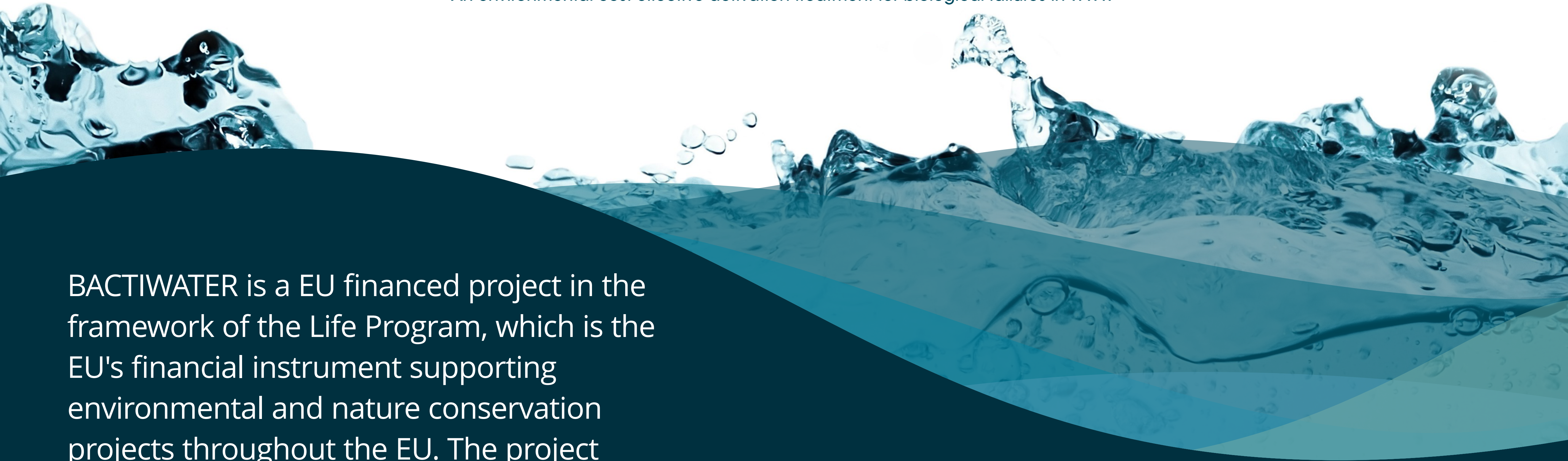




bactiwater

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



BACTIWATER is a 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. The project duration is 30 months and it will be located in the WWTP Quart-Benàger, Valencia (Spain).

Project Framework

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 and consequently, untreated water is released, contributing to the loss of biological diversity and degradation of water resources.



Main objectives

This project aims to demonstrate that microbial growth enhancers can reduce the environmental impact of failures and malfunctions of biological units after spills. It will be taken into account the Environmental protection from waste water discharges and compliance with Directive 91/271/EEC, as well as the European Target of 20% increase in energy efficiency in 2020.

Methodology

An inoculation of bacteria into the biological process will be performed to recover the microbiome of a demo plant after 4 toxic spills. The selected microbial cultures and growth media will be used during the project trials to promote the fast growth and recovery of the target microbial communities. In order to improve the growth of bacteria responsible for nitrification and denitrification, some enhancers or nutrition media will be considered. They will be added to the medium at laboratory scale and will increase the biological population growth. Natural sources will be considered as enhancers.

Expected results

The main expected results after the trial-phase of the project are



Obtaining a corrective biological failures treatment in WWTP based on bacteria and nutrients



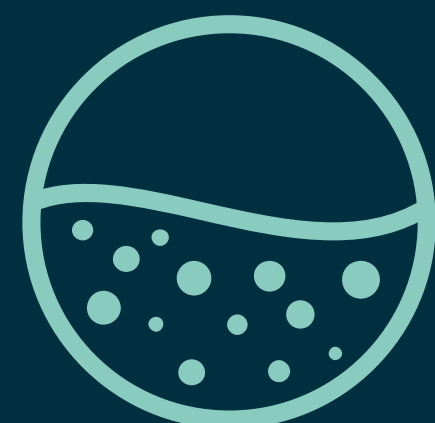
Development of an Early-detection diagnostic kit for biological failures in WWTPs based on the use of novel "omic" tools



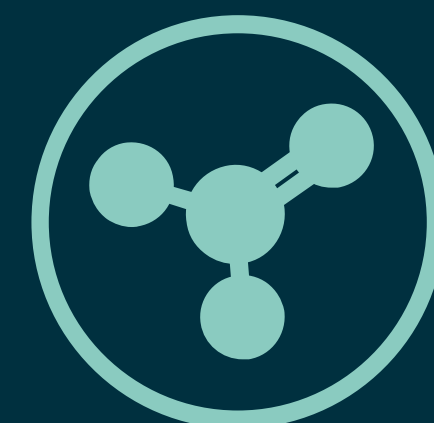
To establish preventive and corrective protocols to cope with biological failures in WWTPs



Reduction of process recovery energy consumption: 20-22%



A 20% biological failures anticipation: In case of expected pollutant events



Improvement of nitrification process in WWTPs



Dissemination and project results transfer

Project partners



LIFE16 ENV/ES/000390