

iMET land

Project reference: 642190

Funded under: H2020-EU.3.5.4.

iMETland: A new generation of Microbial Electrochemical Wetland for effective decentralized wastewater treatment

From 2015-09-01 **to** 2018-09-01, ongoing project

Project details

Total cost: EUR 3 461 622,5	Topic(s): WATER-1a-2014 - First application and market replication
EU contribution: EUR 2 924 810,25	Call for proposal: H2020-WATER-2014-two-stage
Coordinated in: Spain	Funding scheme: IA - Innovation action

Objective

iMETland project aims to construct and validate a full-scale application of a eco-friendly device to treat urban wastewater from small communities at zero-energy operation cost. Our concept comes from the integration of Microbial Electrochemical Technologies (MET) with the biofilters used in constructed wetlands. iMETland outperforms classical biofilters from constructed wetlands by using electroactive bacteria in combination with a innovative electroconductive material to achieve depuration rates that are 10-fold higher than classical techniques. On top of that, the low biomass yield generated under electrogenic conditions avoids any bed colmatation. Wastewater will be also converted into pathogen-free water suitable for irrigation by using an electro-oxidative methodology. Furthermore, the unique conversion of sewage treatment into electric current by electricity-producing bacteria makes such a process an internal reporter of the biological depuration process. So thus, it can be used as output signal to control the process and can easily inform the operator through ICT tools, converting the depuration in an interactive process between device and a smart-phone in end-user's hands.

iMETland try to fill the gap that was sharply identified by the programme topic: WATER-1-2014/2015: Bridging the gap: from innovative water solutions to market replication. Our solution has already passed both research and pilot scale and is ready to try a full-scale demonstration to accelerate the market uptake. The multidisciplinary nature of iMETland makes it to fit well with the "water and wastewater treatment" priority of the EIP-water. Moreover, the coordinator of iMETland consortium is also the Technical Manager of a recent ACTION GROUP at EIP-WATER called " MEET-ME4WATER, Meeting Microbial Electrochemistry for Water". This AG focuses on overcoming the barriers to scaling up and demonstrate microbial electrochemical technologies (METs) and bring them faster to the market.

Coordinator

FUNDACION IMDEA AGUA
Spain

Spain

EU contribution: EUR 702 500

Participants

AQUA-CONSULT INGENIEROS, S.L. Spain	Spain EU contribution: EUR 181 737,5
FUNDACION CENTRO DE LAS NUEVAS TECNOLOGIAS DEL AGUA Spain	Spain EU contribution: EUR 413 250
ASTON UNIVERSITY United Kingdom	United Kingdom EU contribution: EUR 295 315
KILIAN WATER APS Denmark	Denmark EU contribution: EUR 173 570,25
PRICEWATERHOUSECOOPERS ASESORES DENEGOCIOS SL Spain	Spain EU contribution: EUR 195 387,5
INSTITUTO DE INVESTIGACIONES EN CIENCIA Y TECNOLOGIA DE MATERIALES Argentina	Argentina EU contribution: EUR 272 175
YOURIS.COM Belgium	Belgium EU contribution: EUR 174 375
INSTITUTO MEXICANO DE TECNOLOGIA DEL AGUA Mexico	Mexico EU contribution: EUR 0
AARHUS UNIVERSITET Denmark	Denmark EU contribution: EUR 331 875
PIROECO BIOENERGY SL Spain	Spain EU contribution: EUR 184 625

Last updated on 2015-06-02

Retrieved on 2016-02-05

Permalink: http://cordis.europa.eu/project/rcn/196823_en.html

© European Union, 2016