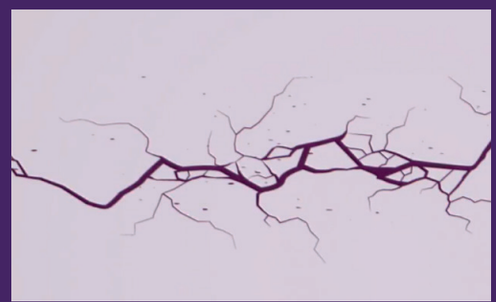
DEEP PURPLE

SELF-HEALING COMPOSITES FOR CONSTRUCTION

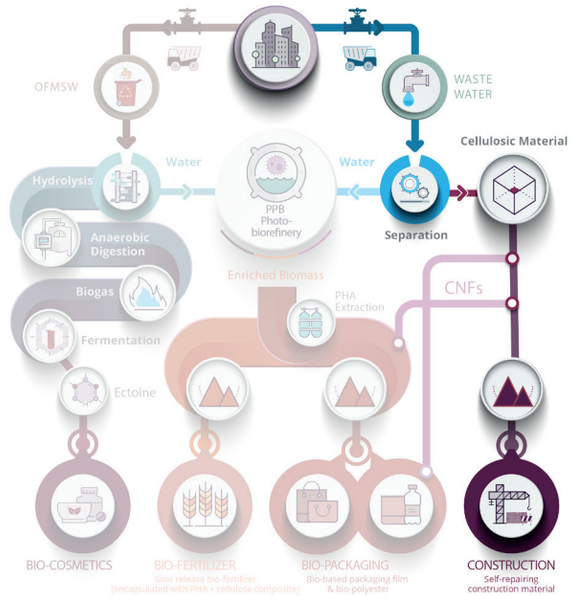
A biobased product derived with the help of PURPLE PHOTOTROPHIC BACTERIA



Challenge: Currently 75% of the up to **138 million tons of urban biowaste are incinerated and landfilled** in the EU with huge ecological and economical costs.

Opportunity: Biowaste and wastewater hold a great potential as a **source of renewable energy and recycled materials**. Wastewater contains valuable components such as cellulose and nutrients that can be used as feedstock for many breakthrough applications.

Objective: Create **high value bioproducts through a Multi-Platform Photobiorefinery** approach. Development of self-healing composites using calcium extracted from biowaste for use in construction.



Solution: Self-healing composites for construction were also produced using cellulose extracted from wastewater, which was transformed into **cellulose nanofibers (CNFs)** by ITENE. These nanofibers were employed in the production of advanced self-healing composites designed for the construction industry.

Cellulose plant

Cellulose nanofibres (CNFs)

The EU funded project **DEEP PURPLE** aims to extract valuable resources from urban waste like the organic fraction of municipal solid waste, as well as wastewater and sewage sludge using a Multi-Platform Biorefinery centred around the integration of **Purple Phototrophic Bacteria**, focuses on recovering high value compounds for use in the bio-based industry. Learn more about the project at https://deep-purple.eu/

Bio-based Industries Consortium

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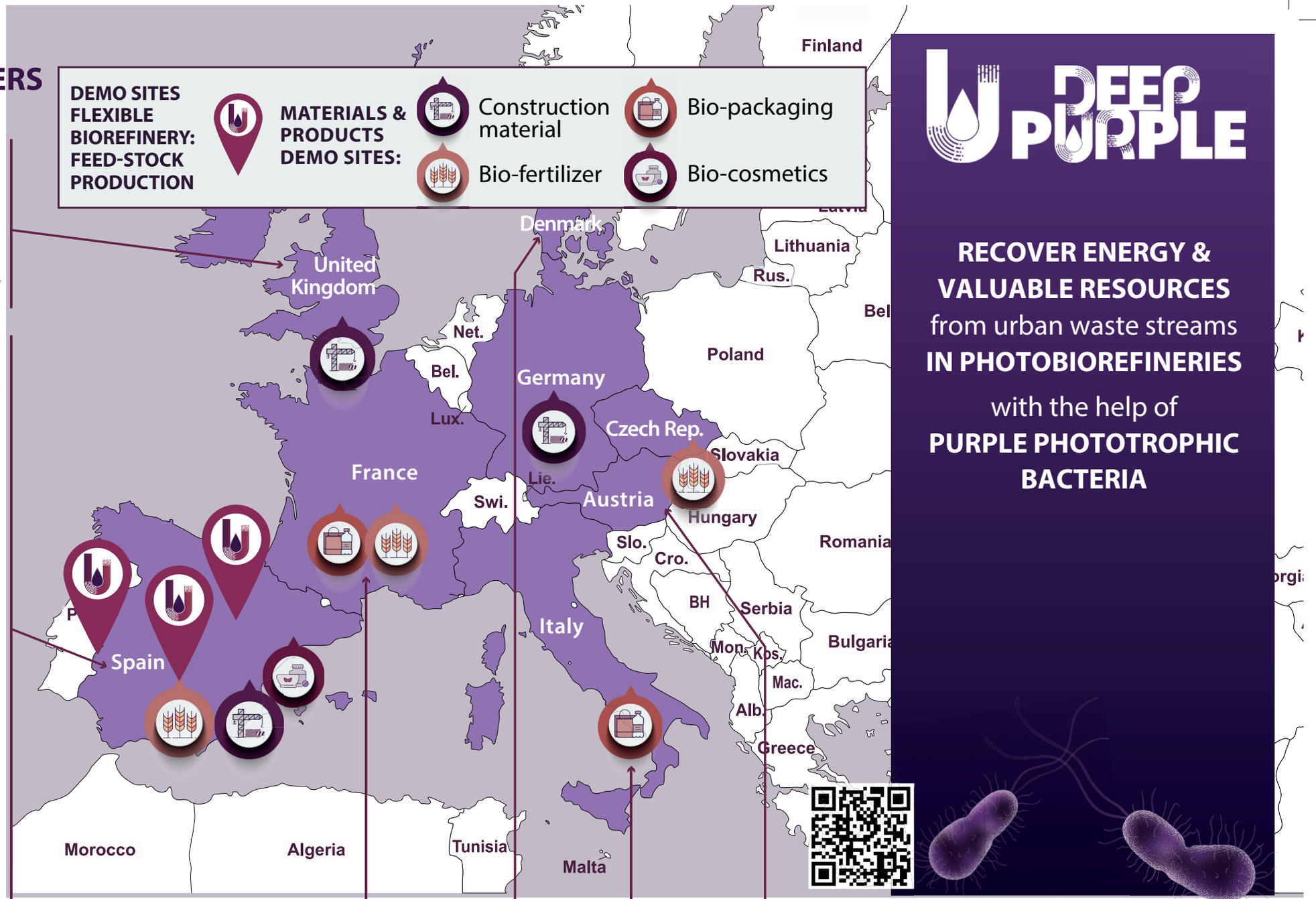

DEEP PURPLE

RECOVER ENERGY & VALUABLE RESOURCES
from urban waste streams
IN PHOTOBIOREFINERIES
with the help of
PURPLE PHOTOTROPHIC BACTERIA

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