

DEEP PURPLE



SLOW-RELEASE BIO-FERTILISER

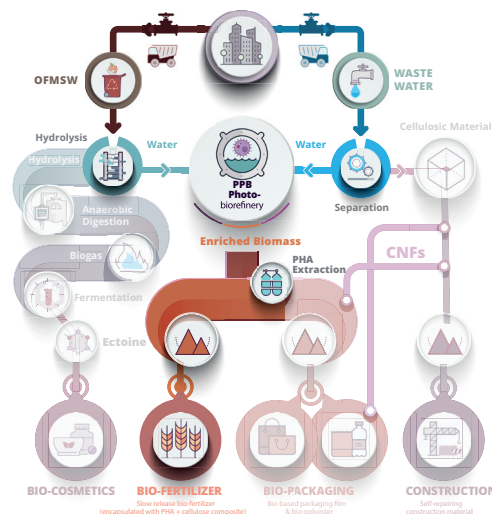
A biobased product derived with the help of PURPLE PHOTOTROPHIC BACTERIA



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. Develop a biofertiliser releasing nutrients slowly to the soil.



Solution: This **slow-release pellet bio-fertiliser** with a new biobased coating and recycled nutrients was developed by DEEP PURPLE at the All-RG plant in Saint-Malo, France. This fertiliser is made from

- **Enriched biomass** from the Biomass Platform and
- **Biodegradable PHA/CNF** coating from the Biomass Platform and
- **Cellulose** from the Cellulose Platforms.

It utilises polymeric semi-permeable coatings to encapsulate nutrients and release them as needed by plants. **The result is an eco-friendly and agronomically focused fertiliser**, dedicated to organic farming.



Anaerobic photobioreactors and Linares WWTP

ACTIVATEC and ITENE played key roles in **extracting PHA and developing the coating**. All-RG **successfully produced and tested** the slow-release fertiliser at an industrial pilot plant and later at a demo level, with **plans to expand** its implementation to various locations in Europe.

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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PARTNERS



**DEMO SITES
FLEXIBLE
BIOREFINERY:
FEED-STOCK
PRODUCTION**



**MATERIALS &
PRODUCTS
DEMO SITES:**



Construction
material



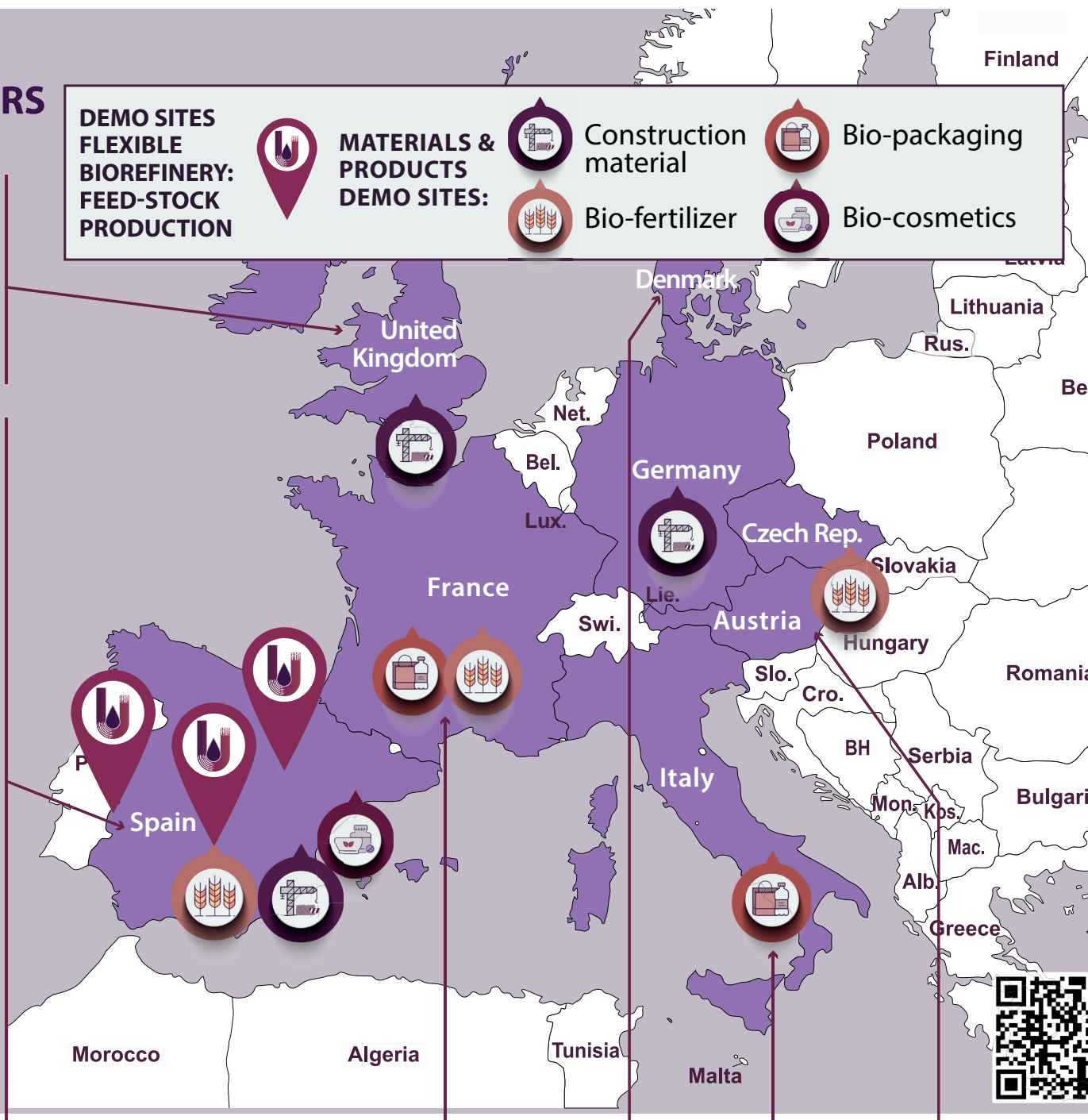
Bio-fertilizer



Bio-packaging
material



Bio-cosmetics



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



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