

Project Framework

Around 80% from wastewater treatment plants in the EU have secondary treatment processes using activated sludge. Municipal sewage plants rely on the efficient and continuous processing of effluents to avoid the release of untreated wastewater and subsequent environmental and public health threats. Uncontrolled spills containing harmful substances can damage the biological units, since an increase in the toxic load of urban wastewater reduces the cleaning capacity of the bacterial culture. Such harmful increases come from uncontrolled discharges with excess toxic loads and can be seasonal. Consequently, untreated water can be released, contributing to the loss of biological diversity and degradation of water resources.

When a treatment plant operator detects that the organic or nutrient removal performance is decreasing, most of the biomass has already been damaged. The usual procedure to resume normal activity consists of increasing the air supply to the bioreactor. Considering that aeration systems can represent around 50-70% of the total energy consumption of a WWTP, an increment in energy requirements in the biological process will lead to a considerable increase in the overall energy consumption at WWTPs.

In this context, the general objective of this project is to demonstrate that the proposed tools can reduce the environmental impact of failures and malfunctions of biological units after spills.

BACTIWATER is an EU financed project in the framework of the Life Program, which is the EU's financial instrument supporting environmental and nature conservation projects throughout the EU.



**WWTP Quart Benàger
Valencia (SPAIN)**



**Start: 01.09.2017
End: 28.02.2020**

Partners

Coordinator:

GLOBAL OMNIUM MEDIOAMBIENTE S.A.



global omnium

Partners:

AGUAS DE VALENCIA, S.A.



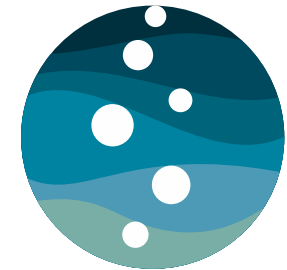
global omnium
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BIOPOLIS, S.L.



Tailor-made **Biotechnology**

LIFESEQUENCING S.L.



bactiwater

An environmental
cost-effective activation
treatment for biological
failures in WWTP



LIFE BACTIWATER
Project LIFE16 ENV/ES/000390

Budget: 1.141.570 €
EU Contribution: 684.940 € (60% total budget)

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Main Specific objectives

1

Environmental protection from waste water discharges (compliance with the Directive 91/271 / EEC)

2

Economic and environmental evaluation of the project results

3

Validation of an early-detection diagnostic kit for biological malfunctions

4

European Target: 20% increase in energy efficiency in 2020

5

Protection of community waters

6

Sustainability and transferability of the solutions



Actions

Preparatory Actions

A1. Spill database and historical analysis

Implementation Actions

B1. Demonstration plant adaptation and commissioning

B2. Manufacturing of microbial enhancers

B3. Demo scale trials

B4. Implementation of early detection protocol

B5. Business plan

Monitoring of project actions impact

C1. Environmental and economical feasibility

C2. Monitoring and measuring LIFE Performance Indicators

Dissemination and Communication of results

D1. Dissemination planning and execution

Project Management

E1. Project Management Planning

E2. Overall Project Management

E3. After LIFE Planning

Expected results



Obtaining a corrective biological failures treatment in WWTPs based on bacteria and growth enhancers



Development of an early-detection diagnostic kit for biological malfunctions



Establishment of preventive and corrective protocols to cope with biological failures in WWTPs



20-22% reduction of process recovery energy consumption



A 20% biological failures anticipation: in case of expected spills



Improvement of nitrification process in WWTPs



Dissemination and transfer of project results