

Project acronym - Project title

MICRO WATTS - Micro WAstewaTer Treatment System using Photocatalytic Surfaces

Programme Priority Axis	1 Promoting the smart and sustainable growth through research and innovation
Programme Investment Priority	1b Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation, and supporting technological and applied research, pilot lines, early product validation actions, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.
Investment Priority Specific Object	 1.1 Enhance the activities of innovation and research to improve the quality of life and the utilization of the cultural heritage

Project Lead Partner

University of Malta - Department of Metallurgy and Materials Engineering

Project Partners

Partner 2	Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi
Partner 3	Malta College of Arts, Science and Technology
Partner 4	Università degli Studi di Catania - Dept. Biological Geological Environmental Sciences
Partner 6	Econetique Ltd
Partner 7	Plastica Alfa srl

Project duration (months)	Start date	End date
41	15.05.2018	14.10.2021

Project summary

MICROWATTS addresses the problem of water scarcities that characterize both Sicily and Malta and that can be tackled and solved through highly technological and eco-friendly solutions related to water recycling.

The project involves the development of a micro-structured system for water treatment, with the aim of converting gray water into water at the second degree of purity.

In a first phase a series of polymers and surfaces with photocatalytic potential will be identified. Test samples will then be synthesized and characterized by periodically testing their photocatalytic effectiveness, in order to assess their decontamination capacity. The materials that will present the best performances will be installed in pilot solar absorbers and will be tested in the field for six months through bacteriological tests on the treated water.

At the same time, two autonomous solar water micro-systems for water treatment will be designed and built, suitable for use in a typical domestic residence or in small-scale industrial realities to improve the quality of life and promote efficient use of resources. .

Project results

10 enterprises in Malta and Sicily installing the technology, namely the photocatalytic filtering system (PFS) developed at cross-border level

Project outputs

<ul style="list-style-type: none"> ✓ 1 photocatalytic surface area, mineral and polymer based ✓ 6 Solar Collector Units ✓ 2 Innovative greywater treatment systems 	<ul style="list-style-type: none"> ✓ 9 Sicilian researchers involved in mobility actions to widen their knowledge in mechanical design, control systems and electronics ✓ 40 selected enterprises in Malta and Sicily receiving dedicated advice on eco-innovative water treatment system
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Budget	ERDF Contribution	National Contribution	Additional Co-Financing
€ 2.415.048	€ 1.984.012	€ 431.036	€ 0

Contacts	Social Media	Web site
rector@um.edu.mt	facebook:microwatts.water/	https://microwatts-water.com/