FiberEUse

PROJECT OVERVIEW

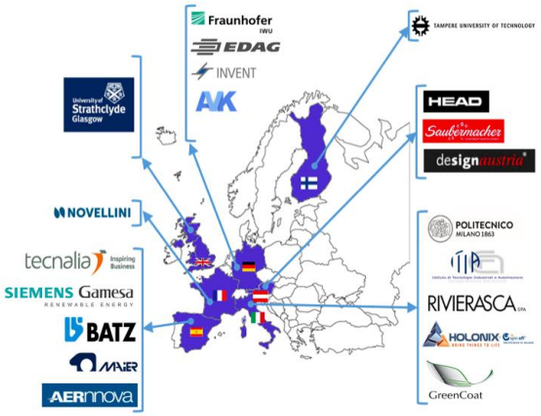
Glass and carbon fiber reinforced polymer composites (GFRP and CFRP) are increasingly used as structural materials in many manufacturing sectors. Although mechanical grinding and pyrolysis reached a quite high TRL, no significant added value in the reuse and remanufacturing of composites is demonstrated.

FiberEUse has the scope to **enhance profitability of composite recycling and reuse in value-added products**.

Funding: €9.8 million.
Duration: four years since June 2017.

CONSORTIUM

20 Partners - 7 Countries



FiberEUse

POLITECNICO MILANO 1863

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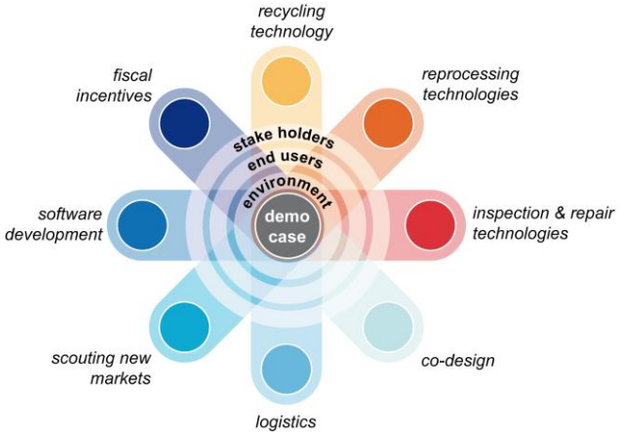
FiberEUse

LARGE SCALE DEMONSTRATION OF NEW CIRCULAR ECONOMY VALUE-CHAINS BASED ON THE REUSE OF END-OF-LIFE FIBER REINFORCED COMPOSITES

This project has received funding from the European Union's Horizon 2020 research and innovation programme CIRC-01-2016-2017 "Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects", under grant agreement No 730323

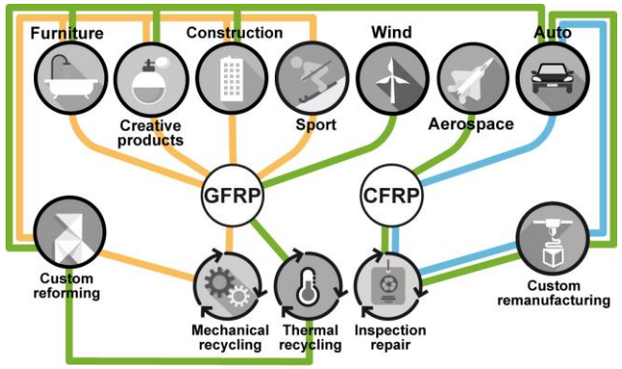
THE CONCEPT

Through new **cloud-based ICT solutions** for **value-chain integration**, scouting of **new markets**, **analysis of legislation barriers**, **LCA** for different reverse logistic options, FiberEUse will support industry in the transition to a **circular economy model for composites**.

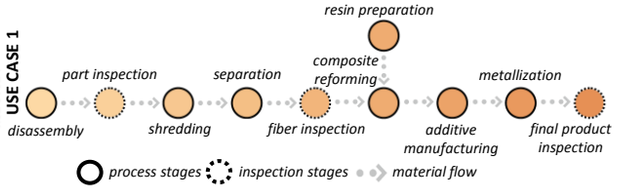


USE-CASES

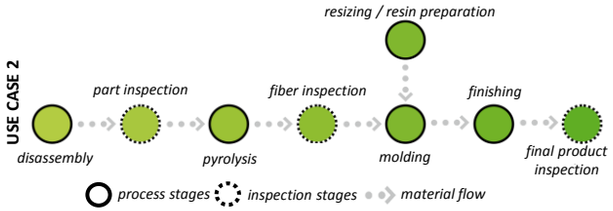
The project is based on the realization of **three macro use-cases**, further detailed in **eight demonstrators**.



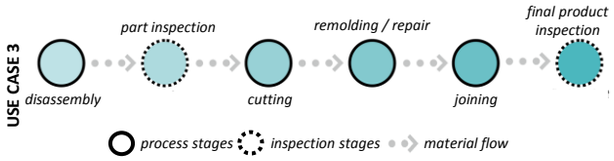
Use-Case 1: Mechanical recycling of short GFRP and re-use in added-value customized applications, including furniture, sport and creative products. Emerging technologies like UV-assisted 3D-printing and metallization by Physical Vapor Deposition will be used.



Use-Case 2: Thermal recycling of long fibers (glass and carbon) and re-use in high-tech, high-resistance applications. The input product will be EoL wind turbine and aerospace components. The re-use of composites in automotive and building will be demonstrated by applying controlled pyrolysis and custom remanufacturing.



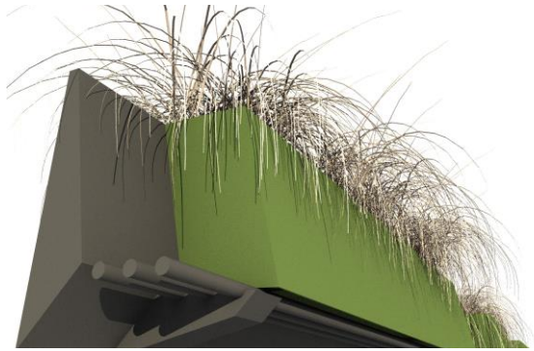
Use-Case 3: Inspection, repair and remanufacturing for EoL CFRP products in high-tech applications. Adaptive design and manufacturing criteria will be implemented to enable a complete circular economy demonstration in the automotive sector.



Be involved in the FiberEUse co-design approach!

A user engaging **co-design** methodology engages all citizens to **contribute new design concepts** to exploit second-life composites and **vote for the best ideas** proposed by designers (some examples below). **The selected designs will then be realised in the course of the project.**

PLS - Parametric Layering System



reGREEN vertical greening for urban spaces

How to participate

Visit the ***FiberEUse Idea Manager*** web portal to give us feedbacks and submit your ideas!

https://fibereuse.holonix.biz /ideamanager/#/