



NETWORK IN SOLID WASTE AND WATER TREATMENT BETWEEN EUROPE AND MEDITERRANEAN COUNTRIES

SOWAEUMED

FP7-REGIONS POTENTIAL-2009-2

Grant agreement no.: (245843)

EU Funding opportunities for RT&D in ORs

22-24/09/10, Ponta Delgada, Azores, PT.

MANUEL VALIENTE



SOWAEUMED

COORDINATION & SUPPORT ACTION

<http://grupsderecerca.uab.cat/sowaeumed/>

KEY OBJECTIVE

The SOWAEUMED project is a 3 years Coordination Action whose main goal is to establish a sustainable cooperation platform for forming strategic partnerships between scientists, scientific managers, policy makers, technology transfer and industrial experts between EU Member States (MS), Associated States (AS) and the Mediterranean Region States (MED), concerning the development and implementation of solid waste and water treatment technologies.

AIMS & SWOT ANALYSIS

SOWAEUMED main activities are increasing the awareness of civil society to environmental challenges by:

- Reinforcement of MPCs' research infrastructure and improvement of their human potential through training of young researchers.
- Upgrade of MPCs' research equipment and hiring of new senior researchers actively contributing to reinforce their capacities.
- To prepare laboratories from MPCs to participate more efficiently in European projects, transfer and exchange of know-how will help to increase the research potential of the partners.

STRENGTHS

Internationally recognized excellent R&D with frequent collaborations with recognized R&D centers
Modern and adequate infrastructure for analysis of pollutants

OPPORTUNITIES

Consortiums and synergisms with other EU research institutions and SMEs within water sector
Improve expertise in water and wastewater treatment

WEAKNESS

Fluctuation of young employees
Obsolete scientific equipment

THREATS

Low industrial investments
Absence of a stable policy regarding research funding

PARTNERS



- Universidad Autónoma de Barcelona (UAB, ES)



- Royal Institute of Technology (KTH, SE)



- Ruder Boskovic Institute (RBI, HR)



- Centre National d'Etudes et de Recherches sur l'Eau et l'Energie (UCAM, MO)



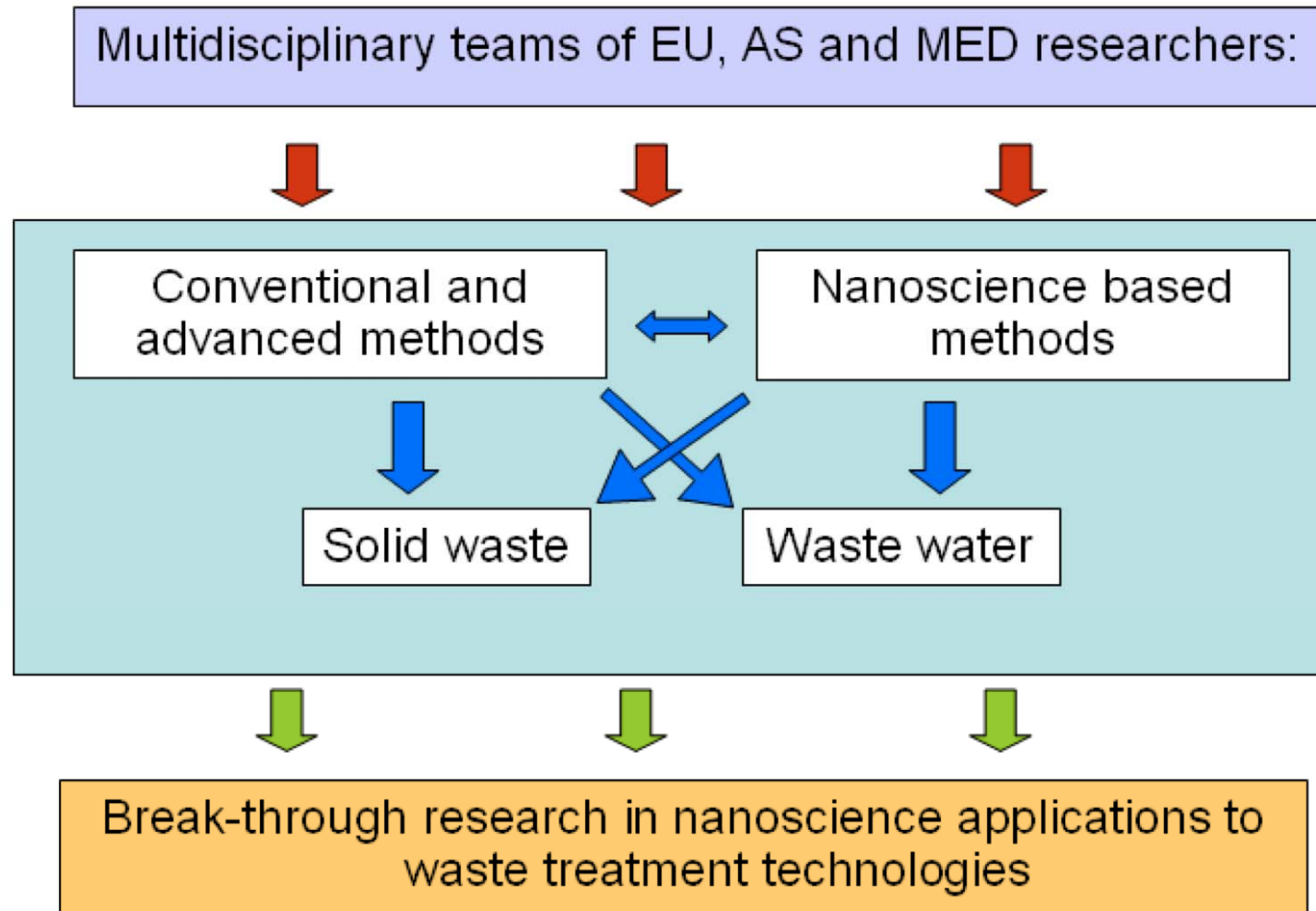
- NADREC S.A. (NAD, ES)



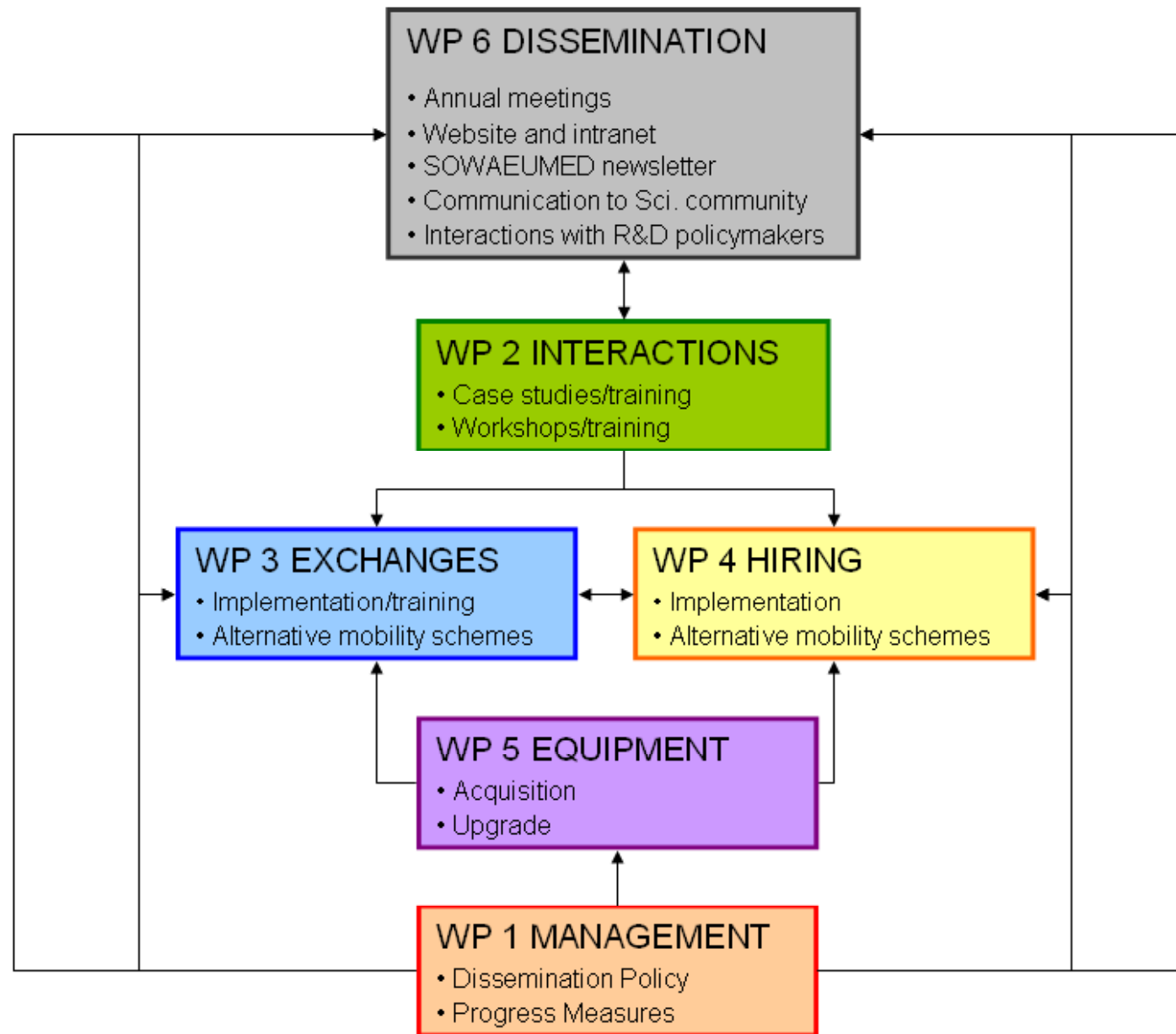
- Sousse University (SOU, TN)



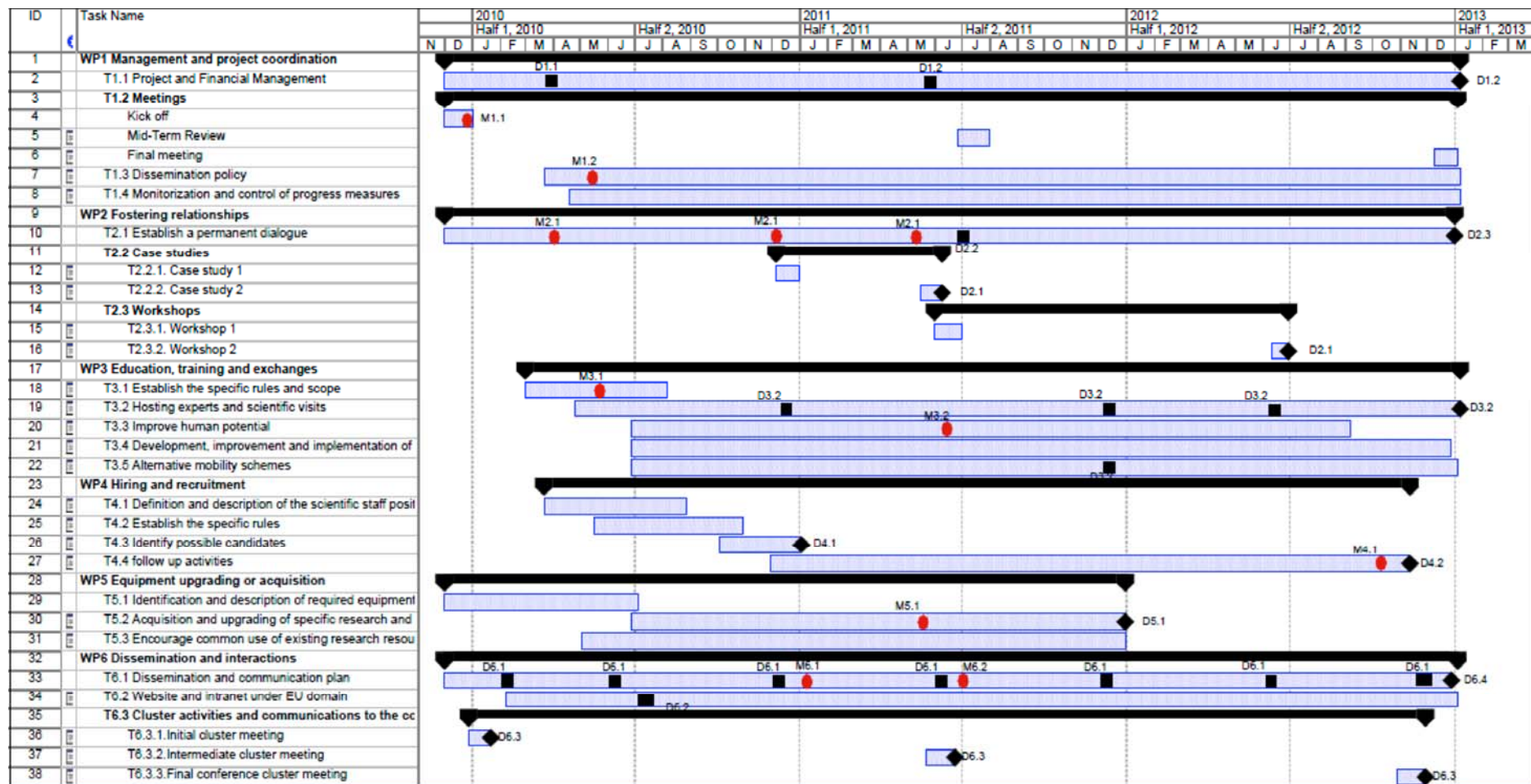
PROJECT IDEA



PERT DIAGRAM



SOWAEUMED ACTIVITIES



WP2. INTERACTIONS

T2.2 Case studies: 2 case studies of 3 days duration in MED and AM States region. Provide training on the latest scientific and technological advances, to provide a forum for researchers to present their own work (talks and posters) and to establish connections between researchers

T 2.2.1 Case study 1: Croatia, Plitvice National Park, **M12** RBI (B. Obelić). ACTUAL WORKING WASTE TREATMENT TECHNOLOGIES. Lectures and demonstrations of cost effective conventional and advanced waste treatment technologies such as reverse osmosis (portable, large-scale) and advanced adsorbent filter media (ion exchange resins, activated alumina, ferric oxide and zeolites).

T 2.2.2 Case study 2: Meliane river, Tunisia **M18** SOU (S. Mongi) and KTH (M. Muhammed). Demonstration of good practices implemented along the project, to populated areas in MED region affected by an intensive tourism activity and waste pollution, especially small villages. DEMONSTRATION OF APPLIED EMERGING WASTE TREATMENT NANOTECHNOLOGIES and knowledge transference efficiency through training and implemented nanotechnologies.

WP2. INTERACTIONS

T2.3 Workshops of 3 days each will be organized in MED region. Consolidation of interactions between researchers and other important players in the development, application and implementation of emerging technologies for waste treatment, from the research development of processes and public policy issues related to research

T 2.3.1 Workshop 1: Held in Tunisia in **M18** SOU (Prof. S. Mongi) and KTH (M. Muhammed), just before case study 2. INDUSTRIAL AND URBAN WASTE TREATMENT NANOTECHNOLOGIES. LEGISLATIVE ASPECTS concerning the implementation of nanotechnologies with the participation of policy maker.

T 2.3.2 Workshop 2: Held in Marrakech in **M30** UCAM (L. Mandi). Workshop two parts. Part 1: “WASTE TREATMENT TECHNOLOGIES OF SOCIAL, ECONOMICAL AND POLITICAL INTEREST” will address issues such as: public policies of R&D, according to the economic and social development; impact on the environment and impact on the health of the industry in general, and in particular for the conventional, advanced and nano-based waste treatment industry. Part 2: “STARTING-UP AND MANAGING COMPANIES IN THE FIELD OF NANO-BASED WASTE TREATMENT TECHNOLOGIES,” is focused on innovative forms of promoting the creation of start up companies. Evaluation of experiences in both regions, benchmarking of best practices.

WP3. EXCHANGES

T3.2. Hosting experts and scientific visits (1 to 2 weeks) of senior research staff to prepare and supervise the exchange of students and post-doc researchers and for sharing experience on implementation of the European norms and future tendencies, as well future possible collaborations for joint research an project proposals for FP7 or FP 8.

T3.3. Improve human potential by organizing individual training short stages in advanced methods for waste treatment technologies. Presentation and discussion of EU norms and directives concerning the implementation and monitorization of waste treatment technologies.

**15 stages of up to 3 months duration each – 5 in MED and 10 in EU.
1/3 of the stages will be PhD students**

**Senior research hosting during first year. 3, beginning on April
Individual training short stages during first year. 5, beginning on April**

WP5. EQUIPMENT

T5.1. Identification and description of required equipment on the basis of four main factors: 1) **actual needs** on MED institutions of updated equipment for waste and waste water control, 2) **possibilities to carry out** waste and waste water treatment, 3) **actual expertise** of the research and academic staff and 4) The possibilities of the reinforced laboratory to be used or **to perform a service by other institutions** in the area.

T5.2. Acquisition and upgrading of specific research and service equipment by MED countries, following the specifications given by consortium partners (NAD and KTH). Analytical techniques for control purposes as well as lab-scale prototypes for different wastewater treatment and removal of pollutants from urban and industrial effluents will be upgraded or acquired and implemented, after **PERMISSION FOR THEIR INSTALLATION** of MED National Authorities or regional water supply or other relevant municipality authority.

Located on:

- SEMLALIA SCIENCE FACULTY CADI AYYAD UNIVERSITY (UCAM) / MOROCCO
- HIGHER SCHOOL IN SCIENCES AND TECHNOLOGY OF HAMMAM SOUSSE. SOUSSE UNIVERSITY (SOU) / TUNISIA.

WP5. EQUIPMENT

Equipment for water treatment pilot plants include:

- ☐ Adsorption-desorption columns,
 - ☐ Feed & recirculation pumps,
- ☐ Pressure and temperature indicators, feed and recirculation,
 - ☐ Flowmeters, for the different streams,
- ☐ Tubular stainless steel for assembling,
 - ☐ Cart mounted with wheels,
 - ☐ Control panels,
- ☐ pH meter and potentiometer for ion selective electrodes,
 - ☐ Conductimeter,
 - ☐ On line spectrophotometer,
 - ☐ Mechanical and magnetic valves,
 - ☐ Rotary racks and stirrings motors.
- ☐ Additional unit of flexible membrane modules to complement the ads-desorption processes.



SOWAEUMED EXPECTED IMPACTS

- A) **Creating solid research relationships:** Reinforcing common research priorities and interests providing mutual benefit situations avoiding the hindrance of possible implementing problems due to coordination research at significant distances
- B) **Improve the established relationships through attracting new key partners:** Reinforce the number of experienced partners proceeding from MED countries, both public research institutions and private industrial companies, in order to propose future joint environmental projects in the EU-MED area
- C) **An efficient dissemination and communication of SOWAEUMED priorities, activities and plans:** to key actors including researchers, inventors, funding agencies, innovators, industry investors and policy makers, mainly concerning future calls for EU-MED research projects
- D) **Identifying Opportunities for Joint Research Projects with basic or applied/business orientation:** Creation of a broad information database including research topics and related state of the art, human and infrastructure potential resources, alternative funding mechanisms at national and international level, efficient technology transfer ways

SOWAEUMED EXPLOITATION

SOWAEUMED will create a framework for knowledge transfer between EU and MED regions, and for raising awareness of possible future joint R&D projects. Several instruments or dissemination actions are considered by the proposal to consolidate the established relationships such as;

- Joint Action Plan (JAP) to drive economic development through RTD activities in the selected topic or economic sector.
- Supporting actions towards industrial enterprises in new business development of technologies applied to waste treatment identifying best practices and high level partners in both regions.
- Promote actions towards other researchers from EU and MED, identifying capacities and accessible networks of excellence where being involved
- Involving national and international R&D policy makers and funding agencies, identifying mutual priority cooperation in the specific R&D topic through the appropriate dialogue and cooperation.

**And, as an current example
of such explotaition**



WASTE CLUSTER INITIATIVE

a genuine 'research-driven' cluster of cooperating regions with a strong emphasis on exchange of best practices and knowledge transfer



SEVENTH FRAMEWORK PROGRAMME
FP7-REGIONS-2009-2
Grant agreement no.: (245843)
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KEY OBJECTIVE OF WCI

*The **European WASTE-cluster initiative** is a 'pilot' scheme designed to establish European clusters of coordination in order to enhance regional research capacity building and regional economic development with significant impact at local level by,*

- Support each of the projects in underpinning their activities by an **explicit strategic vision on the development of their region in the field.***
- Making efforts to support their willingness to submit further proposals under FP7 and/or other activities of the EU.*

WHAT IS WCI?

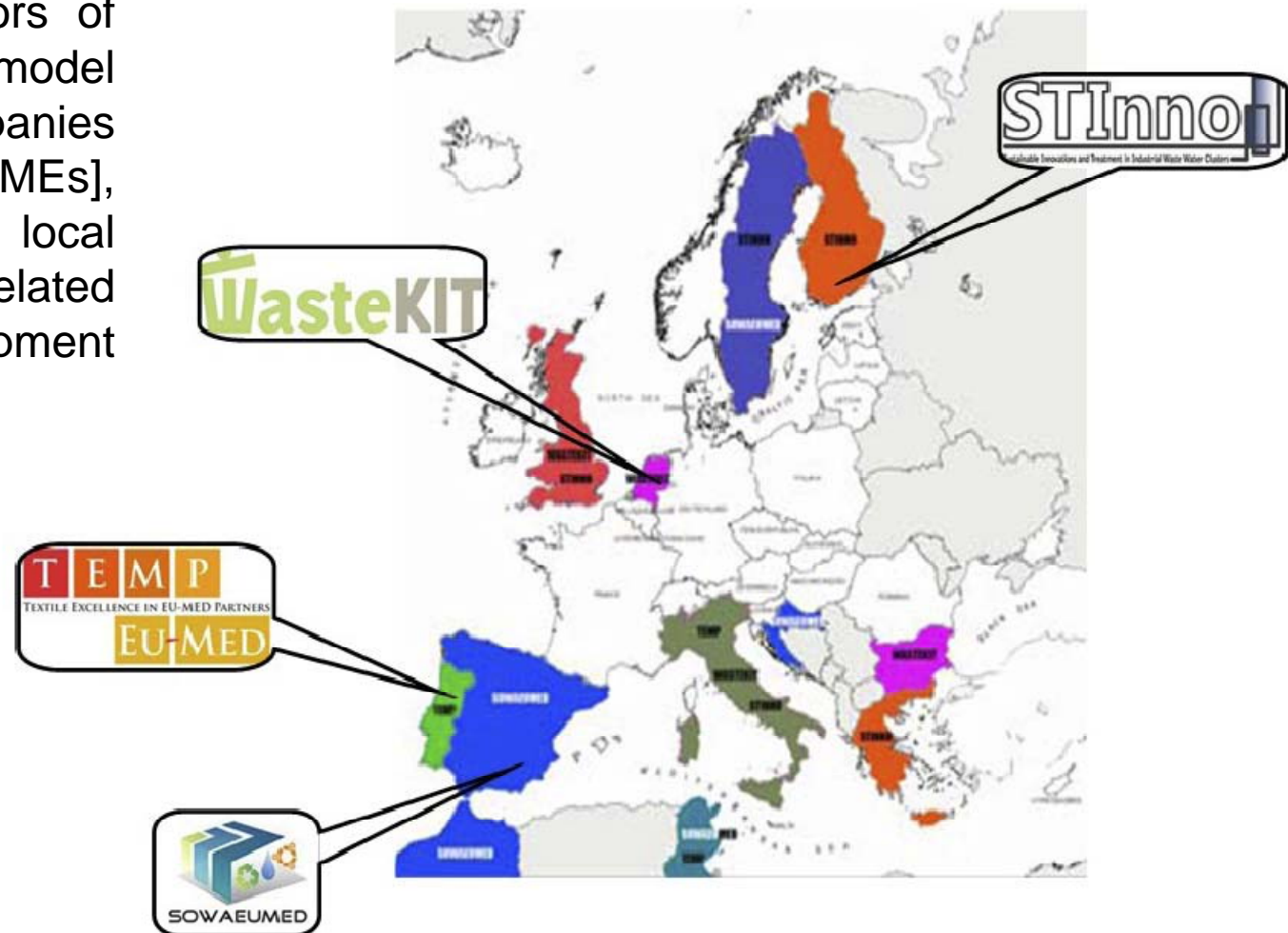
- In the beginning of 2010, the **WASTE-CLUSTER initiative** was launched with the ambition of involving different European Community funded research projects in an **exchange of knowledge and experiences**, learning from each other's strengths and weaknesses, **defining regional strategies** and investing in strengths through **integral use of national and regional funding**.
- Due to the involvement of partners from the Mediterranean Partner Countries (MPCs), the cluster's main target is **knowledge transfer** to directly enhance visibility of the MPCs in the cluster and prepare the grounds for their **integration into the European Research Area (ERA)**.



WHO PARTICIPATES?

- Partners from ongoing projects **SOWAEUMED**, **ST Inno**, **WASTEKIT** and **TEMP**
- Europe, Associate States as well MPCs (TOTAL of 42 partners)

- Integration of actors of the triple helix model (institutions, companies [including SMEs], regional or local authorities or related economic development organisations)



WCI SWOT ANALYSIS. ACHIVEMENTS

Strengths		Opportunities	
S1	Infrastructure for solid waste- and wastewater characterisation (chemical, biological, ... characteristics)	O1	Available databases of projects, results, technology available
S2	Know-how among the researchers, helicopter view	O2	Awareness in society about waste problems
S3	Strong in protecting ground water	O3	Funding opportunities in the EU
S4	Openess towards collaboration, initiatives, idease	O4	Availibility of valorisation technologies
S5	Infrastructure for waste treatment	O5	Entrepreneurial potential to do business
Weaknesses		Threats	
w1	Lack of knowledge transfer	T1	No broad strategy for technology transfer and innovation
w2	Lack of business development	T2	Competition with China
w3	Poor IP management	T3	Slow reaction of public policy and regulation on research findings
w4	No representation of business in universities	T4	Different oriëntation of business community
w5	No research performance indicators	T5	Political short term thinking

ONGOING ACTIVITIES

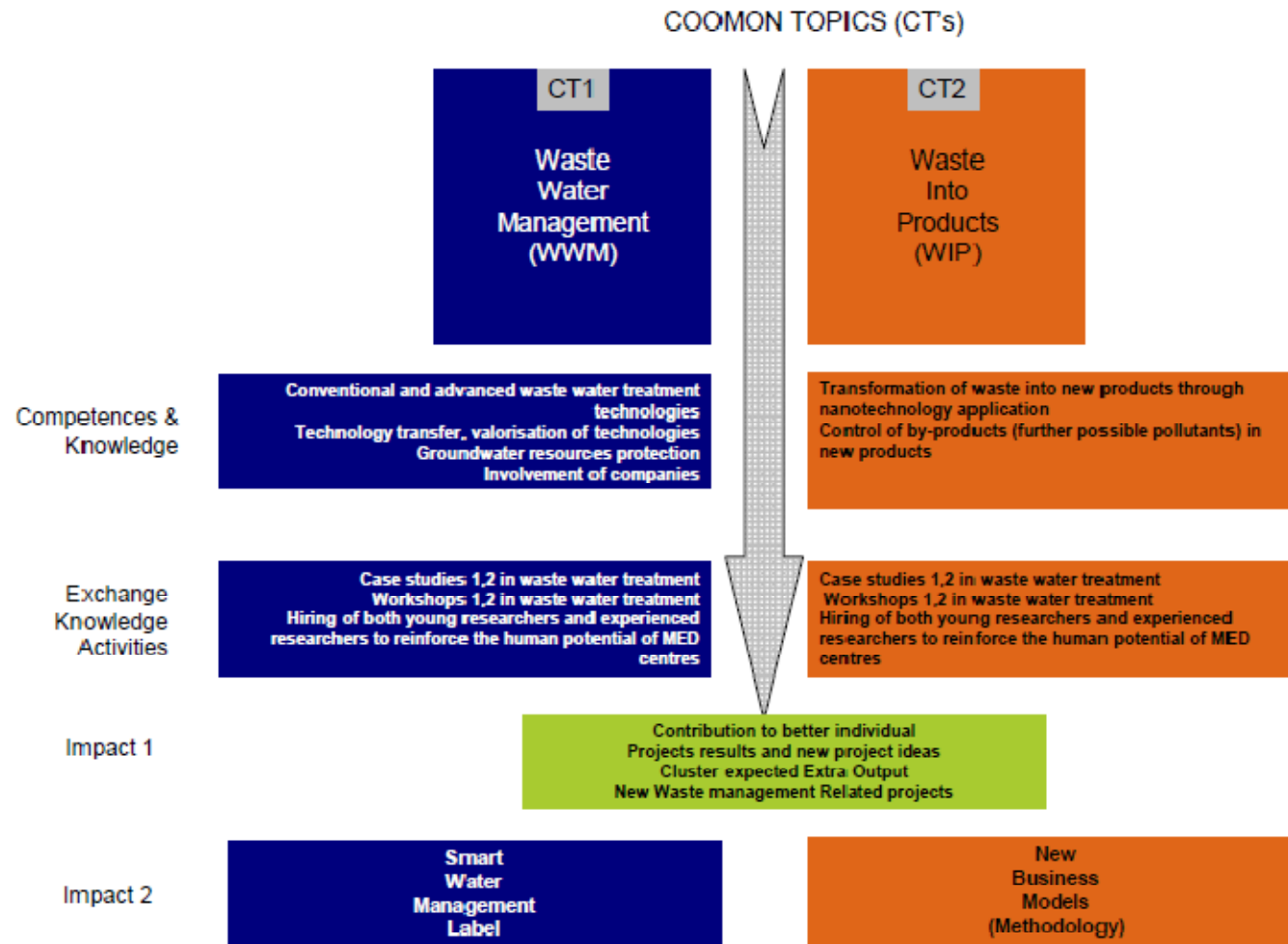
The WASTE CLUSTER takes advantage starting from a natural integration of different ongoing projects such as SOWAEUMED, STInno, WASTEKIT and TEMP, which had already **identified two strategic common topics** that should be the **major thematic focus of the WASTE-cluster initiative**

- **Water treatment and management technologies** and
- **Waste into Products Technologies and Processes.**



OUTPUTS

- The **Smart Water Management Label**
- New business Models** for Waste Into Product Strategies



WCI EXPECTED IMPACTS & SYNERGIES

- Better integration of local and regional policies and regulations regarding water and waste management;
- Regional recognition of good water and waste management practices, contributing to the generation of sustainable high qualified new jobs and new business opportunities;
- More effective and smarter resource allocation;
- Better regional and national research & innovation strategies.



WCI EXPECTED IMPACTS & SYNERGIES

- Stimulate the actuation of their members to transform research output (knowledge, patents) into new products, new services, new companies and new markets
- Offer stronger opportunities for more regions into the Regions of Knowledge initiative, into the knowledge economy and the ERA, especially through the mentoring of regions with a less developed research profile



*In order to **contribute to the objectives of the WASTE-cluster**,
interested participants/clusters/networks, key
stakeholders, managing authorities, scientific teams etc.
can **join anytime**.*

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Temporary website:

<http://grupsderecerca.uab.cat/sowaeumed/content/activities>

THANKS FOR YOUR ATTENTION



SOWAEUMED
COORDINATION & SUPPORT ACTION