



SOLMATE

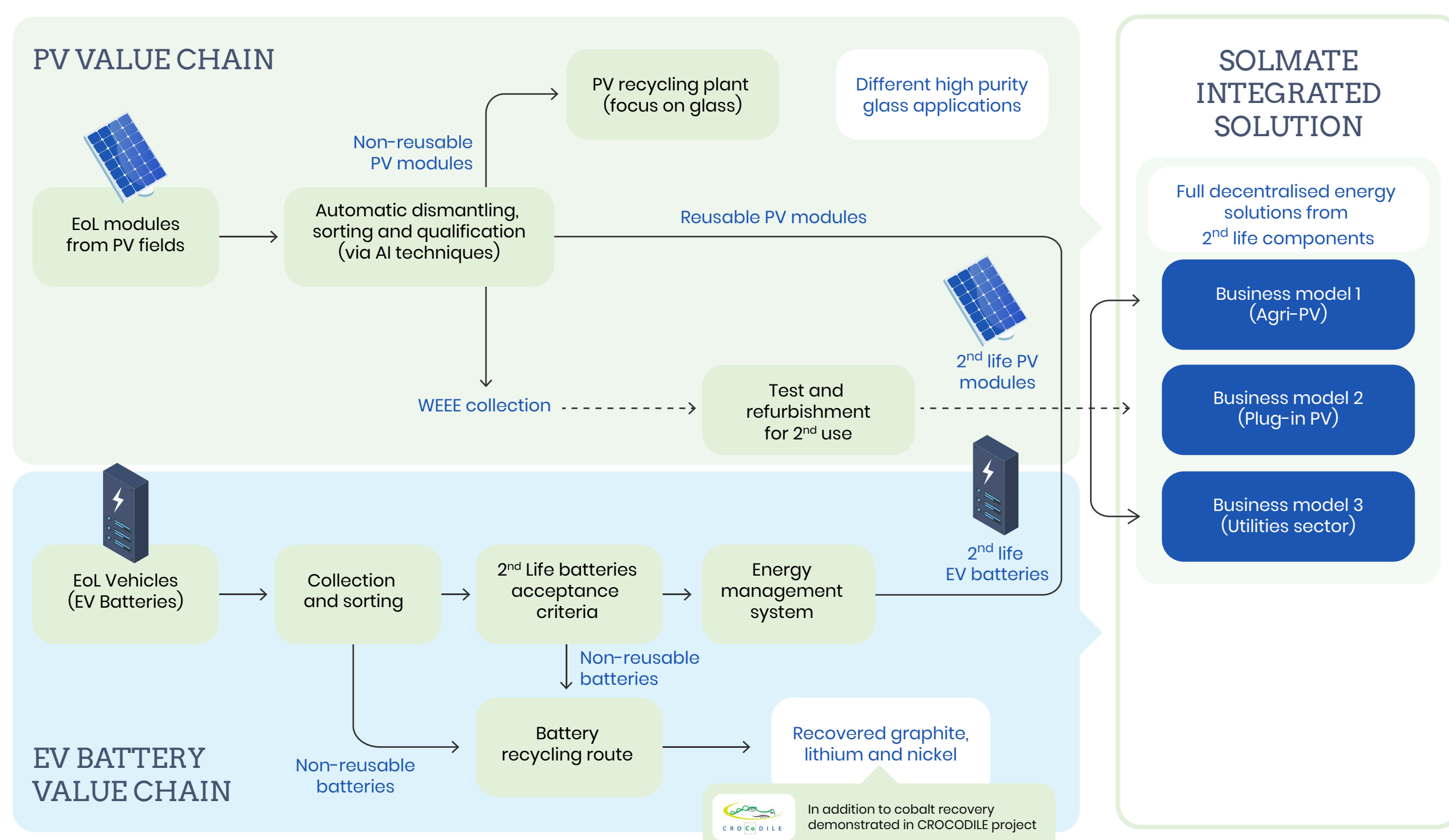
Reuse of SOLar PV Panels and EV Batteries for low-cost decentralised energy solutions and effective Recycling of critical raw MATerials from their EoL products



Concept

Reusing and recycling end-of-life EV batteries and PV modules, following the Waste Framework Directive, extends their life and ensures proper recycling, moving us closer to zero waste. SOLMATE introduces a circular approach through two core actions:

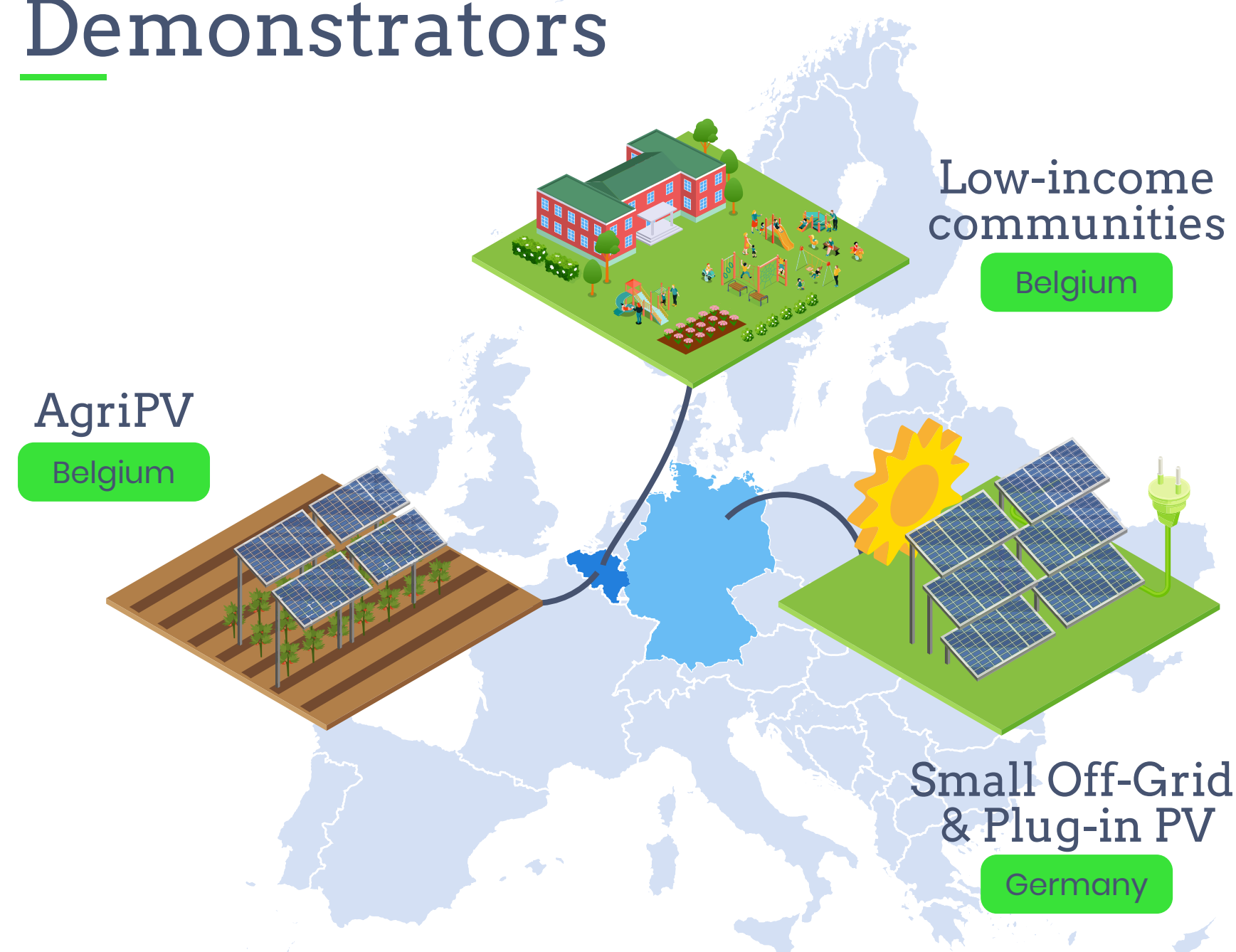
- **Extending the lifetime** of 'retired' PV panels & EV batteries
- **Resource recovery** when repurposing is not available



Which challenges will SOLMATE address?

- **Efficient sorting and characterisation of working modules**
- **Low-cost testing and qualification methodologies** (e.g., safety, performance, warranty)
- **Automatic dismantling and sorting technologies**
- **Technological gaps in sorting non-working modules** to facilitate the recycling of materials and their valorisation in high added value products
- **Low cost and reliable testing methodologies for EV batteries and energy management systems**
- **Green and economically viable recycling processes of CRMs available in batteries**

Demonstrators



Small Off-Grid & Plug-in PV

Plug-in PV systems are made for self-deployment & installation. The small systems serve to reduce the amount of electricity a household needs to buy from the grid.



CHALLENGE

Prepare 2nd life batteries for integration into off-grid products and as extensions to Plug-in PV, enabling owners to significantly increase their self-usage rates.

AgriPV

PV panels serve a dual purpose:

- a) to shield crops from wind/sun, facilitating faster growth
- b) to generate renewable energy for the use of farming sites



CHALLENGE

Prepare Agri-PV setups with a focus on seamless integration into farmer activities.

Low-income communities

Focusing on the reuse of PV panels and EV batteries, this sustainable business activity aims to provide energy solutions. The demonstrator will be installed at a school campus in Brussels, showcasing the potential of reused components.



CHALLENGE

Create a qualified, low-cost decentralised energy system utilising reused PV panels and EV batteries.



€ 7,3 Mil total budget
€ 6,1 Mil EU funding



48 months (start Jan 2024)



16 partners



From 6 countries



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