# Diffusion of nanotechnology based devices for water treatment and recycling

# NANOWAT

**Priority 2** Promotion of environmental sustainability at the basin level

**Measure 2.1** Prevention and reduction of risk factors for the environment and enhancement of natural common heritage

www.enpicbcmed.eu

Programme funded by the EUROPEAN UNION

ENPI CBCMED
CROSS-BORDER COOPERATION IN THE MEDITERRANEAN

REGIONE AUTONOMA DELLA SARDEGNA

## Project in brief

Most of the Mediterranean countries suffer from water shortage due to both increasing demand and declining water quality. Rivers, lakes, groundwater resources and the sea have become more and more polluted by agrochemicals and other potentially toxic substances resulting from intense agricultural and industrial activities. Besides the necessary efforts to be undertaken to reduce water consumption, such a situation calls for innovative and cost-efficient solutions to purify contaminated water and recycle wastewater.
**NANOWAT** project focuses on the experimentation, development and diffusion in the Mediterranean area of new technologies for efficient water treatment based on natural and modified nano-materials, using either filtration and sedimentation, photo-degradation, or their combination. The application of nanotechnologies in the field of water treatment has the potential to offer low-cost and transportable solutions in areas where it is difficult or too expensive to implement large scale water purification plants.

## Beneficiary

University of Basilicata - Department of Agriculture, Forestry and Environment
(Italy, Basilicata)

## Partnership

1. Centre National de la Recherche Scientifique, Hydrosciences Montpellier (France, Languedoc-Roussillon)
2. Spanish National Research Council, Institute for Natural Resources and Agrobiology (Spain, Andalucía)
3. The Hebrew University of Jerusalem (Israel)

## Specific objective

To develop new technologies, based on nano-materials and solar energy, and operate pilot transportable and miniaturized equipments for the efficient purification of water by filtration, sedimentation and photo-degradation, improving exchange of technical knowledge, new professionalism and environmental awareness

## Expected results

- Pilot scale transportable equipments for the treatment of wastewater, grey water, pesticide contaminated water developed
- Increased amount of clean water available, mainly for irrigation purpose
- Reduced total energy required for water treatment
- Costs for water recycling reduced by at least 20%
- Professional skills increased
- Enhanced availability of new technologies for local authorities and farmers' associations

## Target groups

- Local communities
- Small agro-food and handicrafts businesses
- Farmers

## Final beneficiaries

- Local authorities
- Researchers and students

## Duration

36 months

## Budget

- Total budget: € 1.404.524
- EU contribution: € 1.186.193 (84,5%)
- Project co-financing: € 218.331 (15,5%)

## Website

www.nanowat.eu

## Contact person

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