

RESET – RESEARCH CENTERS OF EXCELLENCE IN THE TEXTILE SECTOR



ACTION PLAN

Centre of European Textile Innovation

PROJECT NUMBER	RESET - PGI00016
PROJECT DURATION	01 APRIL 2016 – 31 MARCH 2021
DISSEMINATION LEVEL	Public
PARTNER NUMBER & NAME REGION	PP10 CETI – Hauts-de-France (FR)
VERSION	Final

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1. GENERAL INTRODUCTION

1.1 AIM OF THE RESET PROJECT

European textile and clothing sector is a most relevant economical source for the EU, accounting for 4% of the total added value of the manufacturing sector, with 173.000 companies and a turnover of 165 billion €. Its competitiveness is linked to increased investments in innovation and research both public and private which are key drivers for European companies to lead the market in the coming years. Due to its enormous environmental impact, sustainability and environment-friendly production is emerging as a new driver of textile process, product innovation and technology development. The overall objective of the project is to generate a policy change in the implementation of regional policies and programmes of the Structural Funds related to the strengthening of research, technological development and innovation to assure the sustainability of the T&C sector in the partner regions. It will be achieved through policy learning and capacity building activities on public policies supporting innovative, green and sustainable T&C production and processes. The learning potential embedded in **interregional exchange** will result in the **uptake of new Good Practices and projects by the partner regions** enabling to support excellence in R&D, to promote investments by enterprises, to develop innovative skills of T&C stakeholders, and in a deeper integration between research and innovation policies for the sector's sustainability. Sustainability driven research and innovation will concern primarily the production processes and product development and addresses **six key themes**:

// Recycling in textile and waste disposal

// Water consumption and energy saving, sustainable company organizations

// New sustainable chemistry, including reduction of chemical substances

// Smart textiles and new ways of production

// Eco-creativity, natural fibres, short value chains

// New materials and new applications

1.2 OBJECTIVE OF THE ACTION PLAN

An action plan in general is a sequence of steps that must be taken or activities that must be performed successfully for a strategy to succeed. An action plan has three major elements (1) Specific tasks: what will be done and by whom. (2) Time horizon: when will it be done. (3) Resource allocation: what specific funds are available for specific activities.

Produced by each region, the action plan of RESET project is a document providing details on how the lessons learnt during the project and from the cooperation with other partners and regions will be exploited in order to improve the policy instrument tackled within that region. It specifies the nature of the actions to be implemented, their timeframe, the players involved, occurring costs and potential funding sources.

1.3 REGIONAL ANALYSIS OF PARTNER REGIONS

Traditional industry of the “Hauts de France” region, the textile and garment industry, leather goods and footwear represents about 11 000 employees in 2011, 5.4% of industrial employment. It ranks 3rd nationally in terms of jobs, behind the Rhône - Alpes and Ile-de-France regions (INSEE).

Region companies in the T&C sector are mainly located in three historical territories:

- The Lille Metropole (Roubaix – Tourcoing) brings together textile business but also clothing, 60 %
- The Calais is mainly concerned with the activity of lace (Calais laces), 10%
- Cambrai is divided between the lace and embroidery activities. (Lace / Embroidery / Technique Textiles) 20%
- The Flanders and others 10 % of total.

The Hauts de France region is a major player in linen and professional/work clothing (over 50% of national sales). Similarly, 80% of lace and embroidery are produced in this region.

The area is a major player in the linen industry. Finally one counts 1/3 of French supply chain units of clothing distribution.

75% the T&C sector in the region have less or 20 employees by company, In 2015, T&C companies reported 384 recruitment projects in Hauts de France Region whose 11 employment areas concerned.

Geographical distribution	Employees	Companies
Clothing	estimated	
Nord Pas de Calais	2000	80
Picardie	1000	30
Total Clothing	3000	110
Textile		
Nord Pas de Calais	9 562	350
Picardie	3 074	69
Total Textile	12 636	419
	21 % National workforce	
TOTAL REGION	15 636	529

The sector is fragmented; the focus was placed on “technical textiles” as providing a solution and not just a product. Today the face of the industry has changed

- The companies have to face different consecutive crises

- The sector is confronted to international competition
- Companies have survived and were based on differentiation strategies
- Focus on supporting the technical textile that grows with the creation of the UP-tex competitiveness cluster but also in everyday local facilities

To escape the spiral of decline, a number of productions of traditional textiles companies have converted and are oriented technical markets with higher added value.

The business model is less oriented on production than on distribution of "new solutions".

2. ACTION PLAN

PART I – GENERAL INFORMATION

Project: __ RESET - PGI00016 _____

Partner organisation: CETI (Centre Européen des nontissés) _____

Other partner organizations involved (if relevant): _____

Country: FRANCE _____

Country (NUTS1) FRANCE _____

Région (NUTS2) HAUTS DE FRANCE _____

City (NUTS3) _____

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PART II – POLICY CONTEXT

The Action Plan aims to impact:

- Investment for Growth and Jobs programme

■ European Territorial Cooperation programme

≤ Other regional development policy instrument

Name of the policy instrument addressed: Policy Theme - Recycling in Textile and Waste Disposal

PART III – DETAILS OF THE ACTIONS ENVISAGED

ACTION 1

Since its creation in 2012, CETI has integrated sustainable development as a strategic axis for in its approach. Taking into account product impact on the environment, increasingly responsible consumption and more ethical products will help overcome the lack of natural resources and decrease the use of toxic products. Today, we have focused our research on recyclability to salvage leftover, unused or postconsumer materials that will enhance used textiles and aid in imagining new products with strong added value to make this economic model viable.

Within the framework of RESET project, CETI has gone on with the preparation of its action plan. First of all, after assisting to all the staff exchanges, we were particularly interested by the presentations of TEXTILE WASTE MANAGEMENT IN PRATO DISTRICT and the GP- “INNOVATIVE APPAREL BASED ON TEXTILE RECYCLING” by the Company Trafi Creativita Tessile. So CETI visited two partners in Italy: Municipality of Prato and Next Technology Tecnotessile to know more deeply about these GPs. The visits took place in the 5th semester on the 25th and 26th of June 2018. These visits have reinforced our willing to go ahead with our project to build a new textile up-cycling pilot line which will allows European Textile and retail companies to go ahead with the up-cycling of used textiles or production wastes.

By reinventing end-of-life treatments for materials, CETI helps supply the textile industry with new raw material by-products. In the interest of preserving resources, CETI positions itself as a pioneer for improving industrial processes to remain at the cutting edge of recycling technology.

Inspired by these GP, CETI would like to go ahead with the recycling of textiles. More precisely, CETI would like to promote the development of up-cycling. Up-cycling means that the goal of the recycling is to make some textile products with a sufficient added value. One solution is to make again some yarn then fabrics and garments. Today, there is no pilot line dedicated to the R&D in this topic. CETI would like to install such a line from the fraying of fibers to the spinning. This would allow to make applied research and produce some prototypes. This pilot platform will be used in collaborative projects at national and European projects and for private contracts with European Customers. The different phases are the following ones :

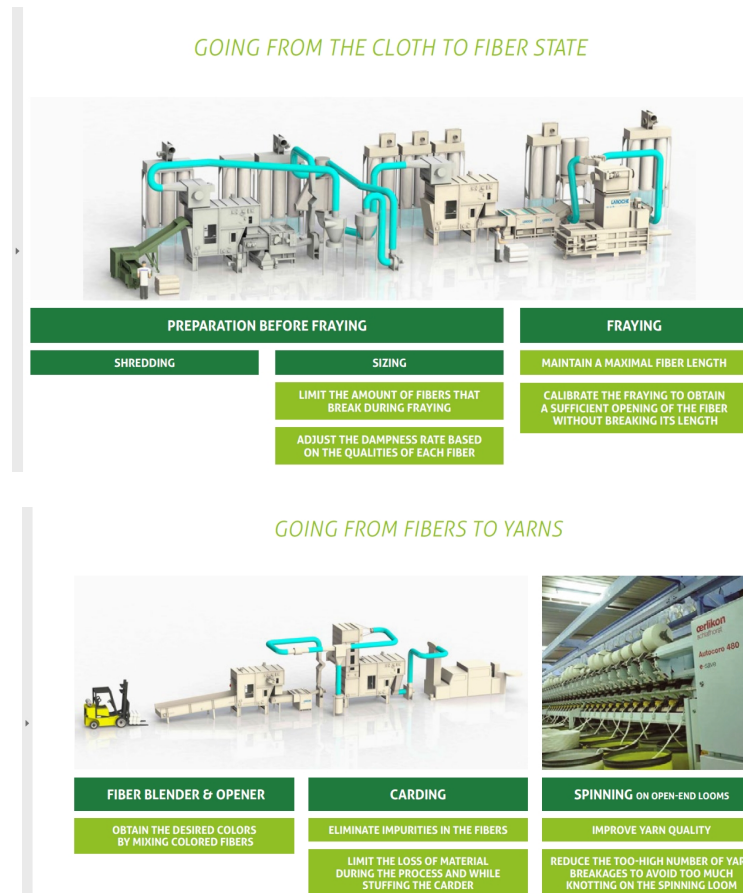
1. Construction of the pilot plant for mechanical up-cycling of fibers :

a. Line of fraying : the aim of this line is to transform the fabrics (woven and knitted) into fibres. To achieve this goal, fabrics will be first cut in small pieces which will be blend and then open into fibres through 4 successive fraying machines. At the end the fibres are packaged in bales. (cf. sketch below)

b. Line of preparation to spinning : The preparation to spinning aim to get an homogenous sliver of fibres ready for spinning. The different steps are : the opening of bales of fibers, the blending of different fibers, the spraying of a sizing agent to lubricate the fibres and at the end to card the fibers in order to deliver a sliver of fibres ready to be spun. (cf. sketch below)

c. Open-end Spinning line : this step is dedicated to transform the carded sliver into a yarn ready to be woven or knitted. The open-end technology is particularly adapted to spin short fibres as it is the case for recycled fibers.

Timing : from 02/2019 until 09/2019



2. Inauguration and organization of a conference about up-cycling of textiles or leather goods. European Textiles companies, competitiveness clusters and research centres will be invited to this event.

Timing : 09/2019

3. Trials campaign with various textiles : wastes of production, post consumers textiles. Different kind of textiles which will be sorted according mainly to their composition and their colour. In a first step, the priority will be to process recycled cotton fibres because of the high environmental impact of this fibre. This trials will be done within the framework of the REWIND project. REWIND is funded by the French Agency for the Environment and Energy Management (ADEME) and has as objectives to make cotton yarn from post consumer textiles. 3 private companies (DECATHLON, TDV, LAROCHE) and one research center (ICAM) are participating in this project which will end in march 2021.

Another H2020 project called REACT will aim to recycle the outdoor acrylic fabric and is scheduled to begin in july 2019.

Finally the recycling of blends of polyester and cotton which are very common will be studied. A video of the line which will serve as a demonstration or as a training tool will be made.

Timing : from 09/2019 until 12/2019

4. Manufacturing of several demonstrators/prototypes : thanks to the trials made in phase 2, prototypes which could be fabrics up to garments will be manufactured with yarn containing a substantial amount of recycled fibers (from 30 to 70%)

Timing : from 01/2020 until 12/2021

5. Exploitation of the pilot line within the framework of collaborative or private projects.

a. Timing : from 01/2020 and will go on in the future

The players involved in this project are CETI for the technical parts. Ceti will contract mainly with machines constructors (LAROCHE (F), SERCOMATEX (SP) and SCHLAFORST (D) to acquire, implement the equipment and train the staff to these new technologies.

CETI and Région Hauts de France are involved in the funding aspects (cf. 5. Costs)

Costs

For the whole investment to create an up cycling platform, the Budget presented to the Region NORD PAS-DE-CALAIS to get ERDF funds is the following :

Type of Cost	Montant total
Equipment	1 247 770 €
Installation costs	216 702 €
Personnal cost	310 434 €
Travel costs	10 400 €
Other costs	224 403 €
Overhead costs	46 566 €
TOTAL	2 056 275 €

Funding sources are Région Hauts-de-France (ERDF). The amount of the ERDF funding is : 805 460 € for the investments (55%) and 295 902 € for the operation (50%). Total 1 101 362 €.

3. SUMMARY

The process of exchange of experience brings a lot of information about the topics that are developed across Europe. The variety of these topics brings opening on the R&D programs or realization that can be at the origin of further cooperation and action plan.

More specifically for CETI, the first seminar about Recycling and waste disposal held in ALCOY was very interesting and in line with the CETI strategy about sustainable development. This seminar reinforced our willingness to go ahead on this topic and became our Action Plan. As mentioned before, our action plan aims to implement a research and prototyping Platform dedicated to the recycling of production wastes and old consumer textile goods. The Action plan is in process presently and is a structural investment that will help European industry to progress in this area.

Furthermore and may be the most interesting benefit is the networking with different organizations all over Europe. This is necessary to build an international R&D about textile and to coordinate the efforts. In our case, we hope that the networking will help European textile industry to be aware of

our structural investment wich will allow them to improve up-cycling of textile wastes and to set up new projects in this domain.

Place/Date: TOURCOING, on the 28th of june 2019

Signature: _____

Stamp of the organisation: _____