Fact Sheet
Lighthouse Project

First application and market introduction of combined wastewater treatment and reuse technology for agricultural purposes.

Acronym RichWater

Description
RichWater project has developed a compact and integrated technology for water reuse in agriculture. The solution combines an energy efficient MBR for water treatment, an advanced module for mixing the optimal fertigation and an a monitoring/control module including soil sensors to guarantee demand-driven and pathogen-free fertigation. Its application results in more eco-friendly use of water resources, cost savings for freshwater and fertilizer and the possibility for commercial food producers to adjust the fertigation unit by using a mixture of fresh and reclaimed water with optimal application of nutrients.

Figures and facts
Technology verified under ETV programme certifying the completion of Spanish legal standards for water reuse in agriculture. Results of agronomic studies confirm that crop production and yield have been demonstrated to be equivalent using treated wastewater and clear water. Use of alternative water source for irrigation allows to safe valuable water resources (e.g. aquifers). RichWater has proved to be a safe technology for wastewater reuse in agriculture due to its low values of pathogens in water and fruit. The use of wastewater reduced the needs of additional fertilizer.

Legal & Institutional Framework
As announced in its 2015 circular economy action plan, the European Commission put forward on 28 May 2018 a legislative proposal setting minimum requirements for reused water. This regulation is yet to be approved. Currently, only some member states have specific regulations on water reuse. In Spain, the legal framework for the use of reclaimed water is regulated by the Royal Decree 1620/2007.
**Water Reclamation**


**Water distribution**

A pumping station distributes the reclaimed water from a reservoir tank placed at the MBR plant. The distribution network is made of PVC pipes. Reclaimed water is further storaged in 7500 liters plastic tanks and there the nutrients contents are adapted so the final nutritive solution is distributed to PVC irrigation network.

**Irrigation method**

The irrigation method consisted in drip irrigation to permanent crops (Fruit trees and berry plantation). RichWater includes an innovative nutrient dosage software to calculate the fertilizer needs based on nutrient content in the reclaimed water and therefore avoid excess of nutrient supply.
**Public Information**
The dissemination strategy of RichWater has been focused on the final commercialization of the technology. Dissemination activities: Video translated to both English and Spanish. Link to the video: https://www.youtube.com/watch?v=SAX1Qgj883c. Creation of a webpage: https://richwater.eu/ Dissemination materials: Flyers and publications in different books, journals and scientific articles.

**Impact for Farmers**
Availability of a constant water resource in dry seasons or periods of draughts
Nutrients within the reclaimed water cover 72%, 65% and 46% of the needs of N, P, K respectively

**Costs Structure**
Project funded by European Union’s Horizon 2020 (2,083,866.20 € for two years technology test).

**Stakeholder Involvement & Funding**
Funding: Horizon 2020 - Fast track to innovation Partners: BIOAZUL S.L., ISITEC GMBH, SOIL MOISTURE SENSE LTD, TECHNOLOGIE TRANSFER ZENTRUM BREMERHAVEN, CSIC-IHSM LA MAYORA, PESSL. Stakeholders Involved: City Council And Regional Authorities Of "Mancomunidad De Municipios De La Axarquía"; Axaragua: Public-Private Partnership Managing The Municipal Plant. Farmers: Community Of Irrigators Of Algarrobo, with a Total Irrigated Area of 757 Ha and includes 547 farmers

**Capacity Building**
RichWater consortium organized 3 workshops with target stakeholders to present the project results as well as field visits to the demonstration site.

**SUWANU EUROPE** is a H2020 project aiming to promote the effective exchange of knowledge, experience and skills among practitioners and relevant actors on the use of reclaimed water in agriculture. This factsheet is part of a total of 8 factsheets that describe lighthouse projects in the 8 regions of the project in order to learn and boost implementation of solutions adapted to the European context. Our ultimate goal is to enhance acceptance and awareness to an alternative source of an increasingly scarce resource, water.

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