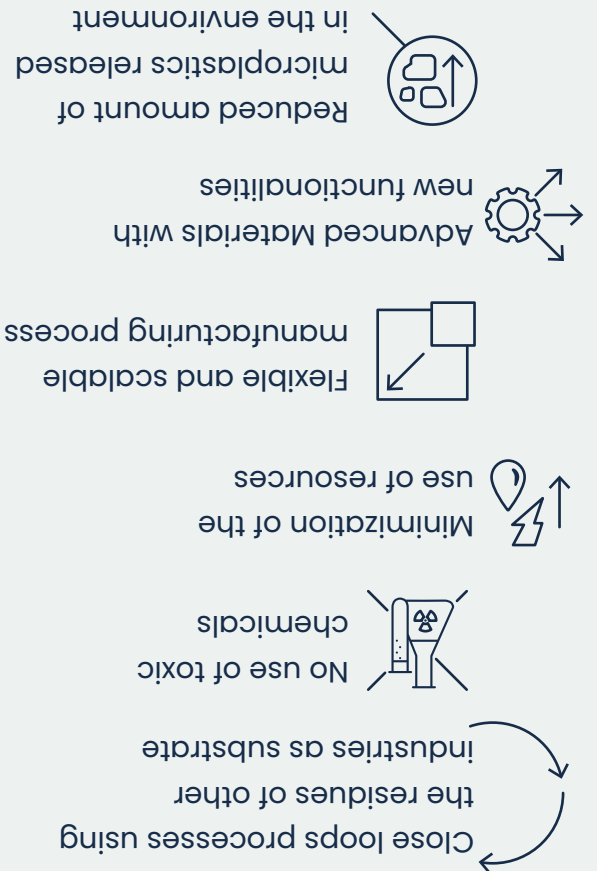


# The project

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.

## Benefits



Silvia Gava, Project Coordinator  
Mogu s.r.l.  
via San Francesco d'Assisi 62  
21020 Inarzo (VA) – Italy  
phone: +39 03321802141  
email: [enquire@mogu.bio](mailto:enquire@mogu.bio)

### Learn more about My-fi:

My-fi website

[in my-fi](#)

[@MYFI\\_h2020](#)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under number 101000719

“MY-FI aims at effectively delivering the mycelium revolution to the market. By employing innovative and sustainable biofabrication protocols, the project will deliver an entirely novel class of mycelium-based materials that are capable of delighting people, providing reliable performances, while contributing to preserving the ecosystem.”



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





# Project information

## Project title

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

## Duration

From 01/11/2020 to 30/04/2024

## Call (part) identifier

H2020-FNR-2020-1

## Topic

CE-FNR-14-2020  
Innovative textiles – reinventing fashion

# Technical Objectives

Improved mechanical properties of the mycelium-based materials to meet end users demand

Increased biomass productivity and scalability

New sustainable dyes and no allergic reactions

# Economic Objectives

Low production costs for high revenues

Low entry barriers for SMEs and local economic development

Materials compatible with current processing and manufacturing plants.



# Product characteristics

# Sustainability

## Sustainable and Circular process

Mycelium-based materials are produced using as substrate organic residues from other value chains. Mycelium materials are produced through a mild process that minimizes the use of resources, avoiding toxic compounds.

## Synthetic fiber reduction

Mycelium-based materials are not made of plastics and do not release microplastics. Their introduction in the fashion, automotive and leather industries would contribute to the reduction of synthetic fibers use, and to reduce microplastics pollution.

## Zero Waste

Mycelium materials can be easily produced in any size, with no losses and with consistent properties, delivering ready-to-use materials for production lines.

# Innovation

## Fast growth

A single reactor of just one cubic meter capacity can produce up to 60 square meters of mycelium-based materials in one week. The substrates used as growth media can be partly reused at the end of the process.

## Constant quality with no losses

Mycelium-based materials can be produced with a perfect consistency throughout batches, seasons, and regions.

## Easily scalable processes

Liquid fermentation allows for scalable processes, as already in use in the food and pharmaceutical industries, guaranteeing high yields with limited energy and chemical inputs as well as reduced land occupation.

## Cost competitiveness

Estimations on full production costs show very profitable financial projections with a fast return on investment for the realization of production plants.

# Sensations

## Unique touch and feel

The unique chemical composition of mycelium-based materials, whose structure differs from vegetable fibres and animal leather, together with the developed post-processing, will provide a unique positioning to mycelium-derived products, opening new design opportunities for brands and the creation of new markets.

# Participants



# Environmental Objectives

Reduced use of chemicals and natural resources and low carbon footprint

Biobased materials replacing fossil-based alternatives

Circular materials produced using residues from other value chains, thus reducing resource wastage and closing loops

Minimal losses and waste along the value chain due to tailored production

# Social Objectives

Materials produced in safe working conditions, thanks to the reduced use of chemicals

Reduced impact on health thanks to the reduced use of chemicals

Job creation in rural areas thanks to its low investment costs and the possibility to decentralize production

The possibility for SME to easily enter the market also favors a sustainable corporate governance