



SPORE-MED

- PRIMA programme supported by European Union

Sustainable uPgraded wastewater treatment plants for resOource recovery, water Reuse and hEalth surveillance in the MEDiterranean region



Third General Assembly & Scientific Board Meeting/ May 14-15, 2025/ Mohammed VI Polytechnic University (Morocco)

According to the UN by 2022, only 58% of global household (domestic) wastewater flows were safely treated. However, significant disparities are found across Sustainable Development Goals (SDG) regions, with rates ranging from 25% to 80%. These findings highlight the uneven progress in sanitation made globally and underscore the pressing need to build more wastewater treatment plants (WWTPs). Moreover, the longevity of many assets and the challenges posed by climate change, water scarcity, increasing population, soaring energy prices and risks associated with emerging pollutants, make it urgent to upgrade WWTPs with more sustainable technologies that are not only able to treat WW but also provide us with valuable resources, goods and services. This is especially relevant in the Mediterranean region, affected by climate change and water scarcity more severely than the world average.

Adopting sustainable WW treatment practices is a vital step towards mitigating these challenges and fostering the principles of a circular blue economy, ecosystem resilience, and economic growth.

SPORE-MED aims to enhance the environmental, economic and societal sustainability of WWTPs by developing and upscaling a combined set of innovative water treatment and resource recovery technologies, sensors, online measurement devices, sustainable agricultural practices, and health surveillance protocols. At the core of the **SPORE-MED**, there is a holistic approach: we consider that the WWTPs of tomorrow will have to deal concomitantly with the complexity of the water- energy-food-health nexus, while addressing

the challenges posed by the Mediterranean region, including addressing water scarcity, pollution, desertification, and reliance on external fossil resources. This overarching goal is broken down into different sub-objectives to close manage energy and nutrients, boost digital transformation, remove emerging organic pollutants, provide WW-based health surveillance systems, take advantage of water and nutrients in agriculture, assess sustainability and lay the foundations for project outcomes commercialisation.

With these objectives in mind, **SPORE-MED** kicked off in June 2024 and will run for 36 months under the coordination of the Laboratory of Chemical and Environmental Engineering (LEQUIA; <https://lequia-udg.com/>) a research group of the University of Girona. As **SPORE-MED** marks the end of its first year, the consortium gathered at Mohammed VI Polytechnic University in Morocco this month to hold the third General Assembly and Scientific Board Meeting, celebrating the key milestones from the project's first year in:

- Ongoing PROGRAMOX[®] construction and installation of two struvite precipitation pilot units. for sustainable water treatment and circular nutrient management. The LMBR and Nanobubble pilot plants are fully operational for trace pharmaceutical products and micro-plastics removal.
- Development of nutrient and microbiological content monitoring prototypes.
- Agronomic follow-up: crop trials using varied soils, compost, and irrigation sources.
- Finalized public health and environmental monitoring protocols.
- Ongoing eco-design study and promising early results from the Life Cycle Assessment (LCA) of PROGRAMOX[®].



Agronomic trials (UM6P) / Nanobubble system at WWTP (TUC)



PROGRAMOX[®] installation (GS Inima)

SPORE-MED will continue to encompass a series of actions focused on the development of technologies to address challenges related to water scarcity, food security and sustainable agriculture in Mediterranean countries. Stay connected and follow our journey on social media for the latest updates and breakthroughs:



<https://lequia-udg.com/spore-med.eu/>



<https://www.linkedin.com/company/spore-med/posts/?feedView=all&viewAsMember=true>



<https://web-cdn.bsky.app/profile/spore-med.bsky.social>

SPORE-MED consortium consists of 9 partner organizations: