



Main technical objective to be achieved by the consortium in this project is the full-scale demonstration of the most promising EoL methods for biocomposite waste



Consortium



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End of Life for biomaterials



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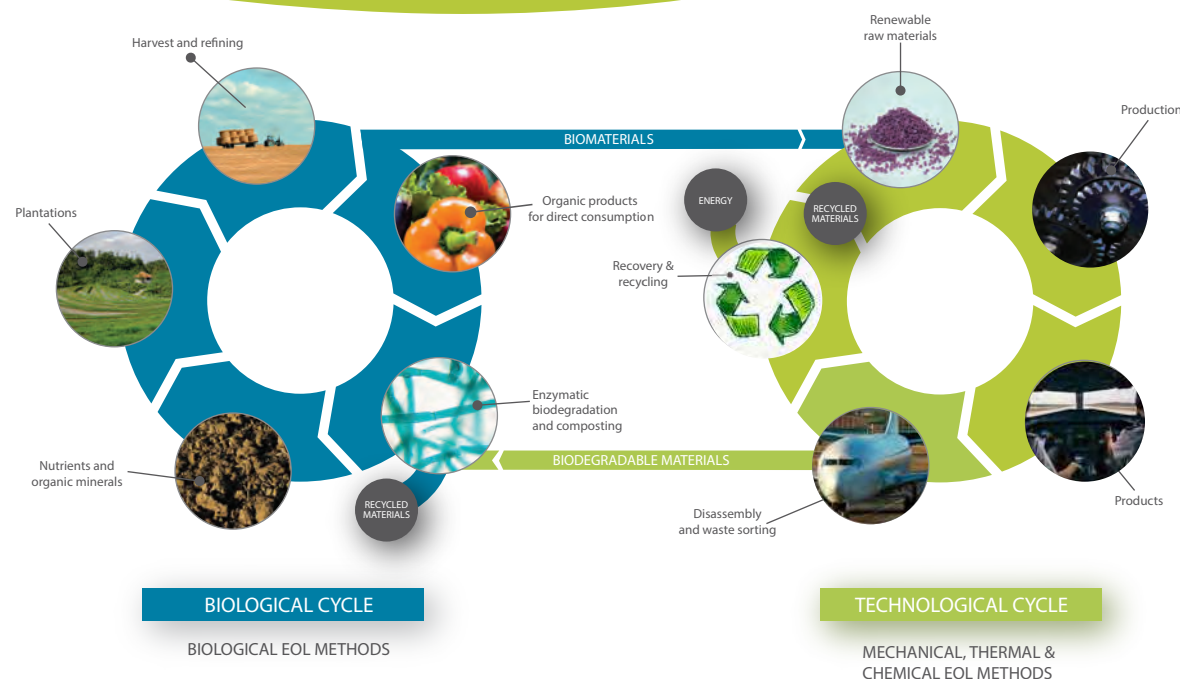
ELIQ^T

The Problem

Aviation industry is working on promising technologies to mitigate the environmental impact the sector forecasts due to the huge growing of air transport in the upcoming decades.

High performance composites (FRP: fibre-reinforced polymers) are a key technology to lightweight design in aviation industry to lower the fuel consumption and with it, the emissions of aviation. Besides, aircraft manufacturers are developing new biomaterials able to match the same lightness and mechanical properties of current FRP which are made of nonrenewable fibres and fossil-based thermosetting resins. The new biocomposites use natural fibres (flax, hemp, kenaf, etc.) as reinforcement instead of glass and carbon fibres, and thermosetting resins based on renewable resources (e.g., biobased epoxy).

However, sustainable management solutions for FRP and biocomposite waste are still far from being a reality, as they have shortcomings like heterogeneity, contamination, and thermosetting nature. Besides, biocomposites have to face other extra difficulties since the technologies for their recovery have not yet been tested in depth due to the novelty of these materials, whilst they do not contain carbon fibres whose market value is one of primary driving forces for FRP recycling.



The Need

There is an urgent need to develop, test and evaluate different EoL treatment technologies for biocomposites in order to provide innovative and cost-effective solutions that allow these materials to enter the aircraft sector (and others) with full guarantees of life-cycle sustainability.

The Solution

ELIOT project will propose and develop innovative solutions for the EoL of the new generation of biocomposites by:

- 01 Reviewing the current treatment technologies for conventional FRP composite waste
- 02 Evaluating their potential suitability to be applied to the biocomposite waste and selecting those treatment alternatives that appear as the most feasible
- 03 Tailoring the selected treatment technologies to the characteristics of biocomposites and testing them at laboratory scale
- 04 Demonstrating their technical feasibility and life-cycle sustainability under pre-industrial scale.