

# **Wool & Flow**

## **WATER-SAVING WOOL SYSTEM**

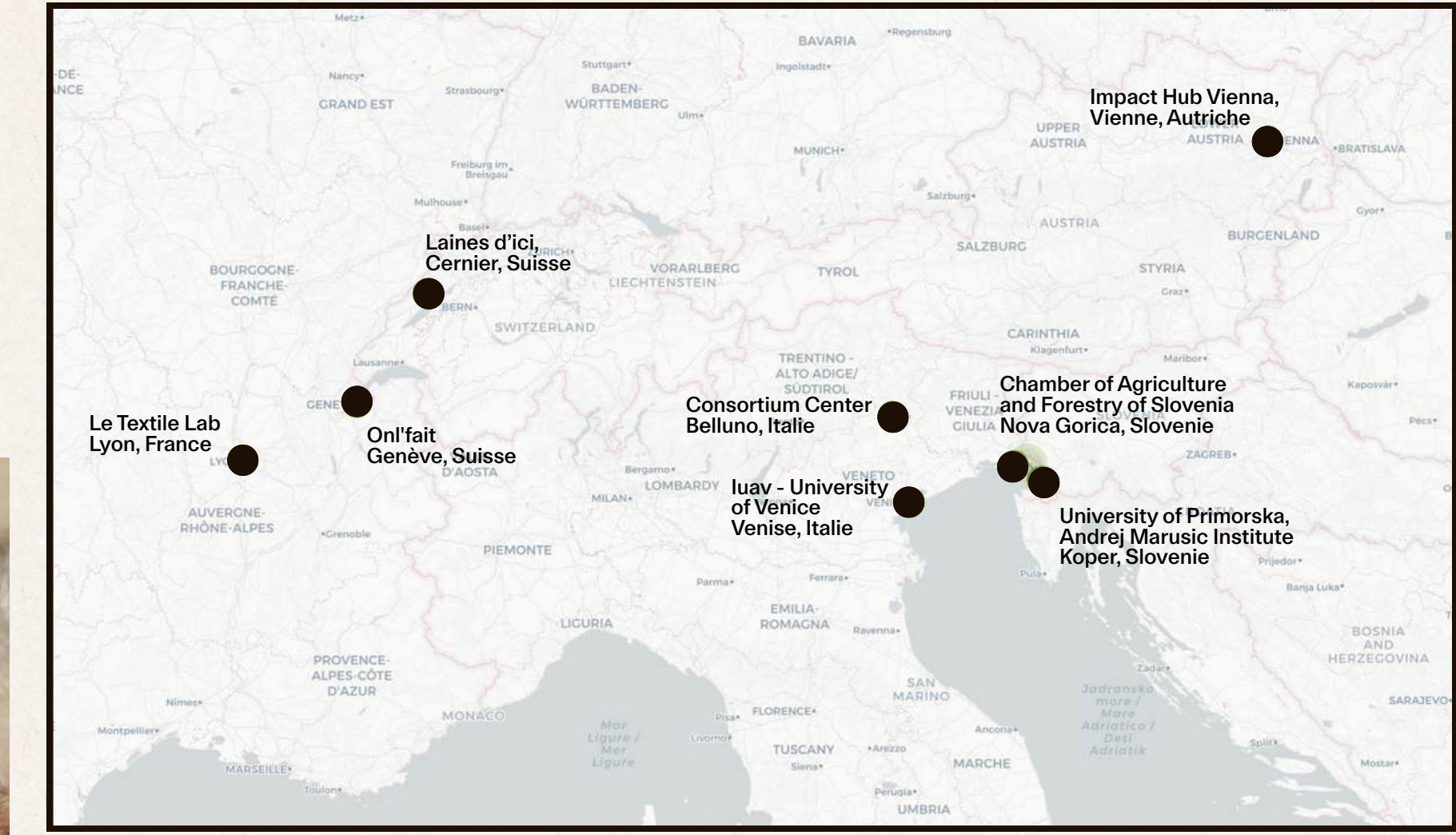
**Implications and Applications**

**MARTINA MURONI**



# CONTEXT

**Woolshed** is a EU project aiming to revitalize the Alpine wool value chain and explore ways to unlock the potential of often discarded wool through design, innovation and small-scale technologies.



Crédits image : Woolshed

MY PROJECT IS BASED IN FRANCE BUT INVOLVES PARTNERS ACROSS COUNTRIES.

*External context: Sardinia (Italy, Mediterranean)*

**THÔNES ET MARTHOD WOOL**

French rustic fiber with low fashion applications and strong territorial and cultural identity.

*Similar traits in Sardinian wool*

# WHY THIS PROJECT

**Wool process includes high water-impact stages, but water is a scarce resource,** highlighting the need for sustainable methods.

**Limited infrastructure and high costs make access difficult for small-scale producers,** leaving much rustic wool unprocessed and often disposed of illegally.

**Aligns with Woolshed partners' priorities** and is supported by data from market studies.

Wool has **potential far beyond traditional textiles**, including design, architecture and material innovation.

# WATER-SAVING WOOL SYSTEM

**Cleaning, transforming and coloring rustic wool beyond conventional textile applications**

Each bucket can be implemented independently and in parallel, allowing flexibility in planning.

## WASHING

### SUINT FERMENTATION\*

Experiment with non-updated traditional processes in innovative ways (low-tech, new steps)

**PROs:** no rinsing, bath reusable

## FELTING

### WET AND NEEDLE TECHNIQUES

Test tools and define low-tech interventions to facilitate repetitive and manual movements (e.g., rolling, up-and-down needle).

**PRO:** no preliminary washing

## BIOMATERIALS

### BIO-BINDERS/RESINE

Experiments combining wool with biobased components to explore potential applications\*.

**PRO:** no preliminary washing, low or no-water processes

## BIOCHROMIC

### TANNIN & MICRO BATHS

Test techniques using local plants and natural ingredients to color wool by contact or low-water process.

**PRO:** no dye or minimum-baths

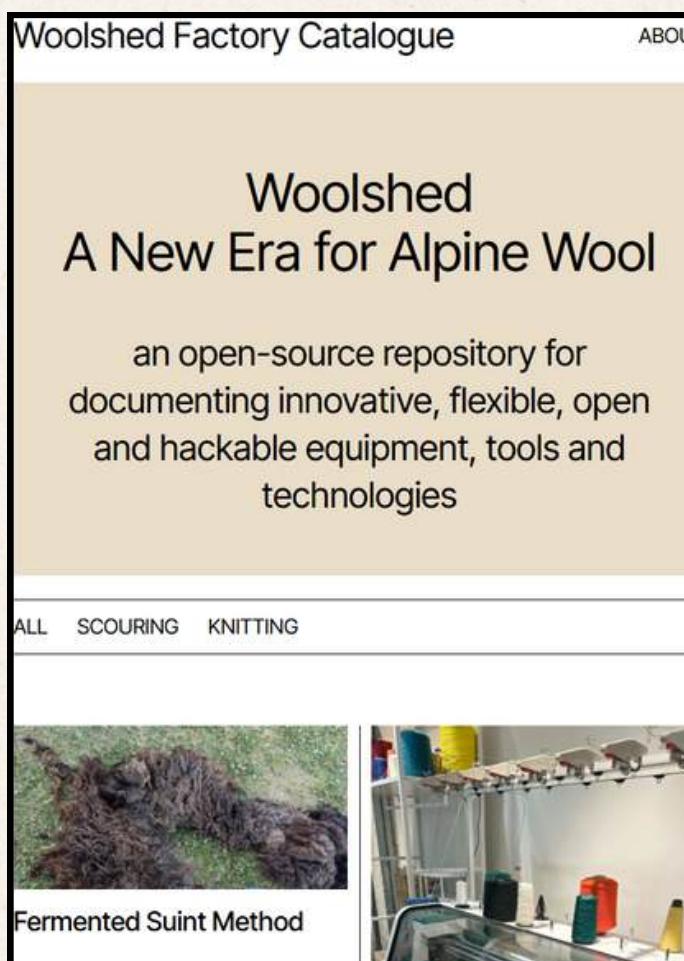
\*Low-water static bath with natural salts in wool as soap.

\*Experiments started in Fabricademy

# EXPECTED OUTCOME

**Documentation of processes and related tests to guide and inspire small-scale wool production.**  
Physical samples may be produced to illustrate experiments and collect feedback from the community.

## DIGITAL PLATFORM



Woolshed catalogue

## PHYSICAL REFERENCE



Processes and samples. Credits: Woolshed

# STATE OF ART

## Les Chemins de Laine

Facility suitable for washing and carding small wool quantities. The owner uses rainwater and smart systems to wash the wool.



Visited on Nov 2025 -  
Credits: Capucine Roberts

Atelier des Carrés (visited on Dec'25)



## Défrise ton mouton

Association promoting Thônes and Marthod wool. Sandrine creates felted pieces and experiments with the fermentation process.



Credits: Guilhem de Cazenove

## Felt like a ship

A mobile wool-processing workshop that travels between shepherds, transforming raw fleece into worked products.

Credits

## Pinhadar® by Arrosia

A 100% natural composite panel made from pine resin and fibers, suitable for design applications.



Credits

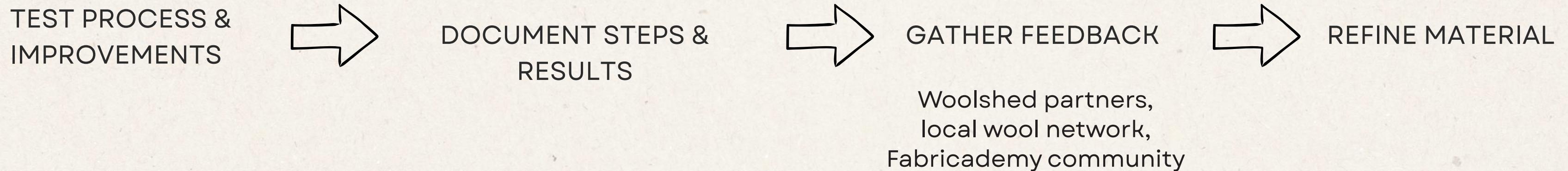
Sardinian company that transforms sheep's wool into sustainable insulation panels and eco-materials.



## Brebey

- [Faber futures](#)
- [Formafantasma](#)
- [Exteria \(Colorifix / Albini next\)](#)
- [Laver la laine \(ATELIER Laines d'Europe\)](#)
- [Atlas wool supply](#)
- [Fibershed wool library](#)
- [Woolshed Drive folder](#)
- [The wool supply chain](#)
- [Youtube Felting Channel](#)
- [Water footprint assessment of wool](#)
- [Little wool factory](#)
- [Tannin mordanting on wool](#)
- [Woollets](#)

# METHODOLOGY



## IN PROGRESS

Assessing risks and limitations  
Evaluating cost savings and quantitative impact  
Testing local adaptability and interest through interviews (France, Sardinia)

## WOOLSHED PARTNERS

Labs interested in replicating or collaborating on processes

Institution and foundations supporting sustainability projects

Designers and brands

## LOCAL ARTISANS AND WOOL ASSOCIATIONS

Environmental communities & circular economy networks

Educators, schools and universities

Consumers and early adopters



Some targets may be ambitious, but I prefer to keep the list broad and stay open to potential interactions.

**15/12/2025**  
IMPLICATIONS AND  
APPLICATIONS

**10-12/02/2026**

MID TERM PRESENTATION

**30/03-02/04/2026**  
FINAL PRESENTATION



**31/01/2026**

**PROCESS EXPERIMENTS**

Manual techniques vs innovative approaches.

Test solutions and document processes and fiber.

**03/02/2026**

**REVIEW WITH FR PARTNERS**

Feedback on initial results, documentation format, first sample review.

Adjust accordingly.

**15/02/2026**

**MID-TERM ADJUSTMENTS**

Refine processes based on feedback (Fabricademy + EU Woolshed partners) and run tests with local community.

**01-20/03/2026**

**FINAL DOCUMENTATION**

Conclude experiments, finalize process documentation and samples

Prepare final presentation materials (slides, images, fiber behavior notes)

Key moments may be adjusted as the project evolves.



Fabricademy milestone

**THANK YOU!**  
MARTINA MURONI