

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.

The present report focuses on the results of the innovation track of the company Atelier Les Gaillettes.

PROJECT TEAM

DESIGN

Thomas Billas (Studio HIER)

BUSINESS DEVELOPPEMENT

Pauline Pötgens and Nicolas Schils (EKLO)

COORDINATION

Pauline Pötgens (EKLO)

Sara Boxus (Wallonie Design)

ATELIER LES GAILLETES

Founded in 1971 in Battice, this Adapted Work Company (ETA) employs over 200 people. The Atelier Les Gaillettes offers its clients tailor-made solutions in the following sectors: packaging, metallurgy, carpentry... Their goal is to integrate less able-bodied and less qualified people into society in a sustainable way by guaranteeing them fair conditions in the world of work.

www.lesgaillettes.be

ETA welcomed the Wonderful.stream project with two concerns. The first one, inherent to its missions, is above all social: subcontracting being its main activity, the project of valorization of its waste is also the occasion for ETA to develop a product which is its own and which could be directly manufactured by its personnel thanks to a low tech process and an adapted supervision.

Its second concern is to accelerate its transition to the circular economy, in order to correspond to its vision of a modern, competitive and efficient company in the use of its resources. These new production activities are part of this logic, in particular via the valorization of residual flows (its own and those of neighboring companies) thanks to the skills of its staff and the equipment it has.



The objective of the innovation track was to accompany Atelier Les Gaillettes in the development of firelighters made from various waste streams :

- Sawdust from its carpentry activity;
- Paper waste from Pacarbel, a neighboring company specialized in the manufacture of paper and non-woven tablecloths. Of the 2,500 tons of raw materials it processes, the company generates between 8 and 10% of waste, i.e. about 200 tons per year (half of which are raw paper fibers and the other half cellulose fibers and plastics). Solutions to evacuate this waste exist, but their revalorization and traceability often remain unclear.

Within the framework of the bootcamp of Wanderful.stream, organized before the innovation track and in which the company participated, a concept of fire starter was identified by a team of students from ESA Saint-Luc Liège and HEC Advisory, led by the designer Simon Frémineur.



CHALLENGES

- 01.** Low-cost and low-tech manufacturing process
- 02.** Local sourcing of raw materials
- 03.** Importance of storytelling behind the product

RAW MATERIALS

waste streams

Paper
Collection from Pacarbel
or from end-customers

Sawdust
Atelier
Les Gaillettes

Plant oil
Supplier



PRODUCTION

Sorting
↓
Schredding
↓
Manufacture of the material
from raw materials
↓
Compacting

PACKAGING

Recyclable / in bulk



SALES
Super-
markets

SALES
Local
shops

SALES
Shop Les
Gaillettes

INNOVATION PROCESS

The specificity of this innovation track lies in the design of a production process that is:

- Inexpensive, given the low selling price of this type of product;
- Low technicality and suitable to the skills of the staff of an Adapted Work Company



STEP 1

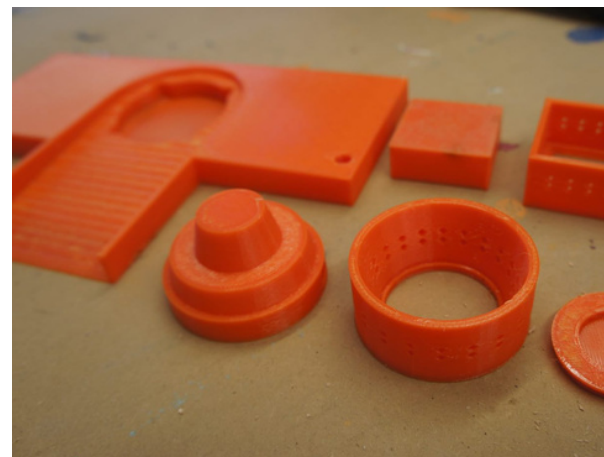
Prototyping phase

The design studio HIER, specialized in the conception and production of sustainable and local solutions, has developed a first prototype based on samples selected from the residual flows from Les Gaillettes and Pacarbel. This work allowed to test and validate some parameters to implement the production at Atelier Les Gaillettes: selection of residual flows, composition of firelighters, selection of machines for shredding and pressing, manufacturing of molds...

STEP 2

Economic study

In parallel, the consulting firm EKLO conducted an economic study to identify marketing opportunities (partners, distributors, central purchasing offices, retail stores, individuals, etc.) and to develop communication around the ignition products that will be produced and marketed by the company.



RESULTS

The work conducted by the project team during the innovation track has validated the technical feasibility and economic viability of creating a fire starter production activity at the Atelier Les Gaillettes.

How to manufacture firelighters?

Regarding the production process of the firelighters, the intervention of the designer helped to validate :

- the composition of the product (only sawdust from solid wood, 100% cellulose based paper, use of vegetable oil as a binder...);
- the shape of the product (square to optimize the packaging);
- the production principles (preparation of materials and blending, production machines...)

The biggest challenge was to identify the specific equipment to process the residual flows and transform them into new products. In the case of low-tech, low-cost firelighter manufacturing, Studio HIER had to customize existing tooling and design the molds via 3D printing.

How to market firelighters?

The economic study provided a study of the competition, an analysis of trends and key success factors, a reflection on strategic marketing, the identification of potential synergies with local economic stakeholders who share common values, and an initial financial analysis to assess the potential profitability of the project.



CONCLUSION

The innovation track allowed Atelier Les Gaillettes to be guided in the implementation of a manufacturing project for firelighters based on residual streams. The input from various experts made it possible to create a first functioning prototype of firelighters, to survey the market and provide positioning and marketing recommendations, and to highlight the challenges associated with the development of this kind of project.

There are additional steps to take until this project is successfully launched and commercially ready. Nevertheless, Atelier Les Gaillettes is empowered to undertake these tasks autonomously.

01. Finalizing the firelighters composition

The last component of the firelighters and its provenance (supplier) is still being investigated: oil or wax, vegetable or mineral, virgin or reclaimed (or declassified)? Testing is still in progress.

02. Transition to a semi-industrial production process

The following points are particularly important:

- Easy to produce (simple and quick manipulation) ;
- Compliance with costs and specifications (to guarantee the financial profitability of the project);
- Consumer experience (the firelighters must be easily separated and must not chip, stick to fingers or have residual odor on them...);
- Testing for performance and ignitability (classification, labelling and packaging of the product) ;
- Legislation verification for by-product recognition or discharge from the waste category.

03. Packaging design and distribution network identification

After finalization of the composition, a packaging and a brand image will have to be designed in line with the project's values and the right distribution channel has to be identified.

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.

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