

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 waste



PROJECT

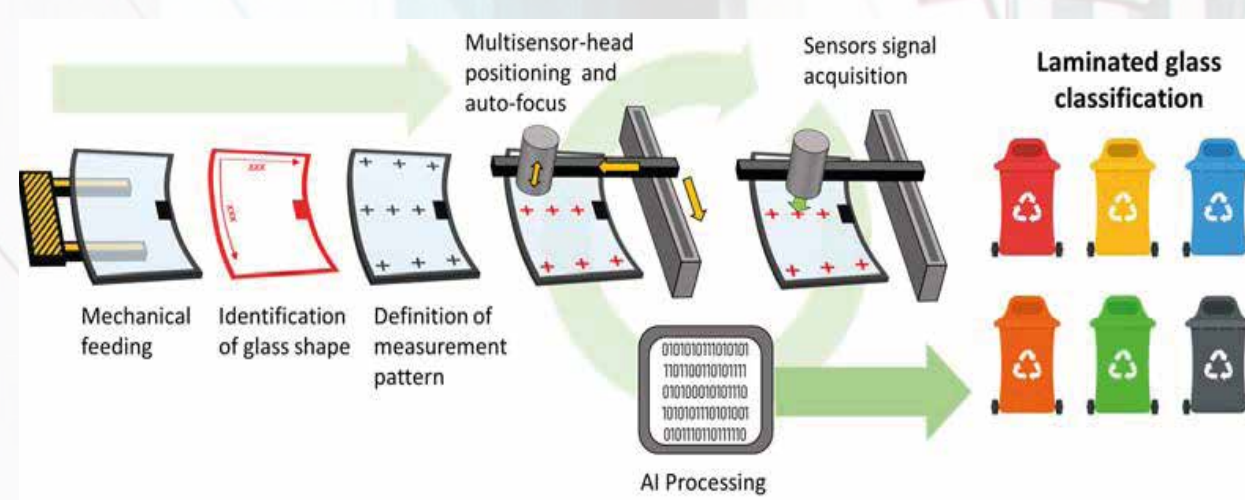
SUNRISE is an Horizon 2020 funded project which aims to increase the collection and treatment of laminated glass, improving the separation of glass from PVB and therefore increasing the fraction of glass and quality from laminated glass for reuse. In order to ensure the success, the project consortium is composed by glass recycling associations, 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)

LAMINATED GLASS

Laminated glass is obtained by bonding glass layers using a polymeric interlayer. Polyvinyl Butyral (PVB) is used as interlayer in laminated glass and their use in construction components is growing, therefore the end-of-life should be addressed.



PVB MATERIAL

PVB is used primarily as a raw material for laminated safety glass sheet in automotive (windcreens and side and roof glass in luxury cars) and architectural applications (windows, structural glazing, canopies, roofs/floors, staircases and beams). Global PVB Films market is projected to grow considerably in the coming years due to increasing industrialization and urbanization.

INDUSTRIAL APPLICATIONS

Solar panels



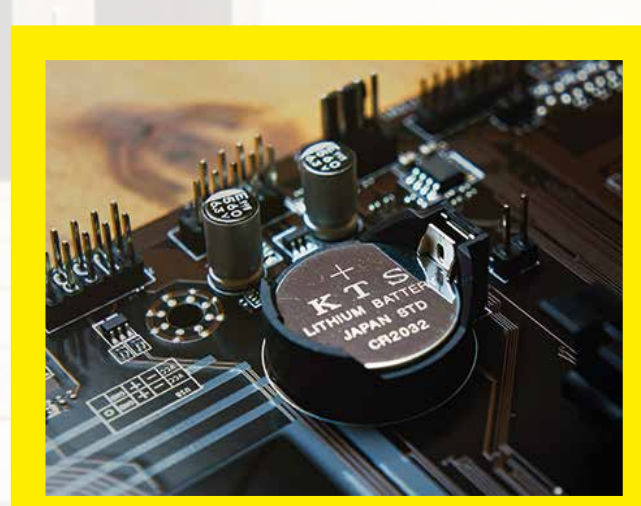
Peelable coatings



Production of textiles



Li-ion cell with re PVB



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

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

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 waste

PROJECT ACRONYM: SUNRISE

START/END: 1 June 2021/30 November 2024

TOPIC: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes

EU CONTRIBUTION: 8.040.302,51 Euro



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958243.

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