ECO-FRIENDLY CERAMIC MEMBRANE BIOREACTOR (MBR) BASED ON RECYCLED AGRICULTURAL AND INDUSTRIAL WASTES FOR WASTE WATER REUSE

Fact Sheet

Project Information

REMEB
Grant agreement ID: 641998

Project website

Start date
1 September 2015

End date
31 August 2018

Funded under
H2020-EU.3.5.4.

Overall budget
€ 2 361 622,50

EU contribution
€ 1 869 853,88

Coordinated by
SOCIEDAD DE FOMENTO AGRICOLA CASTELLONENSE, S.A.
Spain

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Objective

The main objectives of the REMEB project are the implementation and validation of a low-cost ceramic membrane bioreactor (MBR) in a Waste Water Treatment Plant (WWTP), the study of the impact and replication of the technology for the reuse of the water in regions with water scarcity and the industrial sector, and finally, the definition of a proper business plan to start the commercialization of the technology, once the project will be finished.

The low cost recycled ceramic membranes of the project are based on residues obtained in agricultural and industrial processes (sub-products), such as olive oil solid wastes, marble working wastes and chamotte from fired scrap, in addition to the typical raw materials used in the ceramic tile industry. The project aims to achieve several specific objectives: valorization of wastes from different agricultural or industrial processes, manufacturing of an innovative product using recycled materials, validation of a new MBR with a lower initial and running costs by using low cost ceramic membranes and comparison between REMEB MBR and the MBR in operation in the WWTP selected for the validation.

Replication of both, manufacturing and validation tasks, is assured by repeating the processes in the facilities of some participants. Manufacturing membrane replicability will be performed in Turkey and Italy. The replication study of the MBR implementation in the urban and industrial wastewater sector will be performed in Colombia and nearby countries, Cyprus and nearby countries and Europe. Furthermore, evaluation of the environmental impact of product and process will be carried out by the method of LCA. Finally, a marketing and dissemination plan of the technology will be done by the entire consortium.

It is expected that this technology would be implemented massively, principally due to the low cost of REMEB MBR (3.5 times lower than a MBR of organic membranes and 2.5 times lower than a ceramic MBR).

Field of science

/engineering and technology/environmental biotechnology/bioremediation/bioreactor
Programme(s)

Call for proposal

H2020-WATER-2014-two-stage

Funding Scheme

IA - Innovation action

Coordinator

SOCIEDAD DE FOMENTO AGRICOLA CASTELLONENSE, S.A.

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Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
€ 349 731,38

Contact the organisation

Participants (11)

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Activity type
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EU contribution
€ 85 548,75

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EU contribution
SERAMIK ARASTIRMA MERKEZI AS

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<tr>
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<th>Country</th>
<th>EU Contribution</th>
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<td>€ 0</td>
<td>Avenida Hermanos Bou 79 12003 Castellón</td>
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<tr>
<td>UNIVERSIDAD ANTONIO NARINO</td>
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<td>€ 81,768,75</td>
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<td>Plaza Juan Xxii Edificio C 1A Planta Consejeria De Agricultura Y Agua 30008 Murcia</td>
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IMECA PROCESS
France
EU contribution
€ 263 375
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CONSEJO DE CAMARAS OFICIALES DE COMERCIO, INDUSTRIA Y NAVIGACION DE LA COMUNIDAD VALENCIANA
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