

PARTNERS



PROJECT DETAILS

PROJECT TITLE: MultiSensor sorting tools in a circular economy approach for the efficient recycling of PVB interlayer material in high-quality products from laminated glass construction and demolition wastes

PROJECT ACRONYM: SUNRISE

START/END: 1 June 2021/30 November 2024

EU CONTRIBUTION: 8.040.302,51 Euro

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sunrise-project.eu



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MultiSensor sorting tools in a circular economy approach for the efficient recycling of PVB interlayer material in high-quality products from laminated glass construction and demolition wastes



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PROJECT

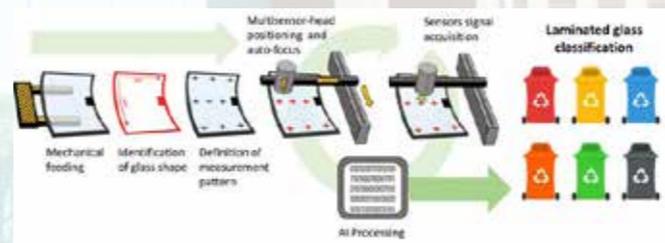
SUNRISE is an Horizon 2020 funded project which aims to increase the collection and treatment of laminated glass, improving the separation of glass from PVB and therefore increasing the fraction of glass and quality from laminated glass for reuse. In order to ensure the success, the project counts with glass recycling associations and companies and main actors in mechano-chemical treatment of PVB and optical in-line systems.

OBJECTIVES

- 1 To implement best practice protocol regarding the collection and storage
- 2 To develop a multisensor tool
- 3 To develop and evaluate artificial intelligence (AI) algorithms
- 4 To construct an advanced sorting system
- 5 To integrate previous sorting module to a mechano-chemical pilot line
- 6 To develop a Decision Support Tool (DST)

PVB MATERIAL

PVB is used primarily as a raw material for laminated safety glass sheet in automotive (windshields and side and roof glass in luxury cars) and architectural applications (windows, structural glazing, canopies, roofs/floors, staircases and beams). Global consumption of polyvinyl butyral has been growing faster than the general automotive and architectural markets. In addition to the major use as films and sheets, PVB resins are consumed in coatings, wash rimers, structural adhesives, inks/dry toners and as a binder for ceramics and composite fibers.



SOLUTION

The project SUNRISE presents a solution for the post-consume PVB recycling consisting in the integration of a multi-sensor system based on non destructive and real-time data processing methodologies of spectral data, followed by the mechano-chemical recycling process achieving a sorted PVB according to optical quality and composition, thus obtaining different batches which will allow a functional recycling and higher quality of the final polymer.

EXPECTED IMPACTS

Recycling Technologies

Pushing the EU to the forefront in the area of raw materials processing and/or recycling technologies and solutions through generated know-how and promoting socially innovative solutions.

Economy and market potential

Improving significantly the economic viability and market potential and creating added value and new jobs.

Circular Economy

Unlocking a significant volume of various primary/secondary raw materials currently unexploited/underexploited within the EU, hence improving their 'circularity' in the economy and ultimately closing the material cycles.

Health, safety & environment

SUNRISE will have a significant positive impact on environment, health and safety and will be monitored during the project by the LCA methodology.