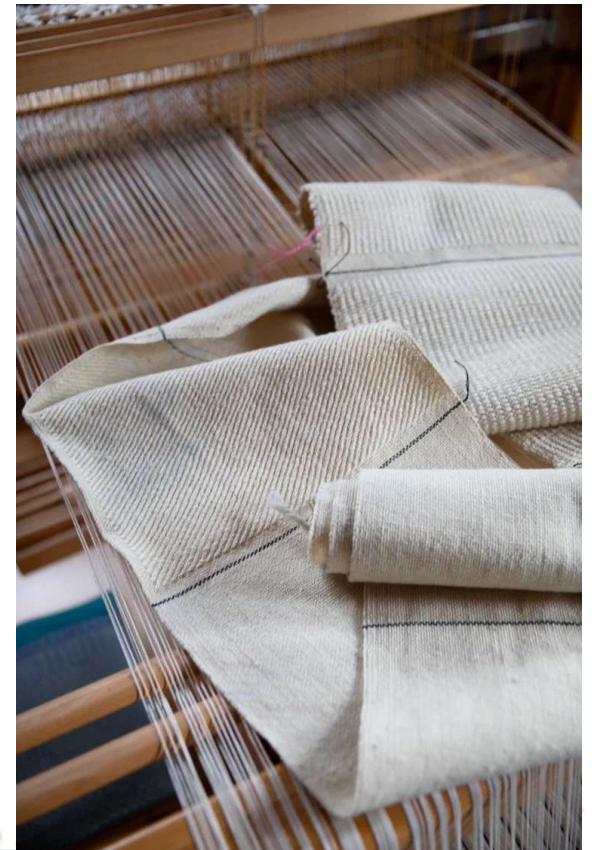




Hand weaving (left), Ms Coraline Sandoz working on the loom (center), and samples off the loom (right).



Photographs taken at Ms Coraline Sandoz's workshop (CH).

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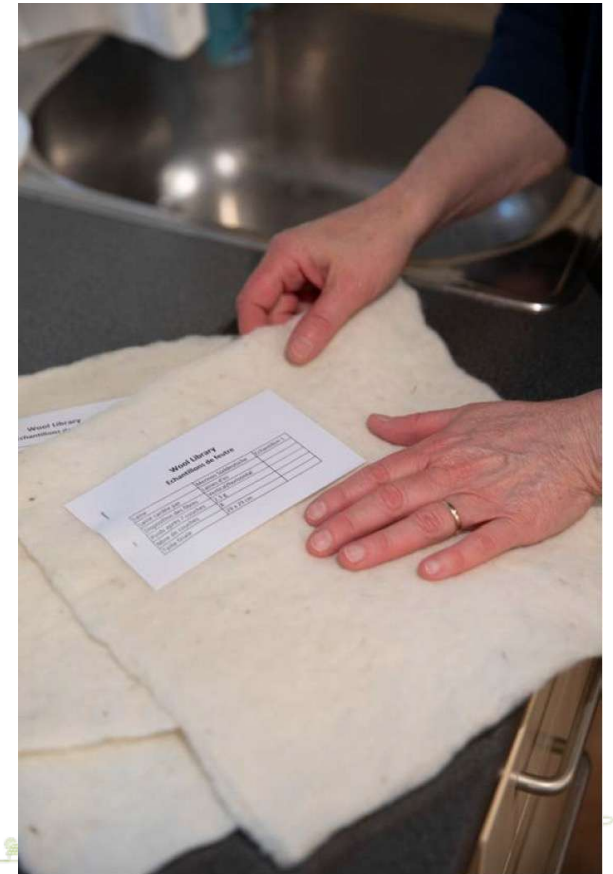
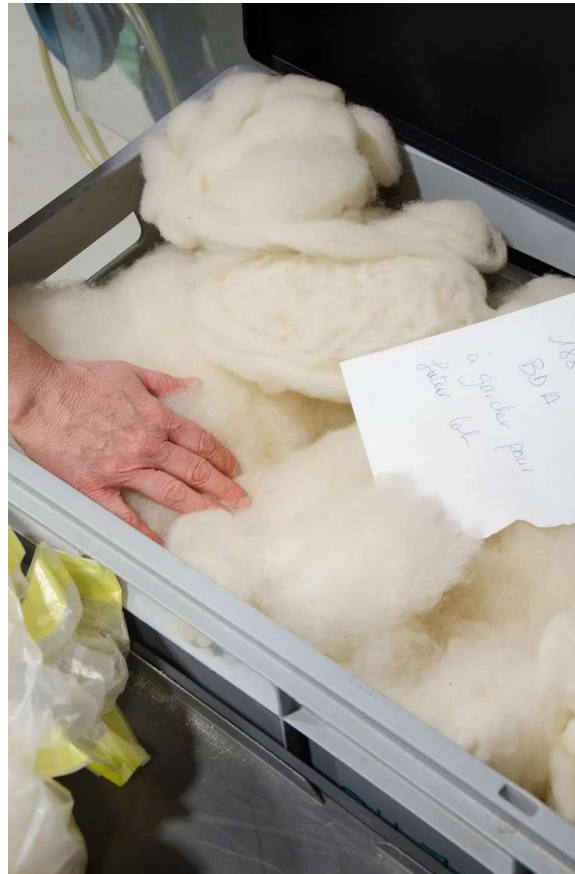
Industrial knitting machine (left), Mr Urs Landis installing the machine (center), and knitted samples (right).

Photographs taken at Urs Landis Strickwaren(CH).

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Carded wool batts entering the machine to be needle felted (left). Felt sample coming out of the machine (center). Finished sample (right). Photographs taken at Pro Verzasca(CH).

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HOW-TO

Mobilize craft knowledge as an aesthetic and prototyping resource

The problem

Craft knowledge is often either romanticized as heritage or bypassed in favor of industrial design processes. As a result, valuable material intelligence is lost.

What the Alpine Wool Library shows

Even when final products are semi-industrial or industrial, craft practices can play a crucial role **upstream**, informing aesthetic judgement, material sensibility, and early prototyping. Craft-informed prototyping encourages **material efficiency, durability, and appropriateness of use**, all of which are central to circular design logics rooted in existing skills and resources.

Concrete steps

- ***Involve craftspeople early as knowledge holders:*** Engage craftspeople not primarily as producers, but as experts in texture, density, finishing, and material behaviour.
- ***Use craft outputs as reference points:*** Existing craft objects, samples, or techniques can guide designers and SMEs in understanding what a fibre can realistically express, without copying forms directly.
- ***Support low-threshold prototyping:*** Craft-based experimentation allows rapid testing of ideas without heavy industrial investment, helping refine and testing concepts before scaling.

- ***Build mutually beneficial relationships:*** Collaboration can generate learning opportunities for both sides, but it requires clarity about roles, recognition of knowledge, and fair conditions.
- ***Remain attentive to risks of cultural appropriation:*** When mobilizing craft knowledge for innovation, it is essential to avoid appropriation or misrepresentation. These issues are addressed explicitly later in this output, but they should already be considered at this stage.





Pecora Bergamasca, Italy



Merino d'Arles, France



Engadinerschaf, Switzerland



Merinolandschaf, Germany



Montafoner Steinschaf, Austria



Jezersko-Solčava, Slovenia



Alpine Wool Library, knitted samples realized by Urs Landis Strickwaren, under the coordination of Fibershed DACH..

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Pecora Bergamasca, Italy



Merino d'Arles, France



Engadinerschaf, Switzerland



Merinolandschaf, Germany



Montafoner Steinschaf, Austria



Jezersko-Solčava, Slovenia

Alpine Wool Library, wet felt samples
realized by Pro Verzasca, under the
coordination of Fibershed DACH.

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Conrad





Pecora Bergamasca, Italy



Merino d'Arles, France



Engadinerschaf, Switzerland



Merinolandschaf, Germany



Montafoner Steinschaf, Austria



Jezersko-Solčava, Slovenia

Alpine Wool Library, wet felt samples
realized by Magalie
Nussbaumer, under the coordination of
Fibershed DACH..

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Conrad



3.5 Brands pursuing resource-led innovation with regional wools

This section presents two **brands** that illustrate how regional and Alpine wools can be integrated into contemporary product strategies at scale. These cases are not AlpTextyles pilots. They were mapped as **best practices** exemplifying one of the innovation pathways identified in Chapter 2, namely **resource-led innovation based on the revalorization of undervalued local materials**.

Both cases demonstrate that working with regional wools is feasible also in industrial contexts when innovation is driven by **material realism**, **pragmatic value-chain design**, and **selective technical choices**.

La Routo: blending regional wool for performance and wearability

La Routo is an outdoor apparel project explicitly rooted in Alpine pastoral territories and in the **re-opening and reactivation of the historic transhumance trail (la routo)** linking southern France and northern Italy. The brand was conceived as a contemporary outdoor collection accompanying this reopening, with the ambition of reconnecting **walking practices, landscapes, and pastoral heritage** through material culture.





Products from the La Routo collection, presented at the Salon des Randonneurs, Lyon, 2024.
Pictures by Diego Rinallo.

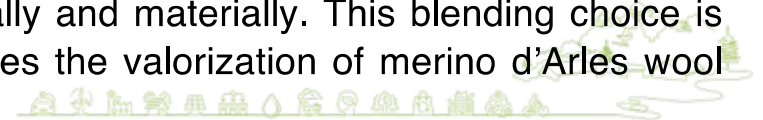


The initiative was developed through collaboration among different actors, bringing together:

- the **Collectif des éleveurs de Mérinos d'Arles**,
- the **Maison de la Transhumance**,
- and **MDG Naturfasern GmbH**, which played a key role in new product development and value chain coordination.

From a material standpoint, La Routo is built around the **valorization of wool from the Merinos d'Arles**. The initial ambition was to rely exclusively on this regional wool. However, during development, a concrete material problem emerged: garments intended for **direct skin contact** did not consistently meet expectations in terms of softness and comfort when using Merinos d'Arles wool alone.

The decision to **blend Merinos d'Arles wool with wool sourced from the Falkland Islands** was therefore a **pragmatic solution to a material constraint** identified during prototyping. Falklands wool provides a baseline of softness and regularity, making next-to-skin products wearable, while Merinos d'Arles wool retains its role in anchoring the collection territorially and materially. This blending choice is presented transparently as a functional compromise that enables the valorization of merino d'Arles wool and extending the resulting product assortment.



La Routo's value chain is intentionally **short and geographically contained**, with the exception of the Falklands wool input. Key transformation stages are organized across **France, northern Italy** (notably in **Biella**, a historic textile district with specialized competences in wool spinning and finishing) and **southern Germany**. Excluding the Falklands input, the overall value chain remains within a few hundred kilometers, reflecting both historical continuities across the Alpine arc and contemporary industrial pragmatism.

Heritage is mobilized strongly in La Routo, but not as a purely symbolic narrative. It is expressed through:

- the valorization of merino d'Arles wool, a heritage resources that had lost economic significance, through a fair compensation to breeders;
- the collective organization of the initiative itself, through the involvement of Maison de la Transhumance and the breeder association;
- the alignment of products with walking and outdoor practices linked to transhumance routes.

While other artisanal and smaller-scale initiatives valorizing Merino d'Arles wool exist and play a crucial role in safeguarding heritage skills and practices, the involvement of an entrepreneurial organization capable of coordinating product development and complex value chains has made it possible to operate at a different scale. This configuration allows significantly larger quantities of wool to be valorized through industrial production.

Salewa: using regional wool as insulation material in outdoor garments

Salewa is an Alpine-rooted outdoor brand operating at an international scale, with product development driven by requirements of **thermal performance, durability, and functional reliability**. Within selected product lines, the brand has integrated **regional Alpine wool**, sourced notably from **Tyrolean and South Tyrolean sheep breeds**, into its outdoor garments.

In contrast to apparel projects centered on fabrics or next-to-skin wear, Salewa mobilizes regional wool primarily as an **insulation material**. Wool is used in padding layers, where its intrinsic properties (thermoregulation, moisture management, resilience, and comfort across temperature fluctuations) can be fully activated. In this configuration, wool is not intended to function as a visible textile surface, but as a **functional component** within multilayer garment systems.

To meet the demanding performance standards of outdoor garments, Alpine wool is **combined with other fibres, including synthetic materials**, and integrated into insulation materials designed to optimize warmth-to-weight ratios, breathability, and durability. Additional technological innovation supports this integration, allowing wool to contribute its specific advantages without being required to meet criteria for uniformity or softness associated with next-to-skin textiles.





Salewa products, AlpTextyles Stand, Milano Unica professional textile fair, 2025.



In this case, blending operates at the level of **materials and functions**. Wool becomes part of a composite insulation solution, selected for what it does best. This approach enables the use of regional wool in applications that would otherwise rely exclusively on synthetic insulation, without forcing wool into roles for which it is less suited.

Also Salewa's value chains are **cross-border**. Wool sourcing, material processing, insulation development, and garment assembly are organized across Alpine regions rather than within a single national framework. This configuration mirrors both historical interdependencies within the Alpine space (i.e., Austrial Tyrol and Italian South Tyrol) and contemporary territorial specializations, allowing the brand to access relevant resources and expertise while maintaining geographically contained supply chains.

Key lessons

Taken together, the cases of La Routo and Salewa illustrate how **resource-led innovation with regional wools** can be achieved through different product logics, scales, and degrees of heritage explicitness. These cases thus highlight some lessons for brands and SMEs considering similar pathways.



Lesson 1

Blending as a pragmatic enabler of regional wool valorization

Both cases show that blending is often a **condition of feasibility** when working with regional wools, but that blending can take multiple forms depending on product objectives.

In the case of La Routo, blending Merino d'Arles wool with Falklands wool emerged as a **solution to a concrete material problem** identified during product development, namely ensuring comfort for garments worn next to the skin. Blending here stabilizes softness and regularity while preserving the territorial anchoring and identity of the collection. It enables the use of regional wool in apparel applications that would otherwise remain inaccessible.

In the case of Salewa, blending operates at the level of **materials and functions** rather than fibre homogeneity. Regional Alpine wool is combined with other fibres, including synthetics, within insulation layers designed for thermal performance. Here, blending allows wool to be used precisely where its properties are most effective, without forcing it into unsuitable roles.



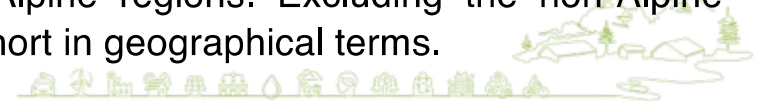
These configurations show that blending should not be interpreted as a loss of authenticity or heritage value. Instead, it functions as a **design variable** that can be adjusted to reconcile material properties, user requirements, and production constraints. From a circularity perspective, blending enables the productive use of wools that might otherwise remain undervalued or unused, reducing waste and reliance on fully synthetic alternatives.

Lesson 2

Cross-border value chains as a condition of feasibility and coherence

Both cases also demonstrate that **regional wool valorization does not necessarily align with national borders**. Instead, geographically contained **cross-border value chains** often provide the most coherent and effective solutions.

For La Routo, organizing key transformation stages across France, southern Germany, and northern Italy, notably in established textile hubs such as Biella, makes it possible to access specialized competences while keeping the value chain within historically connected Alpine regions. Excluding the non-Alpine Falkland wool required for blending, the overall chain remains short in geographical terms.



For Salewa, cross-border configurations reflect the distributed nature of the competences required for insulated outdoor garments, spanning sourcing, material processing, technological development, and assembly. This organization allows the brand to combine regional wool sourcing with advanced industrial capabilities without reverting to distant global supply chains.

In both cases, cross-border pragmatism supports circularity by:

- avoiding duplication of specialized infrastructure at national level;
- reducing transport distances;
- reconnecting regions shaped by shared ecologies and pastoral histories

The key lesson is that **regional value chains should be understood geographically and materially**. Circular and heritage-sensitive innovation benefits from flexible value-chain design that follows resources, skills, and material flows rather than political boundaries.





Valposchiavo: Flax/linen heritage exhibition during the 2024 edition of the Festa de lo Pan Ner.



4 Flax and Linen

4.1 Flax and Linen in the Alpine context: a brief recap

Flax and linen have historically played a significant role in Alpine regions, both as textile fibres and as cultural resources embedded in domestic economies, seasonal rhythms, and social life. As documented in the historical and ethnographic materials developed within AlpTextyles, flax cultivation, processing, and use were once widespread across Alpine valleys, supporting the production of everyday textiles such as clothing, household linens, and work-related items, as well as ritual and festive objects. These practices mobilized a broad repertoire of skills, from sowing and harvesting to retting, breaking, spinning, weaving, and finishing, often organized within households or small community-based systems.

Today, this historical importance contrasts sharply with the **very limited presence of flax cultivation and processing in Alpine areas**. While cultural memories, practices, and representations of flax remain present, the material basis that once supported linen production has largely disappeared. This situation results from a combination of **structural constraints** that have progressively reshaped European agricultural and textile value chains.

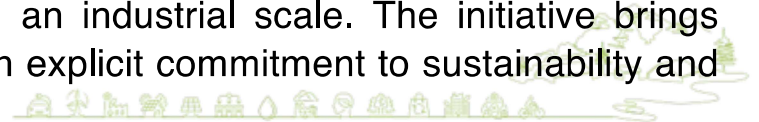


At global level, Europe occupies a **dominant position in flax production**. According to data reported by the [Alliance for European Flax-Linen and Hemp](#), European countries account for **around 80% of world flax fibre production**, with flax production highly concentrated in a limited number of regions, primarily in northern France, Belgium and the Netherlands.

These regions benefit from specific climatic conditions, highly specialized agronomic know-how, and long-standing industrial infrastructures that support fibre quality and scalability. Within this European landscape, **France is the clear leader**, concentrating the largest share of cultivation and playing a central role in setting quality standards, agronomic practices, and industrial organization for the sector.

Even within Europe, flax value chains are typically organized at a **transnational scale**, and mostly offshored to Asian countries. This configuration has enabled the maintenance of a European flax sector, but it also reinforces the separation between cultivation areas and regions where flax heritage remains culturally salient but fiber production inactive.

The Swiss case illustrates these dynamics particularly clearly. [SwissFlax](#), founded in 2014, aims to rebuild a national flax value chain and process Swiss flax on an industrial scale. The initiative brings together actors from agriculture, research, and business, with an explicit commitment to sustainability and slow fashion.



While flax cultivation has been successfully reintroduced in Switzerland, notably in the Emmental region, the value chain itself remains organized at **European level**. Swiss flax fibres are processed in the Netherlands, spun in Poland, and then returned to Switzerland, where weaving and knitting mills transform the yarn into fabrics, interior furnishings, and garments.

This configuration remains environmentally preferable to full offshoring to Asia and demonstrates the feasibility of maintaining flax value chains within Europe. At the same time, it highlights the **absence of territorially integrated flax value chains in Alpine regions**, including those mountaineous areas where flax-related heritage practices persist. In these contexts, local Alpine flax fields, where they still exist or are being experimentally reintroduced, are not yet able to support product development due to constraints related to volumes, quality consistency, and access to processing facilities.

For AlpTextyles, these conditions had direct implications. Unlike wool, which is still produced in significant quantities across Alpine regions and could therefore support concrete new product development pilots, flax and linen are characterized by **strong heritage relevance but limited raw material availability and structurally fragmented value chains**. Within the project timeframe, this made it unrealistic to engage in flax- or linen-based new product development comparable to the wool pilots. Instead, AlpTextyles interventions focused on **documentation, safeguarding, cross-border exchanges, and the exploration of feasibility conditions**, rather than on scaling or market-ready product innovation.

4.2 Flax and linen festive events: living heritage in practice

Across Alpine regions, **festive events and collective gatherings** remain among the most visible expressions of living flax and linen heritage. Although these practices are no longer systematically connected to sustained production, they play a crucial role in safeguarding embodied knowledge, social meanings, and intergenerational transmission related to flax cultivation and processing.

In **Slovenia**, flax-related heritage continues to be actively performed through public events and festivals that bring together demonstrations of traditional techniques, storytelling, and community participation. Events such as flax scutching and spinning festivals, organized in rural and peri-urban contexts, showcase key stages of the flax processing sequence and re-embed them within contemporary cultural life. These festivals often mobilize local associations, craftspeople, and cultural institutions, and function as important moments of transmission and public recognition of flax-related skills.

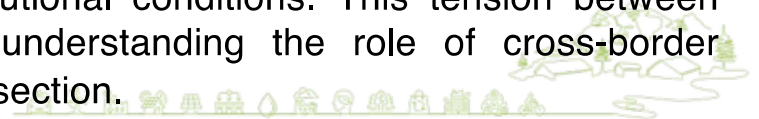
In **Switzerland**, a variety of **brächete** and flax-related events persist or have been revived in Alpine and pre-Alpine regions. These events are typically organized around the collective breaking and processing of flax, following seasonal rhythms and emphasizing communal participation.



Alongside these community-based events, initiatives such as [Ziehlein](#) contribute to the contemporary visibility of flax and linen heritage in Switzerland. Ziehlein operates at the intersection of cultural mediation, education, and public engagement, using flax and linen as entry points to discuss historical practices, material knowledge, and sustainable textile futures. With multiple locations in Switzerland, such initiatives play an important role in **connecting heritage practices to wider publics** and in sustaining interest in flax beyond purely folkloric contexts.

Taken together, these festive events and initiatives illustrate how flax and linen continue to exist as **living heritage**, enacted through gestures, tools, narratives, and social relations. They maintain the cultural memory of flax knowledge and reaffirm its place within Alpine identities. At the same time, they also reveal a growing separation between **symbolic and performative practices** on the one hand, and **cultivation, processing, and contemporary textile production** on the other.

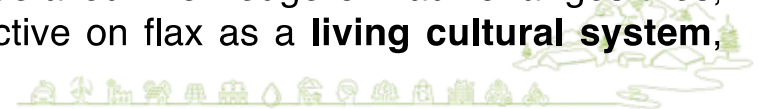
From an intangible cultural heritage perspective, these events are not residual survivals but active sites of cultural reproduction. However, their capacity to support heritage-sensitive innovation depends on their ability to interact with evolving material, economic, and institutional conditions. This tension between vitality and constraint provides an essential backdrop for understanding the role of cross-border exchanges and feasibility exploration discussed in the following section.



4.3 AlpTextyles flax and linen pilot: cross-border exchanges to recombine fragmented knowledge

The AlpTextyles flax and linen pilot was implemented between 2022 and 2024 as a series of **cross-border exchanges, field visits, and collective learning activities**, designed to reconnect fragmented forms of flax-related knowledge across Alpine regions. Given the limited availability of flax as a raw material and the absence of territorially integrated value chains, the pilot did not pursue immediate new product development. Instead, it focused on **raising awareness** on the shared flax and linen heritage of Alpine regions, the **recombination of dispersed skills and practices**, and the **feasibility exploration of heritage-sensitive product development**.

The pilot brought together **different communities and organizations** from Switzerland, Slovenia, and northern Italy, whose situations differed markedly. In **Slovenia**, flax-related knowledge remains particularly visible through **festive events, demonstrations, and community practices**, even though flax cultivation has mostly ceased. Field visits, trainings, and exchanges took place in areas such as **Davča** and the **Škofja Loka** region, where flax heritage continues to be performed and transmitted through collective events and local associations. Slovenian partners contributed detailed knowledge of traditional gestures, tools, and processing sequences, offering an essential perspective on flax as a **living cultural system**, sustained through festive practice rather than production.





AlpTetyles awareness-raising activities on flax/linen heritage in Skofja Loka, organized by AlpTextyles partner [Rokodelski center Skofja Loka](#)





AlpTextyles flax braking and carding workshop organized by AlpTextyles partner [Rokodelski center Skofja Loka](#) (2024)





AlpTextyles spinning workshop organized by AlpTextyles partner [Rokodelski center Skofja Loka](#) (2025)



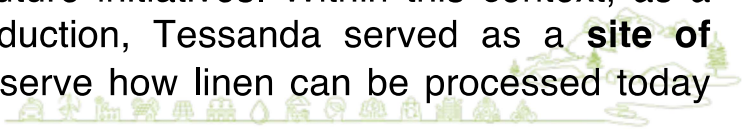


AlpTextyles weaving workshop organized by AlpTextyles partner [Rokodelski center Skofja Loka](#) (2025)



In Switzerland, a first key site of the pilot was **Val Müstair**, where AlpTextyles engaged with an ongoing local initiative led by [Biosfera Val Müstair](#), in cooperation with local farmers and [Tessanda](#), one of the three remaining Swiss artisanal weaving workshops. Launched in 2021, this initiative aimed at the **re-cultivation of flax** as part of a broader strategy combining biodiversity protection, landscape management, and support for pollinators within the perimeter of the natural park. Flax was reintroduced not primarily as a fibre crop, but as an agroecological and cultural resource embedded in a protected Alpine landscape.

AlpTextyles activities built upon this initiative through study visits and exchanges, using Val Müstair as a **reference case** to understand how environmental objectives, heritage values, and community engagement can precede and frame any future economic valorization. The pilot also benefitted from the revival of the **Flachs-Brächete Val Müstair** in October 2023, a communal event dedicated to the traditional processing of flax, combining demonstrations, participation, and conviviality. During the 2024 edition, exchanges with communities from Slovenia and Northern Italy made it possible cross-fertilization of knowledge and skills, as well as serving as inspiration for future initiatives. Within this context, as a cooperative engaged in professional weaving and textile production, Tessanda served as a **site of contemporary textile competence**, allowing participants to observe how linen can be processed today within a professional environment.





Val Mustair: flax field (left). Tessanda loom (center) and linen products (right).



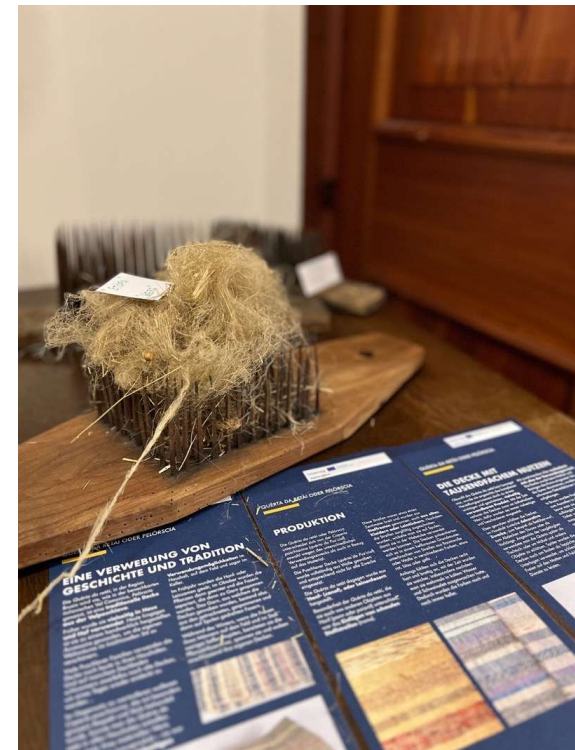


Val Mustair: Pictures from the 2024 Brachete (flax/linen festival).



Another Swiss pilot site was **Valposchiavo**, where activities focused on **heritage awareness, cultural mediation, and community engagement**. In this context, the [Fondazione Musei Valposchiavo](#), supported by AlpTextyles partner [Polo Poschiavo](#), played a central role, notably through the annual event **Festa de lo Pan nero**. While primarily dedicated to food heritage, this event provided a platform to raise awareness of broader agro-pastoral and textile traditions of the valley, including flax and linen. By reconnecting historical narratives with contemporary concerns, these initiatives contributed to renewed local interest in flax cultivation and encouraged some farmers to experiment with seeding flax, later engaging with the emerging Alpine flax network. In addition, these initiatives sparked interest in reviving production of *spelorscia*, a linen textile traditionally used for hay collection (currently replaced by plastic materials), drawing on historical uses of linen fabrics in Alpine farming contexts, where robust, breathable, and durable textiles were required for handling agricultural materials.

Across these different contexts, the pilot deliberately worked with **exchanging of complementary heritage knowledge and skills**: between regions where flax survives primarily as heritage, regions where it is reintroduced for environmental and landscape reasons, and regions where textile competences persist without local raw material availability. Cross-border exchanges enabled participants to compare situations, identify complementarities, and clarify what additional competences, infrastructures, and institutional support would be required to move beyond safeguarding toward future forms of heritage-sensitive innovation.



Valposchiavo: Pictures from the 2024 Festa de lo Pan Ner, focused on flax/linen heritage.

