



## R&D Partner Request

Diffusion	International
Title	EUROSTARS Project: SME specialised in the development of ultrasounds cleaning systems for the prevention of biofouling in membrane water treatment facilities
Reference	55485
International Ref.	RDES20170518001
Deadline	24-05-2018
Abstract	A Spanish SME specialised in the development and maintenance of water and wastewater systems is looking for partners for a Eurostars proposal. The objective is the development of an automated system based on ultrasounds for the prevention of biofouling in membrane water treatment (MBR) facilities. The SME is looking for a technology based SME specialised in the development of ultrasound cleaning systems.
Description	<p>A Spanish SME is specialized in the development and maintenance of water and wastewater systems. They have wide experience in different technologies (MBR, active sludge, anaerobic processes, etc.) and have carried out several international R&amp;D projects. Their products are not only commercialized in Spain but also in other countries, including Latin America. The company is willing to find a solution for the prevention of biofouling in MBR facilities.</p> <p>The MBR (Membrane Water Treatment) is a suspended growth-activated sludge system which combines the use of biological processes and membrane technology to treat wastewater and provide organic and suspended solids removal instead of secondary clarifiers.</p> <p>According to the report "Membrane Bioreactor Systems Market by Types [Hollow Fibre, Flat Sheet, Multi Tubular], Configuration [Internal (Submerged/Immersed) &amp; External (Side stream)] &amp; Applications [Municipal &amp; Industrial Wastewater Treatment] ? Trends &amp; Forecasts To 2017?", MBR market was worth an estimated \$838.2 million in 2008. This value is expected to increase at a Compound Annual Growth Rate of 22.4% up to \$3.44 billion during the period from 2012-2018.</p> <p>However, there are several technical and/or economic issues where the process needs to be significantly improved in order to achieve a larger market presence. One of the most important limitations is "fouling" or membrane clogging, a major problem in membrane filtration processes and a key factor for determining their practical application in water and wastewater treatments in terms of technology and economics. Biofouling can have several adverse effects on membrane systems such as membrane flux decline, membrane biodegradation and increased energy consumption, among others.</p> <p>Some studies suggest that the strategies that work best are preventive strategies that not only avoid the formation of biofouling but also prevent the generation of problems such as sealing, breakdowns, and other failures.</p> <p>The company is preparing a project proposal for the EUROSTARS programme. The proposal, ULTRACLEAN, will develop an automated system based on ultrasounds for the prevention of biofouling in MBR facilities. It will facilitate its integration in treatment plants and will also comprise a monitoring module to detect biofilm growth. The new system will allow a reduction in energy consumption for MBR wastewater treatment of 25-35%.</p> <p>The company is looking for EU SMEs interested in participating in a 2-year Eurostars project. The SMEs should have expertise in industrial ultrasound systems. The SMEs should be able to develop an ultrasonic cleaning system for wastewater treatment systems based in MBR technology.</p> <p>The call deadline is 14th September 2017.</p> <p>The company will receive expressions of interest until the 15th August 2017.</p>
Innovative Aspects and Main offer advantages	<ul style="list-style-type: none"><li>- Fully automated and integrated equipment</li><li>- Significant reduction in energy consumption in wastewater treatment facilities (25-35%)</li><li>- Increase in treatment efficiency and membrane duration</li><li>- No need of chemicals products for MBR cleaning</li><li>- Lower costs</li></ul>
Current Stage of Development	Proposal under development

Development phase comments

Industrial Property Rights comments

Type of partner sought

SMEs with expertise in the following fields:  
- Ultrasonic system design and development  
- Industrial equipment integration  
- Tailored solutions in ultrasounds

Specific area of activity of the partner

Type of partner sought: SME  
Specific area of activity of the partner: Industrial ultrasound systems.  
Task to be performed: Development of an ultrasonic cleaning system for wastewater treatment systems based in MBR technology.  
Previous experience with international projects is not compulsory but it would be a valuable positive aspect.

Task to be performed