more](#)



Environmental impact assessment of MY-FI materials

How can we be sure that mycelium-based materials have a low environmental impact? SPIN360 assesses the environmental impact of the mycelium-based materials produced by the MY-FI project partners. To do so, SPIN 360 employs the Life Cycle Assessment. The use of LCA is particularly useful and relevant to evaluate the impact of different processes and "recipes". Check out our website to find out more!!

[Find out more](#)



Pilot scale plant for the production of mycelium mats

Scalability represents a turning point for innovations, and we commit to systematically pursue impact by scaling our biofabrication processes into viable materials that create value, at scale. Indeed, MOGU has implemented a pilot-scale production in its facilities, where mycelium panels are grown by means of static liquid fermentation, maximizing vertical space. Check out our website to find out more!!

[Find out more](#)



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 used for testing the manufacturing processes.

[Find out more](#)

Latest news



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 chal-

lenges. 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.

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.



Herewear website



New Cotton Project website

Twin projects



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Learn more about MY-fi:



MY-fi website



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