AEE INTEC

MEDA Water

EUROPEAID
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# ZER0-M

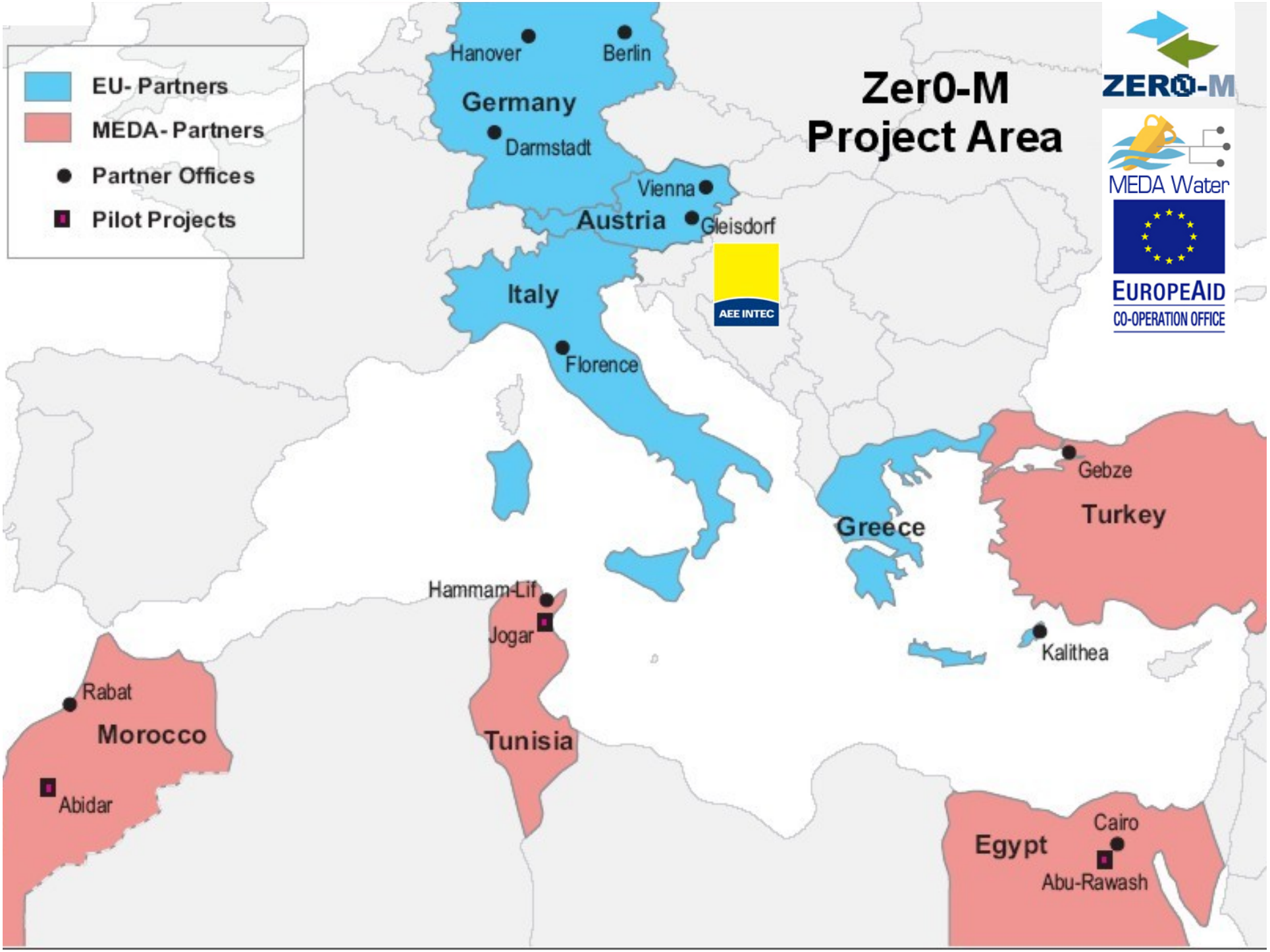
## Sustainable Concepts Towards A Zero Outflow Municipality

**www.zer0-m.org**

A project under the
**EURO-MEDITERRANEAN PARTNERSHIP**

***Euro-Mediterranean Regional Programme For Local Water Management***

Zer0-M aims at concepts and technologies to achieve optimised close-loop usage of all water flows in small municipalities or settlements (e.g. tourism facilities) not connected to a central wastewater treatment - the Zero Outflow Municipality (Zer0-M).


Zer0-M
Project Area
EU- Partners
MEDA- Partners
Partner Offices
Pilot Projects
Hanover
Berlin
Germany
Darmstadt
Vienna
Austria
Gleisdorf
Italy
Florence
AEE INTEC
Greece
Gebze
Turkey
Kalithea
Hammam-Lif
Jogar
Tunisia
Rabat
Morocco
Abidar
Egypt
Cairo
Abu-Rawash
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# Consortium

**MEDA Partners**

- Tübitak-Marmara Research Center (MRC-ESERI), **Turkey**
- Water Research & Pollution Control Department, National Research Centre, (NRC) **Egypt**
- Institut National de Recherche Scientifique et Technique, Laboratoire Eau et Environnement (LEE), **Tunisia**
- Institut Agronomique et Vétérinaire Hassan II, Wastewater Treatment and Reuse Unit (WTRU), **Morocco**

**European Partners**

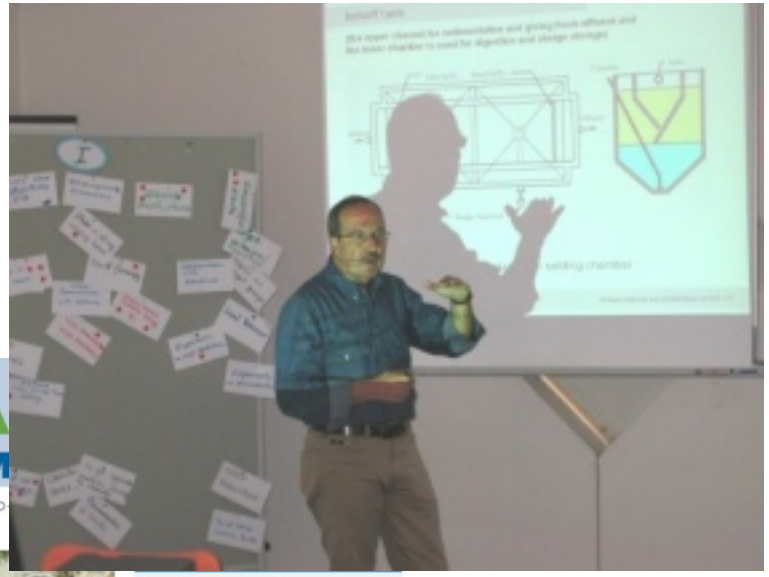
- **Applicant:** Arbeitsgemeinschaft ERNEUERBARE ENERGIE, Institute for Sustainable Technologies (AEE INTEC), **Austria**
- Associzione Ambiente e Lavoro Toscana – O.N.L.U.S. (ALT), **Italy**
- Department of Geography and Regional Research, University of Vienna (IGR), **Austria**
- TU Berlin, Zentraleinrichtung Kooperation and Fakultät III, Fachgebiet Verfahrenstechnik I (TUB), **Germany**
- Universität Hannover, Zentrale Einrichtung für Weiterbildung (weiterBILDUNG), **Germany**
- Fachvereinigung Betriebs- und Regenwassernutzung e.V. (fbr), **Germany**

# Key elements of the project

- **Know-how exchange**
  - Internet network
  - Regional and international conferences,
  - Publication of a journal.
- **Know how transfer**
  - Training and workshops
  - Excursion for experts
- **Zer0-M Realisations**
  - Installations at 4 Training and Demonstration Centres
  - Three real-scale pilot implementations (Egypt, Tunisia and Morocco)
- **Case studies**
  - Elaboration of Zer0-M concepts on four pilot sites,
  - Developing of a Design Support System
- **Public awareness**
  - DVD with video and text information

MEDA WATER Meeting in Jordan, 5. December 2005

# Know-how exchange




Homepage


Journal

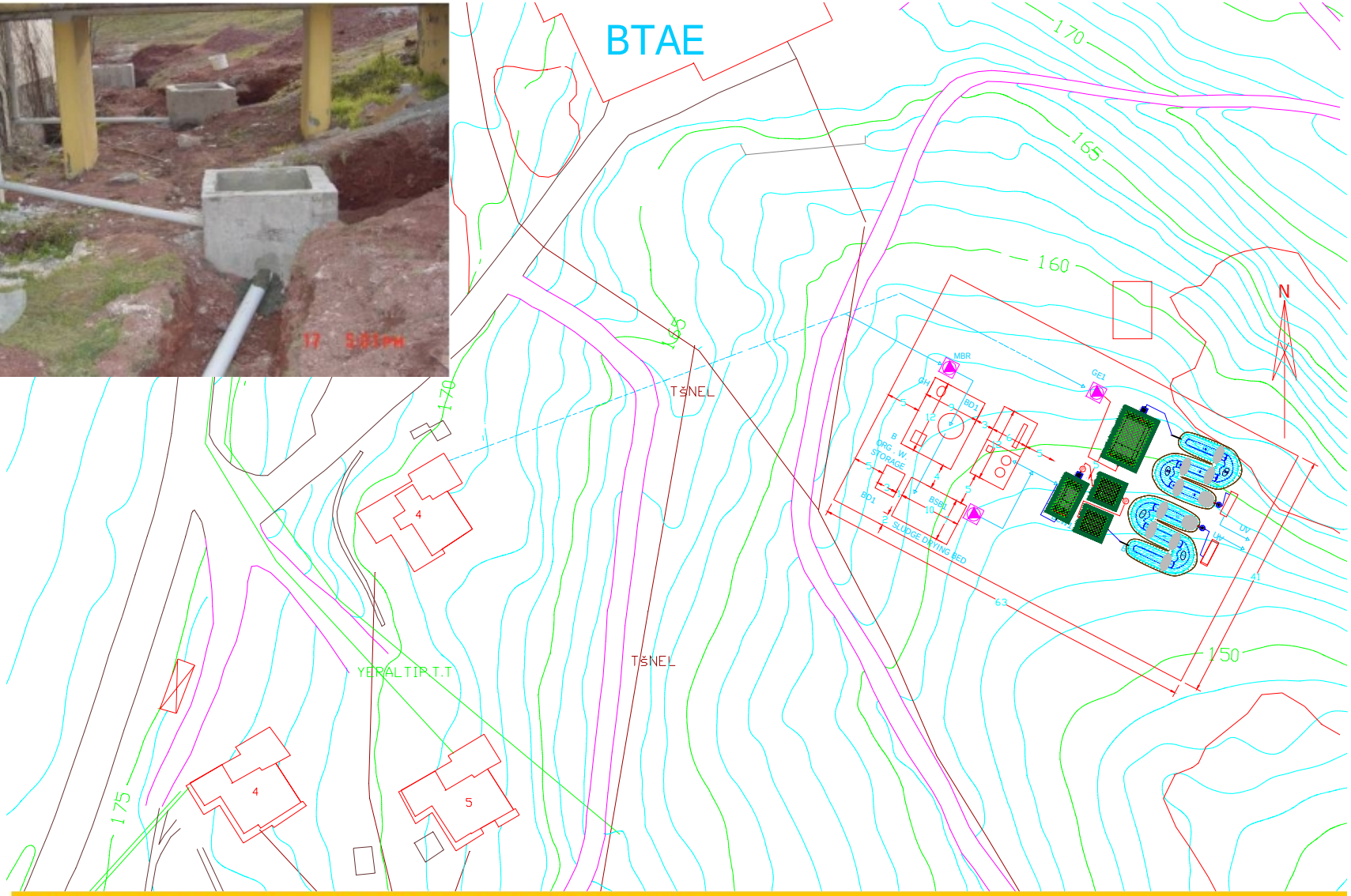
**Workshops and 1 conference**

# Excursion of stakeholders to sites in Europe


Rainwater harvesting at the Darmstadt University campus: water saving 73.000 m³/year

Constructed wetland near Trevignano, Bracciano lake

# TDC layout, tenders, first structures (MRC)



# Grey water characterisation, ex. LEE

Characterisation of wastewater and trial runs with SBR pilot

Table1: Characteristics of wastewater used as feed to SBR

| Characteristics | Concentrations | |
|---|---|---|
| | Min | Max |
| pH | 7,5 | 7,9 |
| Suspended solids (mg/l) | 0,023 | 0,070 |
| COD (mg/l) | 25 | 100 |
| BOD(mg/l) | 20 | 70 |
| Total organic carbon (mg/l) | 15,3 | 18,2 |
| Ammonical nitrogen (mg/l) | 1,5 | 20,1 |
| Nitrites (mg/l) | 0,0 | 0,0 |
| Nitrates (mg/l) | 0,0 | 5 |
| Phosphates (mg/l) | 5,0 | 16,9 |

# Partly realisation of TDCs, WTRU Rabat

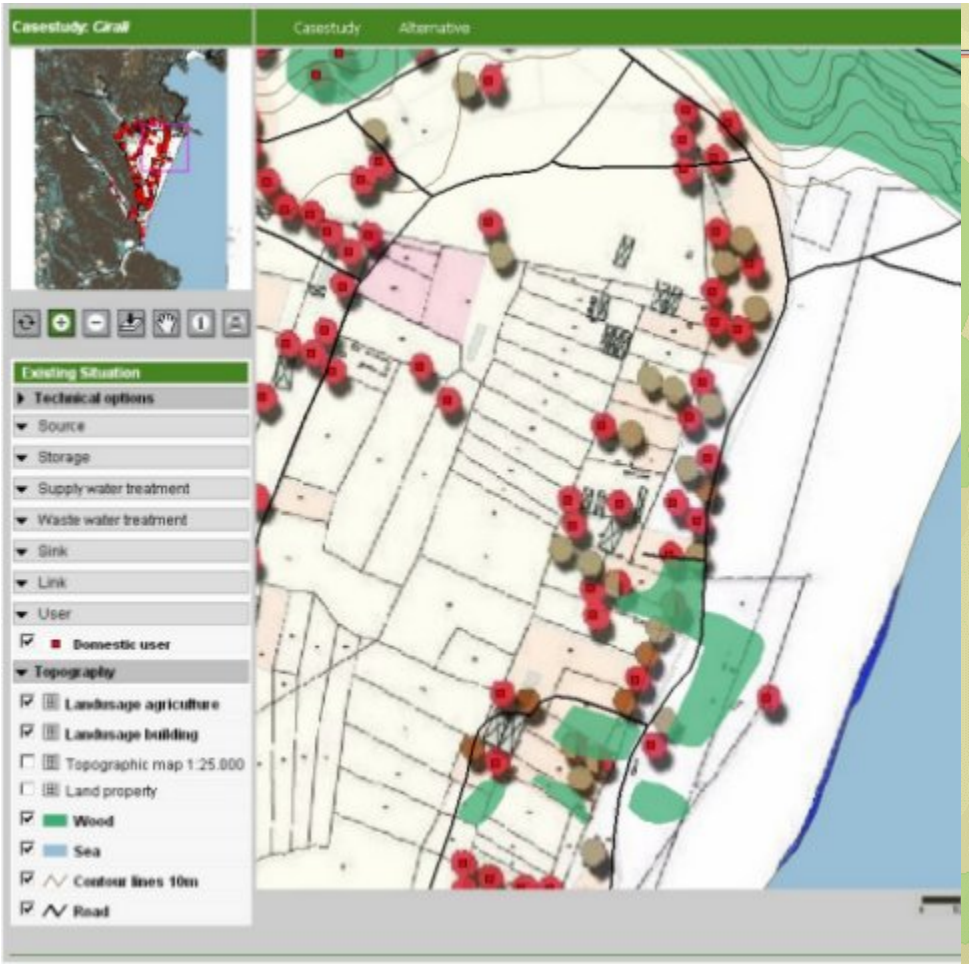
Segregation of grey and black water in sports club buildings

Connection to wastewater treatment plant


Erection of treatment units for greywater (horizontal and vertical filter) and blackwater (modification of algal canal)

# WP4 Design support system

First draft of computerised DSS




Test run with data of Hirtenfeld

# Financial information and Contact

## Project budget

| | |
|---|---|
| Total | 5.516.569 EURO |
| Commission Funding | 4.413.255 EURO |

## Contact

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**www.zer0-m.org**

# Sustainability, Trickle-down