



## 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 micro-fibers to produce **advanced materials**, taking advantage of their **unique properties** while **valorising industrial byproducts and leftovers**.



“ The MY-FI project benefits from a thorough multidisciplinary approach deriving from the advanced expertise of the partners involved, fostering the creation of an entirely new class of flexible mycelium materials, with the potential to improve performances as well as the overall sustainability profile of the fashion and automotive supply chains. ”

SILVIA GAVA, MY-FI PROJECT COORDINATOR  
MOGU S.R.L.



Mogu srl



Utrecht University  
Universiteit Utrecht



Institut textile et  
chimique de Lyon



Acondicionamiento  
Tarrasense Associacion



Asociacion de  
investigacion  
de la industria textil



Forschungsinstitut  
für Leder und  
Kunststoffbahnen Gmbh



Bioprocess Pilot  
Facility BV



Bond factory srl



Organic waste  
systems NV



Centro ricerche fiat  
scpa



Volkswagen AG



Spin 360 srl



Axia innovation UG



Tannerie de Periers

# Consortium Meet us



## Who we are

Mogu was founded on the belief that it is possible to employ Nature's intelligence to disrupt the design of everyday products, seeking a balance between the man-made and the rhythms of the natural ecosystem. Over the years, Mogu explored the potential of mycelium-based technologies in diverse application sectors: now it offers the first commercial mycelium-based products suitable for interior design applications.

## Our role in MY-FI

Mogu is the leader partner for the MY-FI project. The company is responsible for the establishment of a **surface liquid fermentation protocol** and a **dynamic liquid fermentation protocol for the production of mycelium fabrics**.

Moreover, Mogu is responsible for the **MY-FI project management** and for the development of the **ethics requirements** for the project.

## Contacts

Project coordinator: Silvia Gava



Mogu website



## Who we are

Bond factory is a textile manufacturing company offering extreme process flexibility through the application of pioneeristic technologies in the world of fashion, art and design. The production balances technological development and craftsmanship. The services offered space from implementation and customization of fabrics, semi-products and accessories, to the management of finished garments.

## Our role in MY-FI

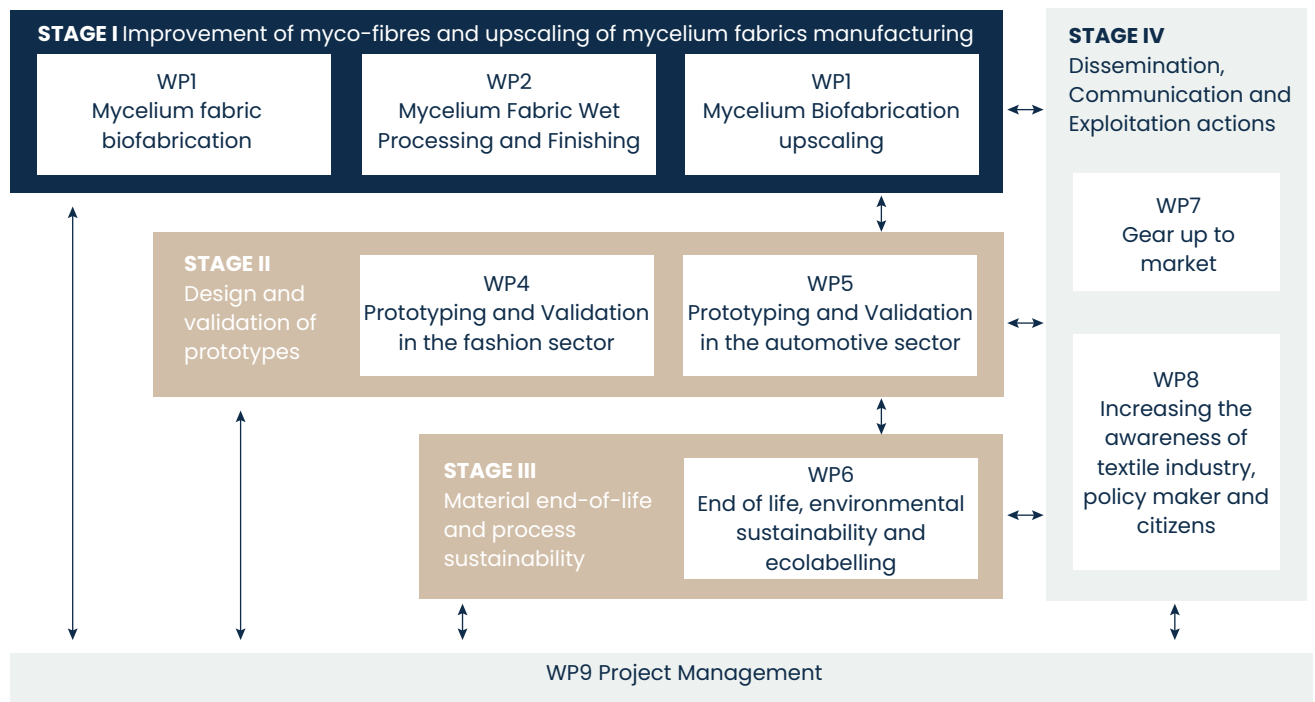
For the MY-FI project, Bond Factory will be responsible for the **development of a performance index of mycelium fibre for the luxury application**. Moreover, it will produce a **set of technical sheets** illustrating the **application methods of mycelium based materials**. Furthermore, Bond factory is the partner who will make a **set of prototypes for luxury application**, correlated by a **technical sheet for each prototype**.

## Contacts

Contact person: Mariagrazia Sanua



Bond Factory website



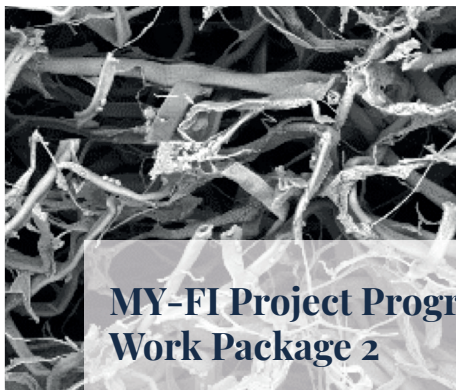
# Mv-Fi WPs Focus on WP1

As starting point for the MY-FI project, Work Package 1 focuses on biofabrication of mycelium fabrics. It is **led by Mogu**, supported by the active collaboration of **University of Utrecht** and **AITEX**.

The main goal of Work Package 1 is to **grow flexible mycelium materials by means of microbial fermentation**. To do so, we feed mycelium with low-value organic substrates from other industries, and we guide its growth through **two possible fermentation processes: dynamic and static liquid fermentation**.

The two processes, differing in respect to the selected fungal strains and nutrient medium composition, as well as in relation to the equipment and methodologies used, lead to the creation of **two different typologies of fungal mats**. Such raw mycelium materials are then transformed by Work Package 2 to further enhance their advanced properties, to be subsequently implemented for the creation of prototypes dedicated to the fashion and automotive industries.





### **MY-FI Project Progress: Work Package 2**

One main challenge faced by the MY-FI project is to improve the mechanical properties of raw mycelium materials, to meet the requirements of the automotive and fashion industries. Scientists and researchers from FILK, ITECH, LEITAT, AITEX and Tannerie de Periers are currently working on enhancing tensile and tear strength, colour fastness, and surface characteristics.

**Find out more**



### **Mycelium-based products at Lineapelle Fair**

Mycelium-based accessories were shown at Lineapelle Fair in Milan on February 22nd-24th. Our partner MOGU together with Bond produced a bag, a purse and a card-holder. ELIIT project supported the manufacturing of the items and hosted the exhibition at the fair. Check out our website to stay updated about the latest news!

**Find out more**



### **MY-FI Project Progress: Work Package 2**

One main challenge faced by MY-FI project is to establish a protocol for dyeing mycelium fabrics. Scientists and researchers from ITECH and LEITAT are developing dyeing activities to obtain an aesthetic material while maintaining its intrinsic properties. Natural and sustainable dyes, as well as bio-based auxiliary products are being preferred during research activities for protocol development.

**Find out more**



### **MY-FI and the valorisation of textile residues**

Textile industry has a significant environmental, climate and social impact. Moreover, the fast fashion trend has led to overproduction and overconsumption of short lasting clothing, discarded when they are no more fashionable. This consumption behavior is generating a large amount of waste that in most cases ends up in landfills. With MY-FI project we want to find a solution.

**Find out more**

# Latest news

## INTRODUCING EU HORIZON 2020 TWIN PROJECTS HEREWEAR, MY-FI AND THE NEW COTTON PROJECT



**“If you want to go fast, go alone.  
If you want to go far, go together”  
– African proverb**

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.

### **HEREWEAR: Empowering local, circular and bio-based textiles**

Herewear aims at the creation of a European ecosystem for locally produced circular textiles and clothing made from bio-based resources. Emerging sustainable technologies for wet and melt spinning of cellulose and bio-based polyesters, for yarn and fabric production and for coating and colouring will be developed and piloted at semi-industrial scale. The project aims to significantly reduce the microfiber release via measures along the textile manufacturing process. Herewear will also maximize the sustainability and circularity of clothing via connecting regional micro factories and by platform-supported, networked production resources.



**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**

# Twin projects



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**Learn more about My-fi:**



**My-fi website**



**my-fi**



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