

Interreg



UNIONE EUROPEA
EVROPSKA UNIJA

ITALIA-SLOVENIJA



RETRACKING

Progetto standard co-finanziato dal Fondo europeo di sviluppo regionale
Standardni projekt sofinancira Evropski sklad za regionalni razvoj



Retracking

Towards the Circular Economy: traceability of Fibre-Reinforced Composites (FRC) artifacts.

Project Introduction

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Trieste January 29th, 2018 - Initial Conference



The Funding Program: Interreg Italia-Slovenija

Retracking is a standard project funded by the **Interreg Program V-A Italy-Slovenia** a European Union funding cross-border program under the **European Cross-Border Cooperation**.

European Cross-Border cooperation, known as Interreg A, support cooperation between NUTS III region from at least two European Union Member States. It aims to tackle the potential of the overall harmonious development of the Union.

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The Funding Program: Interreg Italia-Slovenija

Main aim: To promote innovation, sustainability and cross-border governance to create a more competitive, cohesive and livable area.



Priority Axis 1: Promoting innovation capacities for a more competitive area



Priority Axis 2: Cooperating for implementation of low carbon strategies and action plans



Priority Axis 3: Protecting and promoting natural and cultural resources



Priority Axis 4: Enhancing capacity building and cross-border governance

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The Funding Program: Interreg Italia-Slovenija



Priority Axis 3: Protecting and promoting natural and cultural resources

OS 3.3. Development and testing of innovative green technologies to improve waste and water management.

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Retracking - information

Project duration	27 months	
Total Eligible budget:	1,494,985.00 € (FESR funding 1.270.737,25 €)	
Consortium	1. Polo Tecnologico di Pordenone (Lead Partner); 2. Gees Recycling S.r.l.; 3. Infordata Sistemi S.r.l.;	ITALY
	4. Zavod za gradbenistvo Slovenije (ZAG) - Slovenian National Building and Civil Engineering Institute; 5. Gospodarska Zbornica Slovenije (GZS) - Chamber of Commerce of Slovenia	SLOVENIA

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Origin of the project: Scenario

Since the early 1960s, the production of **FRC** manufactures (fiber-reinforced composites such as fiberglass, Kevlar, carbon fiber) has been dominant in many industrial sectors: marine, aviation, automotive, wind, cold value chain, bio-medical , furniture, agriculture.

Today In Europe, the annual avarege production of FRC is 1 million tons.

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Origin of the project: Problem

The production of manufacts in FRC worked up to now according to a **linear economy business model** (raw materials - production distribution - consumption - disposal as waste)

Every product is destined to arrive at the end of life and to be disposed as waste.



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Origin of the project: Problem

- In Europe, the production of FRC has generated 80 million tons of end-of-life products.
- **Today there are no efficient solutions for the recycling of FRC products.**
- This has led to several cases of end-of-life FRC products abandoned in the environment, causing a strong environmental impact.



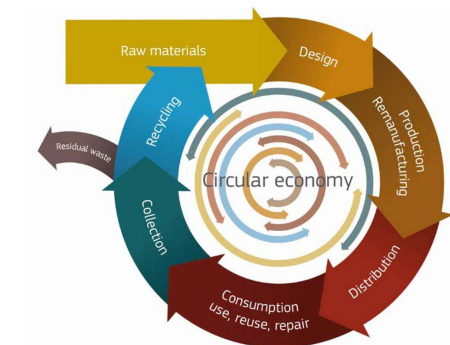
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Origin of the project: Opportunity

1. COM (2015) 614 "Closing the loop" EU action plan for the Circular Economy;
2. Strategy for Plastics in a Circular Economy (2016),

Challenges linked to the production, consumption and end-of-life of plastics can be turned into an opportunity for the EU and the competitiveness of the European Industry.



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Origin of the project: Opportunity

- cultural growth in terms of reuse, reduction and recovery of waste;
- saving resources through the use of low-priced secondary raw materials from end-of-life products;
- development of innovative products coming from secondary raw materials;
- environmental benefit for the reduction of environmental impact caused by illegal scrapping;
- employment benefits with the creation of new jobs.

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RETRACKING: OVERALL PROJECT OBJECTIVE

Development of a competitive EU standard compliant **management model for FRC waste recycling,**

that allows the recovery, analysis and recording, production, identification and traceability of a "secondary raw material" based sustainable products,

creating the conditions to **switch from a linear to a circular economy.**

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RETRACKING: SPECIFIC OBJECTIVES

1. Environmental awareness: increase the environmental awareness and reduction of the use of FRC in the Program Area

Involvement of companies, citizens, public bodies and other stakeholders, informing them on:

- **environmental benefits** for circular economy model thanks to a life cycle assessment of different possibilities of FRC waste management and recycling into different products;
- **environmental problems** caused by the linear economy;
- **collection fiberglass waste**, essential for the implementation of the circular model.

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RETRACKING: SPECIFIC OBJECTIVES

2. Development of a methodology of recycling, coding and marking of materials coming from FRC, enabling the efficient management of waste recycling and processing waste in order to put them into the productive cycle as secondary raw material, avoiding landfilling.

- analysis and evaluation of a methodology for the recycling of waste containing CFR;
- recording of identification data of waste and secondary raw materials in a database;
- storage of waste in proper defined spaces according to their classification;
- integration of an RFID chip with secondary raw material data within the new material;
- access to a web platform with recycling data coming from all the actors of value chain;
- recycling of the new sustainable products at the end of life, with recognition of the history of the material.

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RETRACKING: SPECIFIC OBJECTIVES

3. **Development of a tracking infrastructure for FRC artifacts through the design and development of an ICT platform prototype to manage the recycling life cycle tracking information: material collection, delivery, storage and processing.**

New georeferencing technologies and RFID technology will be adopted for the identification and tracking of recycled FRC products.

All the information collected will help to produce detailed statistics:

- On the quality and amount of waste,
- On the amount and types of recycled products,
- For the continuous optimization of recycling processes.

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Joint Development through Cross-border Cooperation

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RETRACKING: Joint Development through Cross-border Cooperation

Partner	Expertise
Pordenone Technology Park	Start up incubator and technology transfer park that brings in the project its expertise in project management and its network of contacts with regional and national companies
Gees Recycling srl	Company that operate for the recycling and transformation of waste from fiber-reinforced plastics. Confers to the project the recycling process patent of FRC materials (RFM® recycled material in glass fiber).
Slovenian National Building and Civil Engineering Institute;	Research institute, specialized in testing and certification of building products. It brings to the project his expertise in the definition of regulations and protocols for the efficient recycling of waste materials.
Infodata Sistemi srl	ICT company that brings its expertise in developing solutions related to automatic product tracking, development and supply of IT solutions for the automatic identification and traceability with RFID chips
Chamber of Commerce of Slovenia	The biggest business association in Slovenia. It brings its direct contact with companies at all levels (management, development, technical and operational ect.)



RETRACKING: Joint Development through Cross-border Cooperation

Project Structure	Description	Partners involved
WP 1	Project Management	PTP, all
WP 2	Communication Activities	GZS, PTP, ZAG, Infordata
WP 3.1	Cognitive Analysis and Mapping	ZAG, PTP, GZS, Infordata
WP 3.2	Integrated management model for the recycling and production of materials derived from CFR waste, compliant with European legislation.	Gees, ZAG, Infordata
WP 3.3	Development of an integrated tracking infrastructure for products in CFR with the use of a web management platform with a shared database and RFID chip for the tracking of materials	Infordata, ZAG

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RETRACKING: Joint Development through Cross-border Cooperation

WP2: Communication Activities

- GZS (WP leader) together with the Tcnological Center will implement the communication strategy with the aim of involving the target groups;

WP3.1: Cognitive Analysis and Mapping

- Polo Pn and GZS: after a cognitive analysis of the program area, they will cooperate to map the stakeholder along the CFR value chain
- ZAG will examine the properties of the existing consumer product waste streams in order to evaluate and determine which will be exploited as raw material.

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RETRACKING: Joint Development through Cross-border Cooperation

WP3.2: Integrated management model for the recycling and production of materials derived from CFR waste, compliant with European legislation.

- Gees, Infordata and Zag: Identification of the most efficient management model for the recycling of CFR waste and its transformation into secondary raw material.
- Gees: A pilot plant will be set up to make panels in secondary raw material containing a RFID tag for their tracking.
- ZAG: Definition of a report on the performance and recyclability of products made with secondary raw materials to be shared with future suppliers and with the public is also envisaged.

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RETRACKING: Joint Development through Cross-border Cooperation

WP3.3: Development of an integrated tracking infrastructure for products in CFR with the use of a web management platform with a shared database and RFID chip for the tracking of materials

- Infordata: Design of an integrated infrastructure for monitoring manufactured products in CFR.
Data on: waste collection, storage, transformation. This will ensure complete traceability of waste;
- Infordata, Gees, Zag, GZS: validation and population of the platform

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RETRACKING: Joint Development through Cross-border Cooperation

The importance of having a mixed partnership between Italy and Slovenia is functional to:

1. the realization of a **pilot project** to test the functionality of the management model for FRC waste recycling and **make it replicable in other European areas**;
2. harmonizing regulations and standards of the two countries and thus creating the conditions to develop European standards that can be disseminate throughout Europe

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Thanks for the attention!

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Project partners



Polo Tecnologico di Pordenone (IT)



Gees Recycling (IT)



Zavod za gradbeništvo Slovenije
(SLO)



Infordata Sistemi Srl (IT)



Gospodarska zbornica Slovenije (SLO)

