

IMPACT

REPORT



INTRODUCTION

This report presents the results of one of the innovation tracks carried out by the teams of the European Interreg project Wonderful.stream (2020-2023). In this project, seven partners from the Euregio Meuse-Rhine have pooled their knowledge, strengths and resources to jointly support small and medium-sized enterprises in their transition to a circular economy.

Wonderful.stream offers companies free advice and guidance on the recovery of their residual flows; it also initiates and facilitates the co-creation of circular solutions with experts in technology, design and business development in the framework of innovation tracks.

This report focuses on the results of the innovation track of the company Lainyl.

INNOVATION TEAM

DESIGN

Coralie Miessen

BUSINESS DEVELOPMENT

Charlotte Vandierendonck (Studio Dee)

COORDINATION

Pauline Pötgens et Sarah Frenck (EKLO)

Sara Boxus et Véronique Closon (Wallonie Design)



LAINYL

Lainyl is a Belgian family-owned technical textile company, highly specialised in the development, production and assembly of filter elements.

The filters are intended for all types of industrial activities, such as the food industry, heavy industry, chemical industry, water treatment and many other B2B sectors.

The expertise of the technical teams and staff, combined with continuous technological innovation, make Lainyl a preferred supplier to both filter

manufacturers and major industrial groups around the world. The company has been active for over 60 years and works with laser cutters and automated sewing machines.

Lainyl offers companies textile solutions for both liquid and air filtration, as well as a wide range of services from filter and component audits to supply, installation and replacement of filter elements.

The technical textile manufacturing industry offers high-quality products with high added value. This market segment has high quality requirements and generates a certain amount of waste consisting of production cuttings of various types (fabric, felt, etc.) and colours. A 1000 litre container is currently collected by Suez on a weekly basis.

In view of the large quantity of waste produced by the company and the cost of its disposal, Lainyl wanted to take part in the Wonderful.stream project in order to find ways of recovering this waste stream with high added value. Through this project, Lainyl seeks to recover its waste by treating it as locally as possible and by developing sustainable solutions.

www.lainyl.com

A 1000 litre container is currently collected on a weekly basis

01.

Research into ways of recovering textile cuttings

02.

Characterisation of the waste stream (types of materials, types of cuts)

03.

Search for industrial symbioses

INNOVATION PROCESS

The company works with a wide variety of textile qualities and garment designs: more than 200 textile qualities, including 15 to 20 leading qualities; more than 1,200 cutting plans. The first step was to characterise the stream in order to gain a better understanding of the properties of the waste stream and then to consider viable solutions in terms of recycling or upcycling.

STEP 1

Stream characterisation

- **Analysis of materials**

This analysis mainly highlighted the large quantity of polypropylene references. Industries are particularly interested in this material in order to recycle it and thus be able to produce new products. The analysis was carried out on a total of 22 references.

- **Analysis of cuttings**

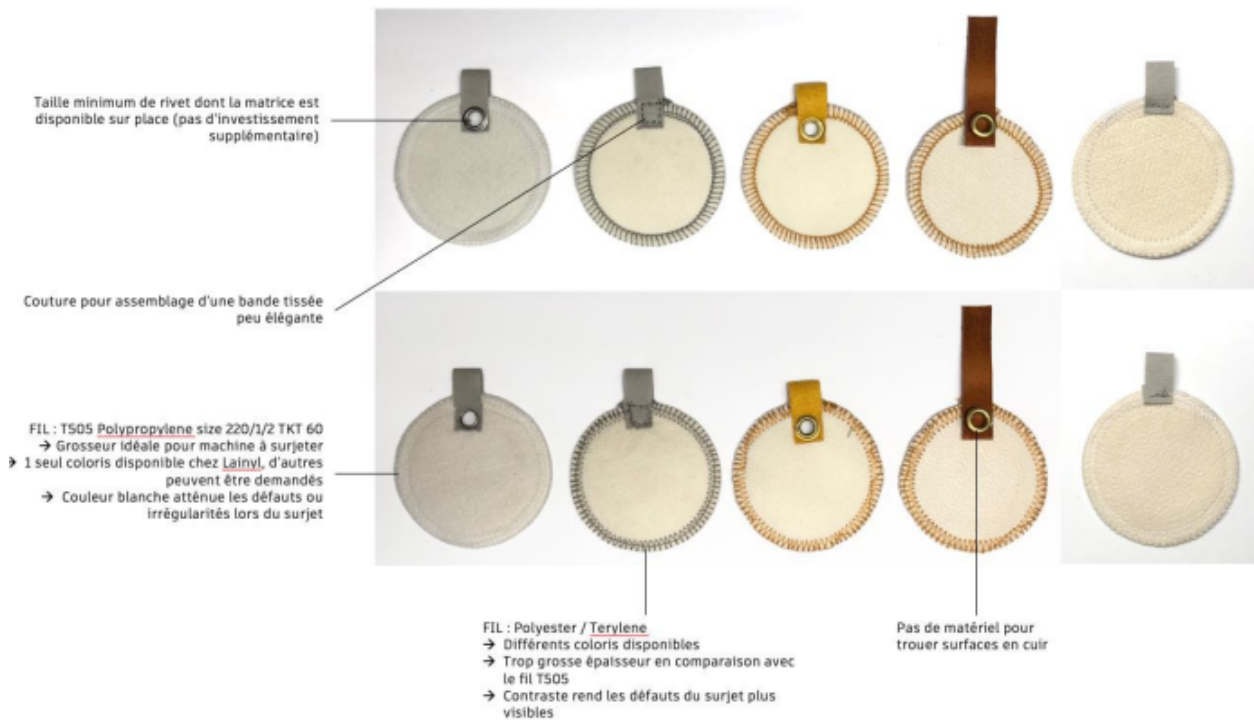
The visit to the company showed that, after cutting, some discarded surfaces are already "shaped", in particular: strips and circular discs/shapes.

Following this stage, two leads were explored as part of the track, one highlighting the upcycling of certain cuts and the other the recycling of polypropylene materials.

STEP 2

Upcycling

The circular shapes of some of the cuttings led the project team to investigate the possibility of making coasters. Moreover, this avenue was of interest because a partnership was possible with a company interested in the opportunity to market coasters based on fabric offcuts.



STEP 3

Recycling

A partnership with a Belgian company, located in Waregem, has been initiated. This company is interested in the recovery of propylene to make a floor insulation product. Samples of two references of Lainyl's polypropylene material were sent to the company to be analysed to determine whether the composition and quality of the material were compatible with their recycling system. The initial tests were positive. Lainyl has set up a sorting system and is collecting this material for large-scale testing. The possibility of collecting used filters from customers for recycling is also being investigated.

RESULTS

Following the observation of the potential for reuse of polypropylene, the project team investigated two possibilities:

- The creation of derivative products from fabric scraps. The exploration of the creation of coasters unfortunately proved not to be commercially viable. However, it could be interesting in the case of personalised gifts from the company, which has all the equipment in-house to make them.
- The implementation of an in-house sorting system to collect the highest quality polypropylene materials and to recycle them into a new production cycle. The project team was able to accompany the meeting with the partner company.

CONCLUSION

The innovation track has enabled Lainyl to be supported in the recovery of its technical textile waste. The contributions of the various experts have made it possible to initiate a promising partnership with a partner company to recycle its waste and thus drastically reduce the quantity of material sent to incineration. There are still several steps to be taken before this partnership is fully operational, but the process is well underway.

01. Setting up in-house sorting and storage for polypropylene materials

Lainyl will have to set up a material and colour sorting system for the partner company. A collection of one tonne of two material references is being carried out in order to establish tests on an industrial scale. bizarre de citer l'entreprise ici.

02. Formalization of a partnership

The contract between the two companies has yet to be drawn up and will have to include the conditions of collaboration linked to transport, the exchange of information and the price.

03. Next step : investigate the recycling of used filters

In addition to the production of filters, Lainyl also installs its filtration systems at its customers' premises. It would be interesting to develop a reverse logistics service by collecting used filters. This waste stream could also be recovered and returned to the production cycle rather than being thrown away. In the long term, being able to test these used textiles and verify their entry into the partner company's recycling system would be beneficial for the company.

Interreg

Euregio Meuse-Rhine

European Regional Development Fund



Interreg EMR transcends borders by enabling collaboration between regional areas in different countries. We are investing in projects on innovation, the economy, social inclusion and training, and territorial cohesion. By encouraging cross-border collaboration, we strengthen the economic and social fabric in the border region between Belgium, Germany, and the Netherlands.

DISCLAIMER

The source material of this report is made available under the conditions of the Creative Commons Attribution - NonCommercial - NoDerivatives 4.0 International (CC BY-NC-ND 4.0)



CONTACT INFO

info@wonderful.stream
www.wonderful.stream



In cooperation with:



With the support of:

