



# Innovative digital watermarks and green SOLvents for the recovery and RECYcling of multi-layer materials.

[www.solrec2.eu](http://www.solrec2.eu)

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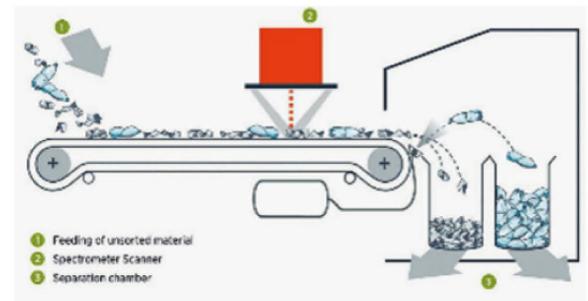
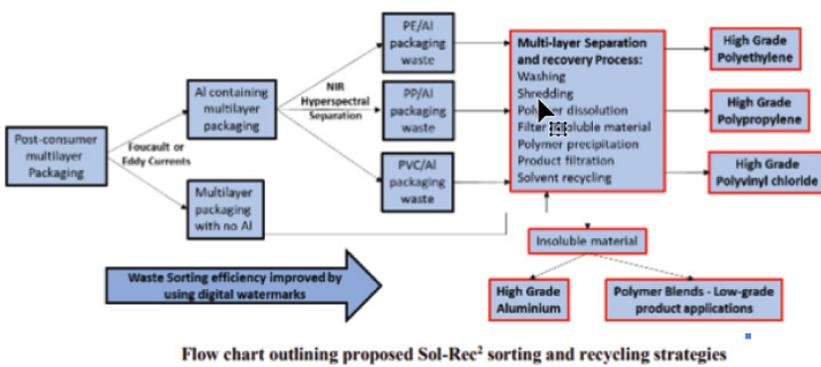
This 36-month Sol-Rec2 project targets the development and implementation of ground-breaking strategies for improving the sorting, separation and recycling of pharma blister packs and laminate consumer packaging waste consisting of multiple layers of polymers and aluminium. Innovative digital watermark technologies will be further developed and progressed to TRL6 through successful demonstration of rapid and efficient sorting of multi-layer packaging.



Examples of pharma blister packs and laminate packaging pouches.

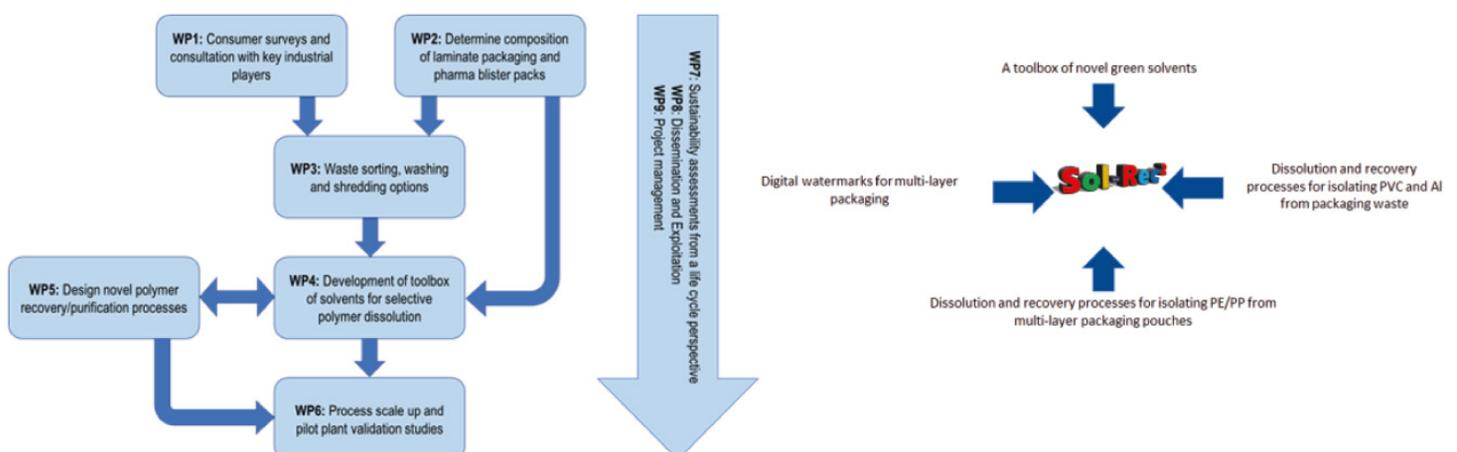
Experience from working in the field of ionic liquids will be leveraged to develop a toolbox of novel green solvent systems (TRL5) that can delaminate multi-layer packaging material and selectively dissolve target polymers – reducing demand for virgin raw materials through efficient separation and recovery of high purity PE, PP and PVC polymers and aluminium. Socioeconomic and environmental benefits of Sol-Rec2 will be established through detailed life cycle analyses.

Sol-Rec2 will deliver sustainable production of high purity polymers and aluminium – providing recyclers with a valuable income stream, minimising the environmental impact and carbon footprint associated with virgin plastics production and bauxite mining whilst also making a valuable contribution to the circular economy.



Schematic of NIR separation.

An exciting consortium of SMEs, research organisations and universities from 6 EU countries has been established, consisting of IPM2 (FR-SME), Aimplas (ES-RTO), FiliGrade (NL-SME), TWI (UK-RTO), University of Leicester (UK-UNI), Solvionic (FR-SME), Plastigram (CZ-SME) and Mikrolin (HU-SME). Partners bring a wealth of experience to the project covering plastic waste collection and sorting, digital watermarks, ionic liquids, polymer dissolution, recycling of multi-layer materials, reuse of polymers, eco-design and life cycle assessments. Generated knowledge will help to accelerate innovative recycling within Eastern Europe and reduce the complexity of multi-layer materials, leading to the design of more sustainable laminate packaging.



Coordinator



Partners



Funding

