

## ALGATEC II

ALGATEC II is a demonstration activity based on the promising results of the FP7-SME-2008 ALGATEC project (contract n° 232331). During the ALGATEC project, both the lab and field-scale experiments proved a system to treat olive washing water (WW) was efficient in removing the pollution load and in producing water of drinking quality that could be reused in the process.

Five European SMEs, from 3 EU countries, 4 partners of the ALGATEC project, together with a new SME specialised in market studies, will work in the optimisation of the innovative and easy to operate and maintain system developed in ALGATEC, based on: a photobioreactor (PBR), a micro-algae consortium and a membrane module system by implementing improvements in the pilot plant located in Spain, in order to improve the capacity and efficiency of the system, and therefore reducing its cost.

All these measures will lead ALGATEC II system to become more competitive in the market, and that would mean the opening of new market opportunities for its commercialization and for the participating SMEs.

[www.algatec2.eu](http://www.algatec2.eu)

## ALGATEC II

is managed by an experienced team of partners:



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## ALGATEC II

### Optimisation of the biotechnological recycling solution for olive washing water

Grant Agreement n° 315469  
[www.algatec2.eu](http://www.algatec2.eu)



Supported by the European Commission under the Seventh Framework Programme (FP7 2007 - 2013)

## ALGATEC II OBJECTIVES

- To provide an affordable technical solution for reducing the consumption of drinkable water in the olives washing process by 90% and increasing the overall water efficiency of the process by 80% based on the solution developed in ALGATEC.
- To diminish the overall effluent of polluted water produced in olive oil mills, reducing the wastewater management costs and the environmental impact of wastes.
- To increase the competitiveness of the participant SMEs and the European olive oil industry through a cost - effective WW (washing water) treatment and an improved water management.



## EXPECTED OUTCOMES

- Water scarcity and droughts have become a main concern in the European Union as intensity and extension of such phenomena have been increasing in the last few years. The goal of the project is to verify and improve the WW purification system from small oil mills developed during ALGATEC, to make it more efficient in load removal and competitive in the market.
- The innovative and competitive ALGATEC II system allows the participating SMEs to enter the fast growing market for washing water treatment and reuse.
  - The ALGATEC II system demonstrates a clear step beyond the state - of the - art with the advantage of a self regulated, low - cost modular system that enables efficient and environmentally friendly treatment of WW.
  - During the pilot plant tests, the SMEs gain practical experiences and knowledge about the performance of the system under real conditions.

## ALGATEC II TECHNOLOGIES

The ALGATEC II treatment system is based on a pre-treatment, with a PBR as the core of the WW treatment process, and post treatment based on membrane filtration. The technology is adapted for its use in olives mills WW treatment, for this its main purpose is to remove organic matter, nitrogen, phosphorous and other hardly biodegradable contaminated compounds. After the PBR process a membrane combination consisting in submerged ultrafiltration membrane (UF1) plus nanofiltration treats the PBR effluent to finally produce drinking quality water to be reused in the washing olive process.

