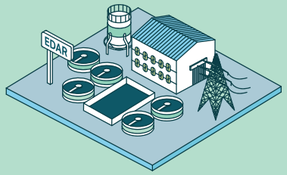
Objective.

The LIFE EMPORE project will demonstrate an innovative, cost-efficient and highly replicable technology for the removal of Emerging Pollutants from European urban wastewater. For this purpose, a pilot plant is due to be designed and it will be integrated into the WWTP of Benidorm (Spain). The prototype, which is mobile, will have a treatment capacity up to 5 m^3 /h. It will consist of four principal processing units: filtration/adsorption by columns, filtration by membrane technology, Electrochemical Advanced Oxidation Processes (EAOPs) and Advanced Oxidation Processes (AOPs).

The location chosen for this project is Benidorm (Alicante, Comunidad Valenciana), one of Spain's main tourist destinations.

The proposed methodology will be validated at the Benidorm WWTP .



The results will then be relayed to other European regions with similar problems.

Partners.

General Valenciana · EPSAR Entitat de Sanejament d'Aigües

CONSOMAR, s.a. ingenieros consultores

Laboratorios Tecnológicos de Levante

Universitat d'Alacant Universidad de Alicante

IHE DELFT

AIDIMME Instituto Tecnológico — Metalmecánico, Mueble, Madera, Embalaje y Afines

Project duration.

01/09/2016-31/08/2019.

Budget.

1,783,824 Euro.

Co-financed by Life programme.

EMPORE (ref. LIFE15 ENV/ES/000598) is co-financied by LIFE+2015 Call. The LIFE Programme is the EU's funding instrument for the environment and climate action.

LIFE15 ENV/ES/000598

www.life-empore.org

By Pixelarte

LIFE EMPORE

Life is water.

LIFE15 ENV/ES/000598

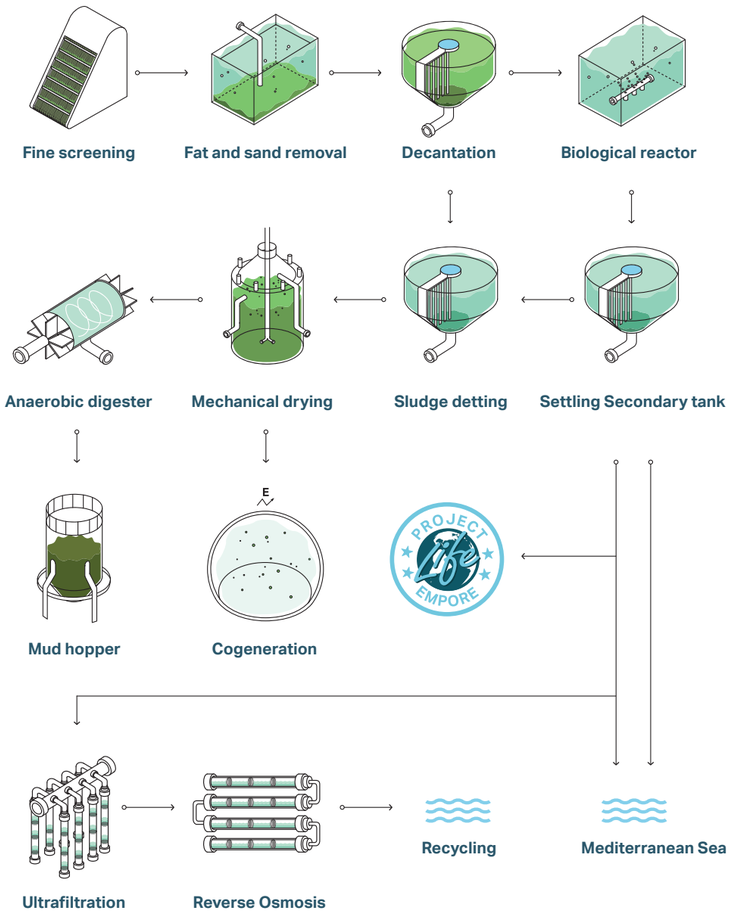
Background.

The implementation of the Water Framework Directive raises a number of shared technical challenges for Member States, which need to be addressed to help meet the Directive's objective of achieving good ecological status for every water body in Europe. Water is polluted by a myriad of chemicals from the daily activities of industries, agriculture and households. Many of these chemicals are not traditionally considered as pollutants, but are being discovered in water sometimes at higher levels than expected. These chemicals, whose effects on the environment and human health are unknown, are often without regulatory status. They are generally referred to as emerging pollutants (EPs), and are of particular risk due to their permanent discharge.

Although EPs are suspected of causing adverse effects in humans and wildlife (e.g. endocrine disruption), only 45 of them are regulated under Directive 2013/39/EC. At present, wastewater treatment plants (WWTPs) are not designed to treat EPs and so they are not removed or altered before reaching aquatic habitats – where they can potentially affect wildlife or be introduced into food chains with associated health effects.

Target results.

Benidorm WWTP and EMPORE concept.



EMPORE concept.

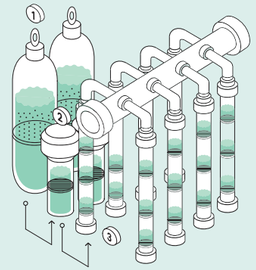
PROJECT Life EMPORE

LEVEL 1
Filtration + Ultrafiltration.

LEVEL 2
Reverse osmosis. +
Advanced Oxidation Processes (AOPs)

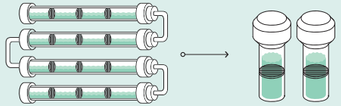
LEVEL 3.
Electrochemical Advanced Oxidation Processes (EAOPs)

LEVEL 1
Filtration + Ultrafiltration.

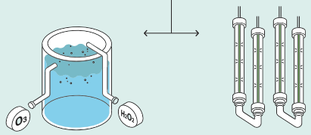


1. Glass filters.
2. Net filters.
3. Ultrafiltration membranes.

LEVEL 2
Reverse Osmosis +
Advanced Oxidation Processes (AOPs)



1. Reverse Osmosis.
2. Activated Carbon filter.



A. Chemical.
B. Ultraviolet.

LEVEL 3.
Electrochemical Advanced Oxidation Processes (EAOPs)