enterprise europe network

Business Support on Your Doorstep

FP 7- Environment
Partnership Profiles Catalogue

Sector Group Environment

European Commission
Enterprise and Industry

cip competitiveness and innovation framework programme 2007-2013

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Background

This Catalogue has been developed as a joint initiative by the members of the Enterprise Europe Network – Sector Group Environment. The main aim is to encourage the Participation of SMEs in the Environment theme of 7th Framework Programme.

The main objective of research for the environment under FP7 is to promote sustainable management of both man-made and natural environment and its resources. To this end, increased knowledge on the interaction between the climate, biosphere, ecosystems and human activities is sought, and new environmentally-friendly technologies, tools and services are developed.

The Catalogue is divided in two main sections:

1. Partner Search Profiles, to help finding partners for the Environment project idea under the 7th Framework Programme of the European Union (2007-2013), working in a proactive way.
2. Partnership Profiles, for those companies and research institutions interested in being involved as Partners in a Consortium.

The FP7 – Environment Partnerships Profiles Catalogue intends to be an effective tool to Promote the participation of European SMEs, R&D groups and Technological centres at European Funding Programmes.

For more information on the catalogue, please contact Ms Lucía Díaz Martín, *Enterprise Europe – CESEAND*, lucia.diaz.martin@juntadeandalucia.es or +34 955 03 96 42

Enterprise Europe Network

The Enterprise Europe Network offers support and advice to businesses across Europe and helps them make the most of the opportunities in the European Union. Our services are specifically designed for small and medium enterprises (SMEs) but are also available to all businesses, research centres and Universities across Europe.

The Enterprise Europe Network is the largest network of contact points providing information and advice to EU companies on EU matters, in particular small and medium enterprises (SMEs). We provide practical answers to specific questions in your language.

The Network offers concrete and effective solutions to entrepreneurs and companies in more than 40 countries, including the 27 EU member states, three EU candidate countries (Croatia, the former Yugoslav Republic of Macedonia and Turkey), members of the European Economic Area (EEA) and other participating third countries.

The Enterprise Europe Network is unique both in terms of its wide geographic reach and of the wide range of integrated services it provides to SMEs and other business actors. This is made possible thanks to the coordinated action of nearly 600 local partner organisations, employing around 4 000 experienced staff working to support the competitiveness of EU businesses.

Launched in 2008 by the European Commission, the Enterprise Europe Network offers a “one-stop shop” to meet all the information needs of SMEs and companies in Europe.

Sector Group Environment

The Sector Group's mission is to contribute to the development and competitiveness of SMEs and other organisations in the environmental sector through the mediation of partnerships, exploitation of research results, identification of financing schemes and provision of other support mechanisms in the areas of commerce, innovation and technology, and R&D. This will be implemented through a broad spectrum of services, ranging from information provision to specific events and individual consulting and advice.

Through co-operation with other initiatives and programmes, e.g. ETAP, and other DGs, e.g. DG ENV, the Group will contribute to integrated services for SMEs in the area of environment and provide bottom-up feedback from SMEs to the Commission, as well as communicating EU policies to the target group. Apart from SMEs universities and research institutes are also a target group.

The Group aims at a high level of commitment and professionalism which will contribute to the learning curve and specialist expertise in the area of environment for the participating members and organisations, as well as providing value added services for this particular segment of Enterprise Europe Network clients.

The focus lies on the environmental sub-sectors of water and waste management and air and soil pollution. Other environmental issues of interest to the group and its clients will also be covered.

Partner Search

Technological Centres

L E I T A T

PARTNER SEARCH from Catalonia - Spain
(Ref. 08 ES PR003)

TITLE

Climate change Impact on the Mediterranean Marine environment

GENERAL DESCRIPTION

REFERENCE: CLIMA

ABSTRACT

The objective of this project is to design and develop a study aiming to analysing public knowledge and perception about climate change impact on the marine environment, with specific reference to the Mediterranean Sea area. Therefore, this analysis will address the environmental marine impacts, the corresponding socio-economic consequences and the mitigation and adaptation measures identified at the Mediterranean level.

DESCRIPTION

Smart materials, Surface treatments, Biomaterials,Biotechnologies and Bioprocesses, Human Performance, New high tech polymers, Nanosciences and Nanotechnologies, Ecotechnologies, Wastewater treatment, Analytical chemistry, Renewable energies and Energetic efficiency, REACH.

CURRENT STATE OF DEVELOPMENT:

☒ *Idea* ☐ *Proposal under development* ☐ *Project already started*

KEYWORDS

1) Sub-Activity 6.1.1 Pressures on environment and climate
   - Area 6.1.1.6 Response strategies: adaptation, mitigation and policies
2) Sub-Activity 6.3.3 Technology assessment, verification and testing
   - Area 6.3.3.2 Technology assessment
3) Sub-Activity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
   - Area 6.3.1.2 Soil

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

We are market-aware and market-driving. Our focus areas are Space (Technology and EO Services) and applied Neuroscience. These R&D areas will have great impact in and through several key markets, including Environment, Energy, Health and Space.

Starlab Research carries out interdisciplinary R&D focusing on two synergic areas: Space and applied Neuroscience. The department has a strong background in physics, mathematics, computer science, neuroscience and electronic engineering.

EUROPEAN FUNDING SOURCE SELECTION

COMMNUNITY PROGRAMME:

CALL IDENTIFIER:

1. ENV.2009.1.1.6.3
2. ENV.2009.3.3.2.2
3. ENV.2009.3.1.2.1

For Further Information, please Contact:

Ciro Avolio
LEITAT
Tel: +39 93 788 23 00
EMail: cavolio@leitat.org

Network PARTNER: *EEN Catalonia, Marta Marqués*

R&D Institutions

UNIVERSITY OF BOLOGNA: DEP. Architecture and Planning (DAPT)

PARTNER SEARCH from Italy
(Ref. 08 IT PR001)

TITLE:

Innovative **O**ffshore **D**evelopments for the **I**ntegrated rehabilitation of highly **U**rbanized **M**arine cities – ***IODIUM***

GENERAL DESCRIPTION

ABSTRACT

The project aims at promoting innovative ideas and technologies in offshore systems, helping the development of highly urbanized coastal areas, where the amount and the quality of territory can't hold the future growth, according to sustainable parameters. A main focus is to exchange these technologies between countries and environmental realms, adapting innovation to local contexts.

DESCRIPTION

The project should put into confrontation innovative technologies developed in different contexts:

Main activities

- Sharing knowledge about new technologies, especially wind and water energy related technologies
- Environmental assessment of coastal areas
- Designing phase
- Control and management phase

Expected results

- Development of innovative systems for the production of renewable energy
- Development of new methodologies in environmental assessment of coastal areas
- Landscape design and sustainable urban design
- Promotion of experimental projects in local communities

CURRENT STATE OF DEVELOPMENT:

☐ *Idea* **X** *Proposal under development* ☐ *Project already started*

KEYWORDS: 1. Offshore systems; 2. sustainable development; 3. RES; 4. Landscape design; 5. Urban planning

EUROPEAN FUNDING SOURCE SELECTION

COMMUNITY PROGRAMME: FP7

CALL IDENTIFIER: ENV.2009.2.1.5.1 Sustainable development of coastal cities

FUNDING SCHEME: Collaborative, CSA

DEADLINE OF PROPOSAL SUBMISSION: 8 January 2009

PARTNER SOUGHT

TYPE OF PARTNER: Companies, Research Institutes, Public Bodies from Europe, India and South-East Asia.

TARGET PARTNER EXPERTISE SOUGHT: Wind energy offshore systems companies, suppliers and managers, Coastal cities administrators, Urban planners and designers, Landscape architecture firms, Environmental engineering companies, Eco-systems analysts, Building and construction companies, RES companies.

For Further Information, please Contact:

Prof. Luca Guardigli
UNIVERSITY OF BOLOGNA
Tel: +39 051 2093171
EMail: *luca.guardigli@unibo.it*

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

UNIVERSITY OF BOLOGNA: DEP. Electrical Engineering

PARTNER SEARCH from Italy
(Ref. 08 IT PR002)

TITLE:

W-CVT (electric Continuously Variable Transmission for wind energy conversion systems)

GENERAL DESCRIPTION

REFERENCE

The proposal deals with the possibility to extend the 'power split e-CVT' concept from the automotive sector to Wind Energy Conversion System (WECS). The project combines the experience gathered by the research group LEMAD-DIE of the Dept. of Electrical Engineering of University of Bologna in the development of a power split e-CVT technology for road cars with multidisciplinary scientific and technology competences of the team members. A power split e-CVT must guarantee all the features given by traditional drivelines based on pure mechanical systems. In addition extra features are expected from the new system: saving in weight, volume and cost of the overall driveline, increasing the speed-power range regulation capability of the system, introducing new operating mode (i.e. torque limiter), increasing the efficiency of the overall conversion system.

ABSTRACT

This project deals with the development of a driveline for Wind energy Conversion System (WECS) based on the introduction of an electric driven Continuous Variable Transmission (e-CVT) placed at the high speed end of the step up gear train. The e-CVT decouples the variable speed of the gear train output from the fixed (or quasi fixed) speed of the electric generator. In this way the electric generator can be a conventional wound rotor synchronous machine or a squirrel cage induction machine with 4 or 6 pole, directly connected to the grid. The main advantage given by the use of an electric driven CVT in a WECS are related to the reduction of complexity and weight of the electric generator, which is a very important subject for multimegawatt WECS to be installed in off-shore wind parks.

DESCRIPTION

The e-CVT is constituted by a mechanical differential gearbox integrated with an additional electric machine called driver. A variable speed control of this driver machine allows to adjust the step up ratio of the CVT over a speed range which is larger than that obtained with traditional DFIG drive systems.

The electric generator is sized for the full power. When turbine speed and power are lower than the rated values, the driver machine increases its speed from zero, by absorbing a fraction of the generated power from the grid. In this way the turbine speed can be regulated by keeping constant the speed of the electric generator.

The most relevant advantages of this solution are:

- The possibility to use a fixed-speed, fixed-frequency generator reduces the weight of this electric machine about of 40-50%. Moreover this machine is simpler, has higher efficiency and higher reliability than the DFIG widely used nowadays.
- The rotor speed regulation range is wider than that obtained by using a DFIG (i.e. 45%-100% of the rated speed)
- The power electronic converter is simple (unidirectional) and has a very low power rating (around 17%)
- The torque rating of the machine integrated into the CVT (driver) can be chosen to be a small percentage of the torque rating of the generator.
- The CVT operates as a torque limiter. In other words, the torque the driver machine applies to the sun of the CVT defines the value of the transmissible torque between the turbine rotor and the generator reducing When the torque in one side of the CVT changes abruptly the sign or exceeds a given value, the extra power yields to change the kinetic energy of the driver, thus protecting the main generator and the turbine against overload and over speed.

CURRENT STATE OF DEVELOPMENT:

☐ *Idea* ☐ *Proposal under development* **X** *Project already started*

KEYWORDS

Wind energy conversion system WECS, power split electric continuously variable transmission CVT, electric drives, power transmission

EUROPEAN FUNDING SOURCE SELECTION

COMMNUNITY PROGRAMME: *ENERGY.2009.2.9.2: Coordination activities on offshore platforms*

CALL IDENTIFIER: FP7-ENERGY-2009-1

FUNDING SCHEME: Collaborative project

DEADLINE OF PROPOSAL SUBMISSION: 25/11/2008

PARTNER SOUGHT

TYPE OF PARTNER

Project already configured for research on WECS that could be interested in our competence in the technological area of the “power transmission” between the variable speed rotor and the electric generator

For Further Information, please Contact:

Claudio Rossi
UNIVERSITY OF BOLOGNA
Tel: +39-0512093564
EMail: *claudio.rossi@unibo.it*

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

Companies

SILIOS TECHNOLOGIES

COMPANY FROFILE from France
(Ref. 08 FR CP025)

GENERAL DESCRIPTION

TYPE OF COMPANY: SME

SIZE < 10

ACTIVITY: optical micro-components and micro-systems for laser applications, astronomy, optical instrumentation, defence, environment...

KEYWORDS: micro-optics, diffractive optics, phase screens, mirrors, spectrometers, micro-systems, instrumentation

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

SILIOS Technologies specialises in design and manufacturing of micro-optics, diffractive optics, miniaturised spectrometers and optical instrumentation. Its main applications are in laser (scientific, medical, machining, military), astronomy, water processing, medical and chemical analysis. SILIOS owns a 400m² clean room and specific equipment to test and characterize optical components and systems.

ADDED VALUE (Of having your organization as Project Partner)

If you are trying to find a highly technical solution that fits your requirements in process control, astronomy or environment, Silios technologies offers expertise in optics and manufacturing facilities for customised DOE, Encoded phase plates or mini-spectrometers...

OTHER RELEVANT INFORMATION

Silios technologies has already joined FP6 projects.

For Further Information, please Contact:

MANNINI,Marie-Jose
SILIOS TECHNOLOGIES
Tel: +33-442-538960
EMail: mj.mannini@silios.fr

Network PARTNER: *Med2Europe – Hélène THEVENEAU*

ANALITER

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP002)

GENERAL DESCRIPTION

TYPE OF COMPANY: Engineering and consultancy company

SIZE: 40 employees

ACTIVITY: Environmental engineering and consultancy services, management, training and divulgation services, as well as sustainable development, urbanism, land management and information technology.

Institutional Building, Industry, Energy, Rivers and coasts, Urban, Public use, Geographic Information and Training

KEYWORDS: Environment, consultancy, sustainable development, engineering, GIS, planning.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Since 1992, this company has carried out its activities in urban as well as natural environments, with a wide and complete perspective, considering all the technical, ecological, economic, legal and circumstantial aspects of the investment plan or performance project, designing solutions to fit the customer's requirements with the best available technology.

This Company technological domains are:

- Rural development and planning
- Environmental Protection and urban quality
- Natural Environment and Hydrology
- Communication and Heritage Interpretation
- Quality and Expertise
- Information and Communication Technologies
- Construction and Urban Development

ADDED VALUE (Of having your organization as Project Partner)

This company is present in the international market by the PIPE programs of the ICEX (Spanish Institute for External Trade) and the multilateral projects assessment of EXTENDA (Andalusian External Promotion Agency).

It is also member of Club Multilateral, which groups together those Andalusian engineering and consultancy companies with enough experience in the multilateral market and a high participation level in Extenda actions, addressed to this market. www.Clubmultilateral.es

OTHER RELEVANT INFORMATION

Implantation and certification of its Environment Management Systems according to the UNE-EN-ISO 14001:1996 standard, and its Quality Management System according to the UNE-EN-ISO 9001:2000 norm. Both systems embrace all our environmental and sustainable development consulting and engineering activities, urbanism and land management, building, applied Computer Science and GIS, as well as our training and divulgation services.

For Further Information, please Contact:

Mariam Cantero
ANALITER
Tel: +34-954 921 579
EMail: *internacional@analiter.es*

Network PARTNER: *CESEAND, Lucía Díaz*

AZCATEC Technology & Engineering

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP003)

GENERAL DESCRIPTION

TYPE OF COMPANY: Small and medium enterprise (SME)

SIZE: 44 employees

ACTIVITY: Environmental engineering

KEYWORDS: Engineering, Industrial, Environment, Recycling, Renewable Energy, Energetic Optimization, Water Treatment, Sewage, Waste Management.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

We are an engineering specialized in industrial and chemical projects, energy and environmental plants, with a diverse spectrum of activities.

The company have proved experience after over than 20 years developing projects. We have executed more than 200 projects with different companies and more than 300 energy audits:

- Complete projects (included execution): bio diesel plants (200.000 tm/year), sewage plants (2.500 m3/day), composting, biogas, biomass and cogeneration plants, sanitary landfill, MSW classification, leachable treatment, waste incineration and vitrification plants.
- Technical studies: energy optimization plans to municipality, energy improvement to industries, hotels and hospitals, industrial waste treatment, technological improvement.
- Legalization: solar farms, IPPC's, environmental impact studies.

Our staff is mainly composed of industrial, chemicals & environmental engineers and technicians, as well as architects and graduates in other scientific and social specialities.

We have a large partnership and a network of contacts and have already cooperated on LIFE and Intelligent Energy Europe projects of the European Commission. We also cooperate with several research centres, mainly the Engineering School of the University of Seville and AICIA (the Association of Research and Industrial Cooperation of Andalusia).

ADDED VALUE (Of having your organization as Project Partner)

The Company has developed a very high level of expertise in the implementation of engineering project, including plant design and construction. We offer services in engineering and energy. We can contribute with experience in working with Industry and the Public Sector, providing a successful link between Industry and the Market (end-users), besides offering our own partners.

With its on-the-ground experience, we understand the necessary requirements of getting from Pilot to Demonstration to Market phases, the know-how, practicalities, logistics and legalities of implementing innovative technologies, with particular expertise in Energy, Waste & Water Treatment and Biomass.

OTHER RELEVANT INFORMATION

Interest Areas:

- Water (6.3.1.1),
- Waste (6.3.1.3)
- Technology assessment (6.3.3.2. Sustainable bio refineries).

For Further Information, please Contact:

Daniel García Sevilla
AZCATEC Technology & Engineering
Tel: +34 954 122 992
EMail: dgarcia@azcatec.com

Network PARTNER: *CESEAND, Lucía Díaz*

BIOTMicrogen

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP004)

GENERAL DESCRIPTION

TYPE OF COMPANY: Small and medium enterprise (SME)

SIZE: 6 employees

ACTIVITY: Biotechnology

KEYWORDS: Functional food, nutrition, health, environmental biotechnology, renewable energy.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Functional food, nutrition and health on the one hand, and other environmental and renewable energy, particularly bio- plastics and bio- fuels.

ADDED VALUE (Of having your organization as Project Partner)

The main contributions of this company in a consortium would be applied research, research development at the pilot plant, technology transfer to the market, management of R+D projects, provision of contact networks (companies and public research organizations), human resources.

OTHER RELEVANT INFORMATION

The main activities of this company are focuses in: Fork to farm: Food (including seafood), health and well being and Life sciences, biotechnology and biochemistry for sustainable non-food products and processes

For Further Information, please Contact:

Marisa Molina Muñoz
BIOTMicrogen
EMail: mlmolina@biot.es

Network PARTNER: *CESEAND, Lucía Díaz*

CEMOSA

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP030)

GENERAL DESCRIPTION

TYPE OF COMPANY: Company

SIZE: 600 employees

ACTIVITY: engineering and quality control company in the field of construction

KEYWORDS:

1. Civil and transport engineering
2. Geotechnical Engineering
3. Building
4. Construction Material Quality Control
5. Health and Safety Coordination
6. Construction Product Certification
7. Research, Technological Development and Innovation

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

CEMOSA has a wide experience in soil studies, building and infrastructures. CEMOSA has strong Building, Geotechnics, and Infrastructure departments. It relies on a high qualified human team and last generation technical equipment.

ADDED VALUE (Of having your organization as Project Partner)

CEMOSA is aware that in the technological environment it develops its activities, innovation is the only procedure to achieve a sustainable growth.

CEMOSA has always kept an interest in Research & Technological Development and has carried out a number of R&TD projects, some of then partly financed by Public Institutions and other entirely funded by the company.

In 2007, a specific Research, Technological Development and Innovation department was established to accentuate the R, TD & I policy set by the company leaders.

This department interacts with the other six business lines. It promotes, coordinates and manages research, development and innovation projects. It works as a horizontal area. Two people are exclusively working in it.

OTHER RELEVANT INFORMATION

CEMOSA's *Geotechnical Engineering Department* is one of the three top Geotechnical companies in Spain for its annual turnover and human and technical resources.

Its tasks are developed on soil and water for civil engineering and building projects including, between others:

- Geological, geotechnical and geophysics surveys
- Geotechnical technical assistance both in the project and implementation stages of a construction work.
- Special geotechnical tests
- Geotechnical prospecting in aquatic media (damns, reservoirs and ports)

Main contributions to specific Topics:

- ***ENV.2009.3.1.2.1***: CEMOSA has wide experience in tests to evaluate the quality of materials and installations. It involves reception and implementation control.
- ***ENV.2009.3.1.5.2:*** CEMOSA's building department includes energy studies related to construction. Sustainable construction

  ENV.2009.3.2.1.1 & ENV.2009.3.2.1.2: Building diagnosis and pathologies.

For Further Information, please Contact:

Noemí Jiménez Redondo
CEMOSA
EMail noemi.jimenez@cemosa.es

Network PARTNER: *CESEAND, Lucía Díaz*

EASY INDUSTRIAL SOLUTIONS S.L.

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP005)

GENERAL DESCRIPTION

TYPE OF COMPANY: Small and medium enterprise (SME)

SIZE: 6 employees

ACTIVITY: Consultancy division, Composite material division, R&D&I programme

KEYWORDS: Composite, R&D&I, Consultancy, Aeronautical product

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

This company is conformed by a multidisciplinary team made by engineers and graduates highly qualified for the development of the different business areas.

- CONSULTANCY DIVISION: Design, implementation and integration of Management Systems according to Quality, Environmental, and Health and Safety Standards.
  From the renewable energy line, the company offers energetic optimization plans, energetic efficiency studies, energetic audits, photovoltaic solar energy projects in roofs.
  It also offers an integral management of technical reception (GIRT) as well as documented plans for the reception of industrial and aeronautical materials trough our integrated application For technical reception, AIRET.

- COMPOSITE MATERIALS DIVISION: We work internationally from our plant which has a floor area of more than 1.300 m2. We possess the knowledge and technical resources required for development - technologies such as RTM, VARTM and HLU for the production of composite parts.
  Without doubt our R&D&I centre for experimentation and development and the autoclave, installed in a new production plant, which has a useful diameter of three meters and is over 7m long, have been and are key to understanding and undertaking our company's development.
  Our main clients belong to the exclusive aeronautical sector.

- R&D&I PROGRAMME: Beside its production facilities, the company has a R&D centre where new materials innovation programs are developed as well as testing for production and management improvements.
  In order to undertake this R&D&I Project, backed by the Scientific and Commercial Innovation Council of Andalusia and the Technological Association of Andalusia, we have links with University groups working on research, who will ensure a superior level of innovation.

ADDED VALUE (Of having your organization as Project Partner)

Multidisciplinary team, value-generating solutions based on knowledge management and cutting edge technology development.

OTHER RELEVANT INFORMATION

Technological based company, member of the Andalusian Association of technological based companies, co financed by the European union and member of the Indehold II group (group for the innovation and development).

The company has been involved in several R&D projects and has experience on :

- Environmental assessment and management
- Management of dangerous residues
- Energetic optimization plans, energetic efficiency studies

The company is interested in participating as partner in the areas of Energy, Environment and NNP and also in activities related to:

- Climate change, pollution, and risk
- Sustainable management of resources
- Environmental technologies
- Earth observation and assessment tools
- Horizontal actions
- Energy
- Nanosciencies and Nanotechnologies
- Materials
- New Production
- Integration of technologies for industrial applications

For Further Information, please Contact:

Montserrat Medina Iglesias
Easy Industrial Solutions S.L.

EMail: montse.medina@plan3.tv

Network PARTNER: *CESEAND, Lucía Díaz*

ETRURIA INNOVATIONE ScpA

COMPANY PROFILE from Italy
ERRIN NETWORK
(Ref. 08 IT CP028)

GENERAL DESCRIPTION

TyPE OF COMPANY: Public own, non profit company

SIZE: 50 employees

ACTIVITY: Promotion of Innovation and Technology Transfer within companies in Tuscany.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Etruria Innovazione is a publicly owned, non-profit company which promotes innovation and technology transfer to enterprises in Tuscany. Partners are: Tuscany Region, University of Siena, and Municipalities, Provinces and Chambers of Commerce of Siena, Arezzo and Grosseto.

Etruria operates in a number of thematic areas including promoting and creation of networks, ICT systems, e-government, knowledge management, energy and environment, transport and logistics aiming to spread innovation, by bringing the needs of the business world to Tuscan enterprises and research system and creating services which increase their competitiveness and market potential.

Etruria is a structure with high level, specialised personnel, capable of creating synergy between different administrations and added value among regional stakeholders. Among the permanent staff and consultants, Etruria can count on ICT experts, specialists in financial administration including European projects, and experts in European project management.

Etruria has prepared and participated in a wide number of different regional, national and European projects finalised towards the creation of cooperation networks, which include participation from public administrations, local entities, public and private subjects and enterprises. Furthermore Etruria is member of:

- EEN - European Enterprise Network (IRC up to 2007). Etruria encourages cooperation between Tuscany and European companies regarding technology transfer.
- ERRIN - European Regions Research and Innovation Network where is also leader of the Energy Working Group on behalf of the Tuscany Region
- ERIK - European Regions Knowledge Based Innovation Network (under Toscana);

ADDED VALUE (Of having your organization as Project Partner)

Etruria Innovazione provides added value to every project or networking initiative thanks to: own technical expertise; a wide experience in regional and European project management and participation, including projects related to improving energy efficiency in the commercial sector, to environmental protection and to technological innovation; a regional wide network of contacts to

include in project activities; a national and European wide network of contacts; a complete value chain of public and private stakeholders.

Initiatives focused on: ENVIRONMENT

- Recent Regional level projects :
  - GRAAL: a software system allowing on-line self evaluation and benchmarking for energy use within industrial firms;
  - NEMO – Navigation Environment and Mobility: regional network of excellence on systems of navigation and info-mobility focuses on Transport, Environment, Safety.
  - ISAG: Models to improve environmental and energy services in typical production process characterising traditional geothermic areas;
  - HYFIAR: study to integrate Hydrogen applications on local Area - the project was the core of the recently opened hydrogen duct;
  - MUSE: development of a user guide, and of events and policies to promote the use of green energy in the Province of Grosseto.
- Recent European level projects :
  - SADMO (Système d'Évaluation et Contrôle de la Désertification dans la Méditerranée Occidentale)- Innovative methodology to obtain necessary information on desertification processes in the western Mediterranean – INTERREG IIIB MEDOCC
  - MADAMA (Transport/Environment Safety) - Risk Management Systems for Dangerous Goods Transportation in the Mediterranean Area – INTERREG IIIB MEDOCC
  - DESERTNET (with Tuscany Region) - Development of a platform as a common system of services to support National and European policies to combat desertification risk - INTERREG IIIB MEDOCC
  - HYDRANET (with Tuscany Region) (Réseau Durable d'Aménagement des Ressorces Hydrauliques) - Management of the hydrological resources of the Mediterranean Basin process (wafer-to-the device) available; all main characterization tools available.

For Further Information, please Contact:

Etruria Innovazione
Via Banchi di Sopra 31 – 53100 SIENA
Tel. +39 057 724 7452
EMail: *info@etinnova.it*

EUROPA INNOVA

COMPANY PROFILE from Catalonia - Spain
(Ref. 08 ES CP026)

GENERAL DESCRIPTION

TYPE OF COMPANY: Services

ACTIVITY: Project Management

KEYWORDS:

- 6.1.2. Environment and Health
- 6.3.3 Technology assessment, verification and testing
- Area 6.3.3.1 Risk assessment of chemicals and alternative strategies for testing.
- Area 6.3.3.2 Technology assessment.
  - ENV.2009.3.3.2.1 Improved Life Cycle Impact Assessment methods (LCIA) for better sustainability assessment of technologies

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Project Management, dissemination, and European regulation for environment calls.

ADDED VALUE (Of having your organization as Project Partner)

Specialists in the European Community Regulation on chemicals (REACH) and Innovation (International Standard ISO14040). We propose to carry on the Project Management and the dissemination of the risk projects with a percentage of participation that will range depending on the participation of Europainnova into the project.

For Further Information, please Contact:

Nuria Sancho Fortuny
EUROPA INNOVA
c/ Jordi Girona Nº 29 Edifici Nexus II, 08034 Barcelona
Tel. +34 93 280 59 04
EMail: nsancho@europainnova.com
Web: www.europainnova.com

Network PARTNER: *EEN Catalonia, Marta Marqués*

GRUPPO CSA S.p.A

COMPANY PROFILE from Italy
(Ref. 08 IT CP021)

GENERAL DESCRIPTION

TYPE OF COMPANY: Enterprise

SIZE: medium sized enterprise

ACTIVITY: The activities of Gruppo CSA Research Institute are oriented to manage large and complex environmental monitoring plans.

KEYWORDS: marine and transitional environment; water quality, sediment quality, benthic, fluxes, decision supporting system; integrated coastal zone management; climate change; eutrophication.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Gruppo CSA is a SME, with five complementary Divisions:

- LABs Division;
- OUTSIDE ANALYSIS Division;
- PHYSICAL ANALYSIS, INDUSTRIAL HYGIENE AND SAFETY Division;
- MANAGEMENT SYSTEMS and PRODUCT ANALYSIS Division
- PROJECTS, RESEARCH AND DEVELOPMENT Division.

The Company is ISO 9001 certified and the labs of the Gruppo CSA are accredited according to standard UNI CEI EN ISO/IEC 17025.

The competencies and experiences of Gruppo CSA are the development of environmental monitoring planning, sampling, physico-chemical and microbiological determinations in atmospheric, soil, water, sediment and waste samples, sustainability analysis, research and consulting in the environmental, food farming, industrial safety, management system sectors.

ADDED VALUE (Of having your organization as Project Partner)

Gruppo CSA has gained a long experience in aquatic system studies (rivers, lakes, lagoons, groundwater, seas), with particular regard on marine coastal environments, their development and management. In this context, we have specific competences in research studies on biogeochemical processes at the sediment-water interface and their impacts on the aquatic system (e.g. benthic fluxes, bio-geochemical proxies, interstitial waters).

OTHER RELEVANT INFORMATION

Gruppo CSA collaborates with several national and international Universities and Research Centres, in the framework of activities for improving and managing the aquatic ecosystems and preventing future scenarios (such as eutrophic and hypoxia/anoxia events and climate change).

Gruppo CSA was involved in different national and European research projects thanks to which the following tools have been developed and improved:

- Analytical methods for the determination of Redox Sensitive Element (RSE). RSEs contained in sediments showed to have a good potential as paleoenvironmental and historical proxies for the marine environment.
- Core incubator to measure in labs benthic fluxes at the sediment-water interface.
- In situ sediment-water interface flux measurements.
- Decision Support System as instrument to support decisional pattern of policy makers in potentially crucial environmental crises. It is a key-tool in order to plan the management of the coastal area, by integrating different approaches that merge environmental and socio-economic aspects.

Areas of Interest:

- Area 6.2.1.2 Water resources
  - ENV.2009.2.1.2.1 Water management and climate change impacts in the long-term perspective
  - ENV.2009.2.1.5.1 Sustainable development of coastal cities
- Area 6.2.2.1 Marine resources
  - ENV.2009.2.2.1.1 Options for Ecosystem-based management
  - ENV.2009.2.2.1.4 Integrated Coastal Zone Management

For Further Information, please Contact:

Gabriele Matteucci
Gruppo CSA S.p.A.
via Pomposa 39/D, 47900 – Rimini, Italy
Tel: +39 0541-791050
EMail: gmatteucci@csaricerche.com,
project@csaricerche.com

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

KV CONSULTORES

COMPANY PROFILE from Andalusia - Spain
(Ref. 08 ES CP006)

GENERAL DESCRIPTION

TIPE OF COMPANY: Small and medium enterprise (SME)

SIZE: Medium Company

ACTIVITY: A fully integrated, close and reliable service in the field of civil engineering and architecture

KEYWORDS: Civil Engineering, architecture, environment, construction and urbanism.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Multidisciplinary teams and solid partnership and outsourcing allow a global and immediate response to different needs of the clients. As a result of the dynamic, flexible and innovative spirit of the firm, and the independence of the other companies we interact with, the company is able to analyse each situation globally, in order to obtain excellent technical, cost-effective and timely solutions.

From the environmental point of view, inside the Projects Division, there are the following areas:

- *Water resources and environmental engineering*, with professionals that possess an extensive and specialised experience in projects and studies of pipelines, water treatment (filtration and sanitation) and regulation elements, like tanks and reservoirs.
- *Maritime Engineering* carries out specialised tasks within civil engineering, particularly in the areas of coasts and ports.
- *Ground Engineering* offers several specialised services of tunnel engineering, underground works and geotechnics.

ADDED VALUE (Of having your organization as Project Partner)

In addition the company has the support of the other departments and the services of external sources and partners, specialized in related areas, in order to offer an overall management of the works carried out.

OTHER RELEVANT INFORMATION

The company promotes the technological development of the company and the establishment of an Innovation management system, according to UNE-166002. Integrated into our quality and Environment Management system, implemented in May 2006 and certified by the models defined in ISO –90000: 20000 AND iso – 14001: 2004

For Further Information, please Contact:

Cristina Gallego Sanz
KV CONSULTORES
Tel: +34-662170830
*EMail:*cgallego@kvconsultores.es

Network PARTNER: *CESEAND, Lucía Díaz*

PLAN 3, Planificación, Estrategia y Tecnología S.L.

COMPANY PROFILE from Andalusia – Spain
(Ref. 08 ES CP007)

GENERAL DESCRIPTION

TYPE OF COMPANY: Small and medium enterprise (SME)

SIZE:

ACTIVITY: Technological consultancy for small and medium companies.

KEYWORDS: Technological, communications, consultancy, investigation, development, innovation.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The company was born out of the expertise gained from its partners and from its own professionals, and has a wide experience in private and public companies, in relation to the business management.

The main objective is to create tools and methodologies companies and enterprises by means of the promotion of expert management systems and the access to the information which facilities the election of its productive strategies, desirable evolution of the company and the strategies, desirable evolution of the company and the promotion of strategic and operative plans.

This company was created with the following mission:

“To develop, edit and commercialize expert systems and management tools, as well as to develop projects, all within the framework of business, organizational and technological management for SMEs and other institutions”.

ADDED VALUE (Of having your organization as Project Partner)

Multidisciplinary and experienced team. Have worked with start-up companies up to their consolidation, all of them with very high technological and investigation standards and requirements for its activities.

OTHER RELEVANT INFORMATION

We are a technological based company, founder partner of the Andalusian Association of technological based companies (AABT). We are based in knowledge and with constant evolution towards excellence as well as compromised with the newest technologies in the area of business management.

Member of the Indehold II group (Innovation and development group) being responsible of the strategic planning for all the members companies. Also worked with several public institutions with a high level of satisfaction and success.

PLAN3 has developed different R&D projects related to expert software ex.

- SYSDE (System Decision Management) implies the presentation of unique and innovative software, based on the creation of a mathematical model which allows applying metaheurística techniques for the resolution of problems regarding decision making. This software offers business organizations to perform part of the most difficult process for the entrepreneur: to obtain data in order to analyze it and subsequently take decisions, optimizing this process, enhancing its effectiveness and making the competition among business organizations easier.
- MULTISPADE (Multicriteria Spatial Decision Management), is an application that easily helps in the decision taking strategies related to the localization of public services and facilities considering multiple alternatives to be chosen from.

All our projects are certified by AENOR.

For Further Information, please Contact:

Mariela Pino García
Plan3, Planificación, Estrategia y Tecnología S.L.
Tel: +34 667 23 50 92
EMail: *mariela.pino@plan3.tv*

Network PARTNER: *CESEAND, Lucía Díaz*

STARLAB

Company Profile from Catalonia - Spain
(Ref. 08 ES CP027)

GENERAL DESCRIPTION

TIPE OF COMPANY: Industry

SIZE: 15

ACTIVITY: We target technology and applications: the development of new sensors and efficient algorithms to extract information from data, identification of platforms and deployment opportunities, as well as the development of services and products.

KEYWORDS

- Sub-Activity 6.2.2 Management of marine environments
  - Area 6.2.2.1 Marine resources
- Sub-Activity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
  - Area 6.3.1.6 Marine environment
- Sub-Activity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
  - Area 6.3.1.1 Water

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

We are market-aware and market-driving. Our focus areas are Space (Technology and EO Services) and applied Neuroscience. These R&D areas will have great impact in and through several key markets, including Environment, Energy, Health and Space.

Starlab Research carries out interdisciplinary R&D focusing on two synergic areas: Space and applied Neuroscience. The department has a strong background in physics, mathematics, computer science, neuroscience and electronic engineering.

ADDED VALUE (Of having your organization as Project Partner)

Starlab has positioned itself as Value Added Company (VAC) in the provision of operational EO services.

The Starlab's EO services classification is listed below:

- Water quality monitoring: The service provides water quality indicators for environmental agencies, aquaculture and fishing industry. The system provides, in a single platform, the integration of different marine indexes allowing the user a better ocean characterization, and prevents potential arrival of harmful bacteria related to upwelling events. The main indexes are temperature and current maps, upwelling maps, transparency, suspended matter, HAB alert indexes and chlorophyll-a concentration.
- Oil spill detection and polluter identification: The oil spill detection & polluter identification service provides routine surveillance of coastal waters based on near real time oil spill detection using Envisat SAR images. The service also includes the integration of AIS (Automatic Identification System) information in order to allow the user the identification of potential polluters, as well as additional relevant information as Meteorology and Oceanography.
- Renewable energies:
  - Water flow service prediction: a service for hydro power generation with the objective of improving flow prediction and resource management by incorporating Earth observation data in improved hydrological models.
  - Ocean wind mapping: provides ocean surface wind products based on the analysis of SAR imagery. It can be used for environmental services such as oil spill detection (drift modelling) and water quality monitoring (jellyfish and algae bloom movements).
  - Land wind mapping: offers generic maps of wind resources over a region and to define potential areas where to deploy a wind farm. The final output will be a GIS platform easy to export to Google Earth for easy 3D visualization. This Land Wind Map can be used for environmental applications such as climate change and coastal management.

For Further Information, please Contact:

Araceli Pi Figueroa,
STARLAB
Tel. +34 9325403664
EMail: *Araceli.pi@starlab.es*

Network PARTNER: *EEN Catalonia, Marta Marqués*

THETIS

COMPANY PROFILE from Italy
ERRIN NETWORK
(Ref. 08 IT CP029)

GENERAL DESCRIPTION

TYPE OF COMPANY: Engineering Company

SIZE: 50 employees

ACTIVITY: advanced engineering and systems integrator Company merging knowledge in Environmental technologies and ICT (Information and Communication Technology) to provide innovative solutions in four business areas: Environmental and Territory Engineering; Civil Engineering, Intelligent Transport Systems (ITS) and Knowledge Systems Engineering.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Thetis' headquarters lie in the historic Arsenal of Venice while ITS facilities are in the Venice Technological Park. The Company share capital is over 11 Millions Euro and personnel amounts to 160 people in 2007. Thetis' main shareholder is the Consorzio Venezia Nuova (concessionary of the Italian Ministry for Infrastructures and transport – Venice Water Authority) responsible for the safeguard of Venice and its lagoon

The company's know-how combined with the direct access to the know-how of its industrial partners make Thetis a competent supplier of studies and designs, products, technological innovations, testing services, operational services and technological training services.

Thetis corporate facilities include laboratories and state-of-the-art computer and technological equipment for the integration of systems and equipment for environmental monitoring, water quality analysis, GIS applications, transport management, underwater operations.

Thetis has developed and managed more than 20 projects on environmental and transportation themes financed by National and EU Programmes for research and technological development (Italian Ministry of University and Research, National Research Council, EU Framework Programmes, INTERREG Programmes). Innovative approaches and technologies to support the sustainable development of new emerging economies has been also developed within International Cooperation initiatives, such as the Sino-Italian Cooperation Programme for the environmental protection managed by The Italian Ministry of Environment and SEPA, the State Environmental Protection Agency of China and the Indo-Italian cooperation on sustainable mobility in Indian cities (Italian Ministry of Environment and Indian Ministry of Urban Development).

ADDED VALUE (Of having your organization as Project Partner)

Capabilities in Environmental and Territory Engineering

Thetis' expertise in environmental engineering has grown within the context of the Venice's lagoon, one of the most complex and fragile ecosystem in the world developing environmental technologies, methodologies and models transferable worldwide .

Thetis main capabilities are related to:

- Characterization and Assessment of ecosystem quality indicators
- Chemical-physical and ecotoxicological analysis on water, sediments and biota
- Integrated management and monitoring of coastal strips
- Environmental re-qualification of industrial sites
- Environmental planning and master-planning
- Environmental modelling of coastal marine environment
- Sustainable Development Plans
- Development of GIS applications and DSS (decision support systems)

Thetis has developed its expertise mainly in the following areas :

- Lagoons and transition zones
- Coastal and maritime environments
- River and marshland environments
- Contaminated sites
- Catchment basins

Research topics in environmental and territory engineering:

- ICZM (integrated coastal zone management)
- ERA (ecological risk assessment)
- Innovative technologies for the assessment of chemical/ecological water bodies status
- New methods and instruments for Sustainable Urban Development
- Innovative approach for sustainable and integrated management of marine ecosystems
- Development of new diagnostic systems for the evaluation of marine-coastal ecosystems quality
- Characterization and remediation of polluted industrial areas

OTHER RELEVANT INFORMATION: *Topics of Interest*

- ***ENV.2009.2.1.5.1 Sustainable development of coastal cities (WP 2009, pg. 25)***

  Development of innovative methods and instruments for sustainable urban development focused on coastal cities, particularly exposed to the impacts of climate and global change. Specific cooperation action with INDIA e south-east Asia.

  Funding scheme: CP large scale integrating project

  Thetis's capabilities to develop system studies related to coastal zone management, integrated and innovative approach for the assessment of marine/coastal ecosystems quality, sustainable development plans (experiences in China: Chongming, Caofeidian), sustainable urban mobility (Bejing, Shanghai, Xi'an, Delhi)), study on sustainability of Venice's system.

Possible link with INDIA cooperation programme of the Italian Ministry for the Environment and Sea.

Expression of interest by Tel Aviv University (Marine Biology Dept.)

- ***ENV.2009.2.2.1.1 Options for Ecosystem-based management (WP 2009, pg. 27)***

  Development and implementation of innovative approach for a sustainable and integrated management of marine ecosystems with focus on fisheries.

  Scope: support to the implementation of the "EU Marine Strategy" and "Habitats Directive"

  Funding scheme: CP large scale integrating project

  (Topic coordinata con la call Food, Agricolture and Fisheries, and Biotechnology e la call Energy)

  Thetis' expertise on environmental monitoring systems, analysis of water, sediment and biota, measurement and sampling campaigns in coastal zones and lagoons.

  Interest to study and develop new tools and methodologies for the quality assessment and management of coastal ecosystems.

  Expression of interest by Tel Aviv University (Marine Biology Dept.)

- ***ENV.2009.2.2.1.4 Integrated Coastal Zone Management (WP2009, pg. 29)***

  Exchange of knowledge, identification of common threats and solutions for the sustainable development and environmental protection of costal zones in the Mediterannean and Black Sea areas. Implementation of EU ICZM recommendations, EU marine and maritime Policies.

  Specific cooperation action with Mediterannean and Black Seas

  Funding scheme: CP large scale integrated project

Thetis's capabilities to develop system studies related to coastal zone management, integrated and innovative approach for the assessment of marine/coastal ecosystems quality, sustainable development plans (experiences in China: Chongming, Caofeidian), study on sustainability of Venice's system.

Possible link with Sofia/Bulgarian Universities, Oikon (Croatia)

Expression of interest by Tel Aviv University (Marine Biology Dept.)

For Further Information, please Contact:

Andrea Leonardelli,
Venetto Region EU Office B
Off Be +32027437023
EMail: *c_andrea.leonardelli@regione.veneto.it*

Technological Centres

EIADES -CM

TECH. CENTRE PROFILE from Madrid - Spain
(Ref. 08 ES CP015)

GENERAL DESCRIPTION

TYPE OF CENTRE: Program Among Research Groups from Madrid Region

SIZE: Small

ACTIVITY: Environmental Impact and Soil Remediation in Contaminated Areas

KEYWORDS: Environmental Impact, Bioremediation, Phytoremediation, Electrokinetic technologies

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

- Characterization of contaminated soils
- Remediation Technologies
- Evaluation of the decontamination processes
- Proposal of remediation technologies
- Modelling of the soil decontamination processes in soils. Evaluation of times and costs
- Technologies application to contaminated sites according to Spanish legislation.

OTHER RELEVANT INFORMATION

EIADES Program subsidizes by Consejería de Educación de la Comunidad de Madrid (2006-2009) is composed by 8 Research Groups from Madrid Region and 10 Companies which work in this industry, apart from other national and international research groups, that deal with the following objectives:

- Remediation y restoration of soils contaminated with heavy metals and/or organic compounds.
- Application of different physico-chemical and biological remediation technologies "in situ"
- Application of an useful system to evaluate the environmental impact of the remediation process.

The Program proposes to develop innovative scientific tools to tackle these challenges. A methodology to assess the environmental impact of industrial activities on soils and of the remediation projects themselves according to the risk analysis techniques will be developed applying last generation scientific development (PRA Probabilistic Risk Assessment, Biotch-DTA, biotechnology-based –Direct- Toxicity Assessment).

The application of different remediation strategies such as electrokinetic, bioremediation and phytoremediation will be considered in relation to the size and type of contaminant, characteristics of the ecosystem and the future use of the soil. With the aim to evaluate the efficiency of the remediation processes, an ecotoxicological analysis system will be developed to quantify the ecosystem remediation in terms of cost/profit.

Work scenarios:

a) Old landfill
b) Abandoned mines
c) Natural or agricultural soils affected by contamination sources

For Further Information, please Contact:

Dr. Mª Carmen Lobo Bedmar
EIADES-CM
Tel: +34- 918879472
EMail: carmen.lobo@madrid.org

Network PARTNER: *EEN Madri+d*

FUNDACIÓN IMDEA

TECH. CENTRE PROFILE from Madrid - Spain
(Ref. 08 ES CP014)

GENERAL DESCRIPTION

TYPE OF CENTRE: IMDEA-WATER (Madrid's Advanced Water Studies Institute)

ACTIVITY: Research, Innovation and market business management

KEYWORDS: Water technologies, reuse, treatment, economic value

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The research potential is high. The institute bases its research on water resources quality and waste water treatment and management. This Institute incorporates all the groups from the centres dedicated to water I+D in the Community of Madrid (Spain), laboratories of the Laboratory Network of the madri+d System with equipments ready to be used, water supply companies, water-treatment companies, equipment supply companies, engineering companies and other centres or companies that can make interesting contributions.

ADDED VALUE (Of having your organization as Project Partner)

Advanced research and expertise in projects.

We carry on the necessary activities to get practical benefits from the results of the scientific-technical actions. These activities are distributed into four main groups: display, transference, diffusion and training.

Display activities will be carried out starting from the results of particular researches, with special attention to the technological display. They will be especially developed for potential users (companies), members of the environmental policy administrations and the general public opinion. In many cases, these display activities will be clearly related to the transference activities.

OTHER RELEVANT INFORMATION

Based on the development of four main strategic lines for the integrated water management:

- The sustainable exploitation of the resource
- The preservation of the water mass quality
- The treatment and later reuse
- The economic and social value of the water

Strategically located at the Scientific and Technological Park of the University of Alcalá, that makes easier to involve companies in the activities of the institute.

For Further Information, please Contact:

Pablo Traspas
Foundation IMDEA WATER
Tel: +34 91 830 5962
EMail: imdea.agua@imdea.org

Network PARTNER: *EEN Madri+d*

AACHEN UNIVERSITY (IVT): Chemical Engineering Department of RWTH

R&D INSTITUTION PROFILE from Germany
(Ref. 08 DE CP009)

GENERAL DESCRIPTION

TYPE OF COMPANY: Chemical Engineering Department of RWTH Aachen University (AVT)
SIZE: 150
ACTIVITY: Research expertise on membrane technology for enhanced water and wastewater treatment
KEYWORDS: water, wastewater, membrane technology

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Applications of membrane processes in the water and wastewater treatment sector are traditionally a key subject of research activities at the Chemical Engineering Department of RWTH Aachen University (AVT). As water related problems feature prominently on the global agenda new water management and treatment concepts are needed to cope with the growing needs for freshwater and to mitigate pollution of aquatic eco-systems.

The current structure of research activities on membrane processes in water and wastewater treatment at the AVT anticipates the important drivers on an international scale and has transformed them into a number of research projects which focus issues such as:

- membrane technologies for removal of organic micro-pollutants (e.g. www.aquabase.rwth-aachen.de)
- membrane technologies in wastewater reclamation and various reuse applications such as artificial aquifer recharge (e.g. www.reclaim-water.org)
- membrane hybrid processes such as combinations of membranes and activated carbon adsorption or biological treatment processes
- membrane bioreactor technology for municipal wastewater treatment (www.mbr-network.eu)
- fouling control in membrane bioreactors, including effectiveness of chemical cleaning (www.mbr-train.org)
- membrane-based desalination (incl. nanofiltration, reverse osmosis, electrodialysis and pre-treatment aspects)
- utilisation of different membrane processes in industrial water management (with applications in the chemical and automotive industry)
- characterisation of membrane materials and hydrodynamic investigations of module geometries (focusing on submerged micro filtration modules)

- new operational concepts of high-performance systems with micro-fabricated membranes

ADDED VALUE (Of having your organization as Project Partner)

Covering a broad spectrum of relevant pressure driven membrane processes for versatile applications

- Utilisation of advanced experimental and analytical tools for membrane and fouling characterisation (e.g. SEM, MWCO, AFM, etc.)
- Availability of different lab and pilot scale plants for experimental investigations
- Modelling tools for process simulation of membrane filtration processes (RO Design, MBR simulation, computational fluid dynamics)

For Further Information, please Contact:

Sabrina Wodrich
NRW Europa
Tel: +49-208-30004-44
EMail: sw@zenit.de

Network PARTNER: *NRW Europa, Sabrina Wodrich*

CENTRO RICERCHE PRODUZIONI ANIMALI (CRPA)

R&D INSTITUTION PROFILE from Italy
(Ref. 08 IT CP020)

GENERAL DESCRIPTION

TYPE OF COMPANY: Research Centre on Animal Production (www.crpa.it)

SIZE: More than 40 staff plus a large number of appointed professionals and consultants (between 60 to 90)

ACTIVITY: CRPA's organisational structure is divided into different departments with a constant interchange and collaboration between them. The issues dealt with are the following:

- environmental compatibility of the agricultural food production sector
- rural development and economics.
- quality and safety of livestock production
- feed, supply and implements for agriculture.

The specific activities are carried out by means of:

- organisation, management and execution of research projects
- economic analyses
- implementation of feasibility studies
- setting up and management of computer systems and data bases
- technical assistance and advisory services
- design of plant and structures
- training, education and dissemination.

KEYWORDS: animal production, environmental compatibility.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The ever-increasing experience on environmental topics enables the Centre to offer technical-scientific consultancy and to propose innovative solutions for problems such as the pollution, disposal and re-cycling of by-products and wastes from livestock farms and processing industries.

The Centre is able to provide consultancy on important issues of concern both to public and private bodies managing environmental services, to individual farmers and the agricultural food industry.

- Studies on the relationship between feed rations and manure characteristics focused on the reduction of excretions and emissions
- Mineral balances of dairy and beef cattle, pigs and poultry
- Studies of, research into and evaluation of technologies with low environmental impact for farming and the processing industry

- Assistance to the national and regional administrations in the set up of intervention plans, regulations and laws
- Development of software and Internet services providing assistance in livestock waste management
- Design of structure for removal and storage of livestock waste and studies concerning the landscape friendly housing systems

ADDED VALUE (Of having your organization as Project Partner)

The high quality of the work undertaken by CRPA can be confirmed by reference to the results of the evaluations of regional projects, the success achieved in the assignment and participation of EU projects and its participation as the Italian representative in supra-national work groups.

CRPA's shareholders are local public institutions and private economic bodies together with national and local organisations representing agricultural and livestock farming interests

Public shareholders: province of Reggio Emilia, Modena, Parma, Bologna, Forlì, Chambers of Commerce of Reggio Emilia and Parma

Private shareholders:

- Coldiretti, Confagricoltura and CIA, the three national farmers' unions of Italy
- Producers and breeders associations of farmers raising dairy and beef cattle, pigs, poultry and rabbits (AIPLE, AERAC, ASSER, PROINCARNE, ANAS)
- Meat and milk processing industry and bodies (ASSICA, Consortium Parmigiano-Reggiano cheese, Consortium of Parma ham
- Municipal Environment and Energy Service Company (ENIA)

OTHER RELEVANT INFORMATION

CRPA has undertaken environment-based projects for the European Union, the Ministry of the Environment, MIPAF - Ministry of Agricultural and Forestry Policy, the Emilia-Romagna Region, ENEA – National Agency for New Technologies, Energy and the Environment, CNR - Italian National Research Council, APAT - National Agency for the Protection of the Environment and Technical Services, ENEL – National Electricity Industry, INEA - National Institute of Agricultural Economics), public and private corporations involved in the management of environmental services, AIA - Italian Breeders' Association, seed companies, slaughtering firms, livestock production and processing firms, agricultural entrepreneurs.

In addition, CRPA represents Italy in the following supra-national working groups and associations:

- IPPC 96/61 - Integrated Pollution Prevention and Control, UNECE - Expert Group on Ammonia Abatement Techniques, Corinair - Coordination Information Air.
- "Nitrates Committee" established by Directorate General Environment of European Commission
- European Dairy Farmers (EDF)
- European Pig Producers (EPP)
- International Farm Comparison Network IFCN for dairy and beef cattle

Projects in which CRPA operated as co-ordinator

- LIFE04-ENV/IT/000454 - OptiMa-N - Optimisation of nitrogen management for groundwater quality improvement and conservation
- LIFE06-ENV/IT/000266 – Seq-Cure - Integrated systems to enhance sequestration of carbon, producing energy crops by using organic residues

Projects in which CRPA operated as partner

- UE Project ITC-2007-2 Challenge 6: ITC for Mobility, Environmental Sustainability, and Energy Efficiency. Ob. ITC-2007.6,3: ITC for Environmental Management and Energy Efficiency Project number 224690
  "Good practicies for Europeandevelopers of advantaged ITC-enable energy-efficiency Systems"
- EU project SSPE-CT-2006-44292 "BAT-SUPPORT – Best Available Techniques for European Intensive Livestock Farming – Support for the implementation of the IPPC-Directive"
- EU project MIDAIR "Greenhouse Gas Mitigation for Organic and Conventional Dairy Production" (2001-2004),
- Welfare Quality – Integration of animal welfare in the food quality chain: from public concern to improved welfare and transparent quality (FOOD-CT-2004-506508), EU Integrated Project
- EU Concerted Action AROMIS "Assessment and reduction of heavy metal input into agro-ecosystems" (2000-2003),
- EU Concerted Action FAIR6-PL98-4057 ALFAM "Ammonia losses from field-applied animal manure - " (1999-2001),
- EU Concerted Action FAIR6-CT98-4215, NUMALEC "Nutrient management legislation in European countries " (1994-1998),
- EU Concerted Action MATRESA "Manure Treatment Strategies for Sustainable Agriculture" (1994-1997).
- The Socio-Economic Impact of Rural Development Policies: Realities and Potentials (IMPACT, FAIR6-PL98-4288), EU STREP Project
- Cross-Compliance: facilitating the CAP reform: compliance and competitiveness of European agriculture (SSPE-CT-2005-006489), EU STREP Project
- Encouraging Collective Farmers Marketing Initiatives, COFAMI (SSPE-CT-2005-06541)

For Further Information, please Contact:

Sergio Piccinini, Paolo Mantovi
CRPA (Centro Ricerche Produzioni Animali), Research Centre on Animal Production
Tel: +39 0522436999
EMail: s.piccinini@crpa.it; p.mantovi@crpa.it

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

Fraunhofer UMSICHT

R&D INSTITUTION PROFILE from Germany
(Ref. 08 DE CP011)

GENERAL DESCRIPTION

TYPE OF COMPANY: The Fraunhofer Institute for Environmental, Safety, and Energy Technology is a non-profit technical-scientific institute

SIZE< 250

ACTIVITY: Fraunhofer UMSICHT conducts contract research on behalf of industry, the service sector, and government. Fraunhofer UMSICHT develops, tests, evaluates, and optimizes technical processes in the field of environmental, safety, process, and energy technology.

KEYWORDS: Environment, energy, renewable resources, membranes, information networks

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Fraunhofer UMSICHT develops applied and custom-made process engineering technologies. Assuming a leading position in the fields of environmental and material technologies, process engineering and energy technology, Fraunhofer UMSICHT is committed to sustainable economic development, environmentally friendly technologies and innovative approaches designed to improve the standard of living and to promote the innovation capacity of the national economy.

To strengthen its position in the research landscape, the institute has focused its activities on four key research areas, these are:

- Biorefinery: Products from Renewable Resources
- matfunc – Particles, Materials and Membranes with Functionality
- Modular Energy Technologies – Flexible Solutions for Sustainable Energy Systems
- Information Networks for Process and Energy Technology – Utilizing Dispersed Knowledge in Value Added Chains

This thematic scope is designed to give interdisciplinary scientific impulses across the business-units. It is in these key areas that the institute's profile is adapted to the rhythm of social and economic changes and focused on promising new lines of research.

Eight specialized business units represent the precisely tailored combination of products and R&D services responding to today's challenges of the market segments addressed. Modern project management methods are used to successfully realize innovation projects. The key research areas are thus continuously adapted to changing demands in a »bottom up« way.

ADDED VALUE (Of having your organization as Project Partner)

Together with industrial and public customers, Fraunhofer UMSICHT develops and researches the latest know-how and transfers it into industrial applications and marketable products.

Starting from the project idea over proposal procedures to the development and market introduction, Fraunhofer UMSICHT offers its clients R&D expertise and thus provides them with competitive benefits and opens up international markets for them. As a member of the Fraunhofer-Gesellschaft, the institute follows the line of applied, cutting-edge research and development.

For Further Information, please Contact:

Sabrina Wodrich
NRW Europa
Tel: +49-208-30004-44
EMail: sw@zenit.de

Network PARTNER: *NRW Europa, Sabrina Wodrich*

(Ref. 08 DE CP013)

GENERAL DESCRIPTION

TYPE OF COMPANY: The Fraunhofer Institute for Environmental, Safety, and Energy Technology is a non-profit technical-scientific institute

SIZE< 250

ACTIVITY: Fraunhofer UMSICHT conducts contract research on behalf of industry, the service sector, and government. Fraunhofer UMSICHT develops, tests, evaluates, and optimizes technical processes in the field of environmental, safety, process, and energy technology. The Department Energy Technology deals with mechanical treatment and energy recovery of waste, RDF and biomass

KEYWORDS: Research and Development: waste to energy

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Fraunhofer UMSICHT has various activities in the area of mechanical treatment and energy recovery of waste, RDF and biomass:

- MARS® : Modular Incineration Plant with Reduced Flue Gas Cleaning Residues: Accomplishment of incineration test with different solid fuels (RDF, biomass, light fraction of MBT...); Flue gas analysis (raw gas and clean gas); Analysis of fuel and ashes; Feasibility studies; Optimization of incineration processes
- Treatment of bottom ash: Immobilization of heavy metals with CO2-treatment; Rapid aging of bottom ash
- Mechanical treatment of waste: Production of RDF; Material flow management/analysis; Modelling and simulation of the RDF-production; Waste treatment processes (used tyres, mixed plastics, bumper) in pilot scale;
- Characterization of RDF: Release ratio and nature of the volatile matter at different temperatures; Release velocity (kinetics) of the volatile matter at different temperatures; Calorific value (HU and HL) of the volatile matter at different temperatures
- Sampling of waste and bottom ash
- Material flow management: Cost-benefit analysis; Research of biomass potential including possibilities for the utilization of the detected biomass
- High Temperature Imaging: Online-Expertise and documentation of thermal ambiences up to 1400°C (e. g. conducts, boiler); Air-cooled camera system

For Further Information, please Contact:

Sabrina Wodrich
Tel: +49-208-30004-44
EMail: sw@zenit.de

Network PARTNER: *NRW Europa, Sabrina Wodrich*

IWW Water Centre

R&D INSTITUTION PROFILE from Germany
(Ref. 08 DE CP012)

GENERAL DESCRIPTION

TYPE OF COMPANY: IWW Water Centre, associated Institute to the University of Duisburg/Essen (financially independent from the University)

SIZE: 86

ACTIVITY: Thematic focus on drinking water and industrial water

KEYWORDS: Groundwater & water supply / Industrial water / Membrane technology / Monitoring, Testing and Control Instruments / Waste water treatment / Water treatment/ water reuse

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Main goals of IWW/UniDUE are to bridge the gap of water-related activities between fundamental education and research at UniDUE and the relevant practical needs of the water industry at IWW. Main fields of activities are:

- *Applied research:* Resource protection and water catchment, process technology, distribution infrastructure, quality and analysis of water, bio films in tap and industrial water, organisation and management
- *Consulting for the water industry:* Conception and basic design/preplanning, operation/optimisation of treatment plants, problem-oriented analytics, innovative and practical solutions, independent and neutral consulting
- *Further education and knowledge transfer:* National and international conferences, training and in-house seminars, technology transfer, international consultancy

Main R&D activities are along the following 8 research lines:

1. Optimisation of treatment processes
2. Desalination
3. Trace contaminants
4. consequences of climate change
5. Water cycles
6. Sustainable management of water systems
7. Hygiene and water safety
8. Network monitoring, maintenance and re-structuring.

The actual total funding of research projects is about 1,7 Mio EUR per year.

Educational activities besides further education at IWW (cf. main goals): Students at the UniDUE can focus their courses on water-related topics in the Departments of Mechanical Engineering, Civil Engineering, Chemistry, Biology and Geography. Dedicated courses on water topics are:

- BSc./MSc course: Water Science
- MSc. Course (UniDUE with Radboud University Nijmegen/NL): Transnational ecosystem-based Water Management
- MSc. Course: Management and Technology of Water and Wastewater

Staff of IWW has also teaching assignments in these courses.

ADDED VALUE (Of having your organization as Project Partner)

We develop innovative and economic solutions together with the water suppliers, industry, plant constructors and swimming pool operators. IWW acts as an independent and neutral partner for authorities and ministries in all issues concerning surface water quality, drinking water quality, hygiene und water technology.

OTHER RELEVANT INFORMATION:

IWW Water Centre is financially independent of UniDUE, has the status of a not-for-profit limited company without any institutional financial support. IWW research is financed by research grants, substantially co-financed by own commercial activities from consulting and water analysis.

For Further Information, please Contact:

Sabrina Wodrich
NRW Europa
Tel: +49-208-30004-44
EMail: sw@zenit.de

Network PARTNER: *NRW Europa, Sabrina Wodrich*

MICROAMBIENTE –CM

R&D INSTITUTION PROFILE from Madrid - Spain
(Ref. 08 ES CP017)

GENERAL DESCRIPTION

TYPE OF INSTITUTION: Consortium of Research Groups

SIZE> 20

ACTIVITY: Higher Education + Research

KEYWORDS: MICROBES, PLANT-MICROORGANISM INTERACTIONS, ENVIRONMENTAL ANALYSIS, BIOREMEDIATION, SOIL RESTORATION, WATER QUALITY, BIOSENSORS, BIOINDICATORS, SYMBIOTIC NITROGEN FIXATION, RHIZOSPHERE COLONIZATION, BIOCONTROL, Rhizobium, Pseudomonas, cyanobacteria, nickel, hydrogenase, hydrogen.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

MICROAMBIENTE-CM is a consortium of leading researchers from Universities and Research Institutes from the Madrid Region. The main research area of MICROAMBIENTE is the use of microorganisms for environmental analysis and environmental restoration. Several of the groups have more than 15 years experience in plant microbe interactions and its applications in agriculture and environmental protection: inoculants, bio control, bio fertilization, rhizoremediation, among others. Other groups are experts in water quality analysis including the use of biosensors and bioindicators. Several Scientists in the consortium have experience in preparing proposals and participating in European funded research.

ADDED VALUE (Of having your organization as Project Partner)

Ample experience in the above topics; experience in management of EU funded research. Common infrastructure for research with state of the art equipment.

OTHER RELEVANT INFORMATION

As MICROAMBIENTE is a consortium of research goups, several forms of partnering is possible, from participation of individual groups to participation of the whole consortium.

For Further Information, please Contact:

IVAN BENITO
MICROAMBIENTE-CM
EMail: ivan.benito@uam.es

Network PARTNER: *EEN Madri+d*

PLASMA GROUP OF THE CNR - IMR

R&D INSTITUTION PROFILE from Italy
(Ref. 08 IT CP019)

GENERAL DESCRIPTION

TYPE OF COMPANY: Research institute, governative

SIZE: 50 employees

ACTIVITY: Research Laboratory in the Microelectronics

KEYWORDS: Clean room, microelectronics, device fabrication, photovoltaic, plasma deposition, amorphous silicon, heterojunction solar cells, solar simulator.

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

20 years expertise in the fabrication and characterization of silicon based photovoltaic devices. Simulation, design, and fabrication of optical systems.

ADDED VALUE (Of having your organization as Project Partner)

All process (wafer-to-the device) available; all main characterization tools available.

OTHER RELEVANT INFORMATION

4-chamber Plasma deposition machine, able to fabricate doped and un doped silicon and silicon carbide, silicon nitride, both rf and VHF.

For Further Information, please Contact:

Caterina Summonte, Dr.
Plasma group of the CNR-IMM, Section of Bologna
Tel: +39 051 6399131
EMail: caterina.summonte@cnr.it

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

UNIVERSIDAD COMPLUTENSE de Madrid: Cellulose and paper Research Group

R&D INSTITUTION PROFILE from Madrid - Spain
(Ref. 08 ES CP018)

GENERAL DESCRIPTION

TYPE OF INSTITUTION: Public University

SIZE: 6000+ Professors

ACTIVITY: Higher Education + Research

KEYWORDS: pulp and paper, water treatments, flocculation, industrial waste water, water circuit closure, recycled paper, fibre reinforced composites

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The Cellulose and Paper Research Group conducts its activities in both fundamental and applied research. The fundamental research activities are devoted to the acquisition of new knowledge and the fundamental understanding of the phenomena taking place during the production of pulp, paper and fibre-cement. The applied research activities of the group are concerned with the application of the gained new knowledge to solve the specific needs of the industry and suppliers. The group's main activities are related to:

- Flocculation optimisation: papermaking, fibrecement production, water treatments, sludge dewatering, etc. On-line control of flocculation.
- Raw materials: Characterization of virgin pulps and recovered paper in order to assess how their properties change with each step of the paper chain. Paper recyclability.
- Optimisation of stock preparation to identify and quantify the effect of process conditions on the release of detrimental substances that impact adversely on papermaking. Characterisation and removal of detrimental substances.
- Wet-end chemistry: flocculation, retention, drainage, and formation. Understanding of the flocculation phenomena, studies on the influence of physical parameters and wet end chemistry on paper properties.
- Optimisation of water treatments. Closing up the water systems: water specifications for different stream, effects of closure on runnability and product quality, alternatives for closure, internal treatments (kidneys) to minimize the problems of scaling, corrosion, deposits, slime, etc. Treatments for reuse industrial effluents: biological and membrane technologies.
- Reclaimed water: required quality and water treatments for industrial uses.
- Simulation and modelling: dynamic simulation.

Advanced data analysis: data handling and processing, development of computer based diagnostic systems, principal component analysis, application of neural networks as predictive tool and software development, integration of neural networks in the process simulation, etc.

ADDED VALUE (Of having your organization as Project Partner)

The Cellulose and Paper Research Group has a wide experience on national and international projects. International contacts. Close collaboration with the industry, especially with numerous companies of the paper and chemical sectors. The group can therefore contribute effectively to acquire industrial partners for the constitution of research consortia.

OTHER RELEVANT INFORMATION

The group has laboratories facilities at the Chemistry Faculty and at Holmen Paper. Beside the common facilities of the University and Holmen the Group has the following specific infrastructure:

- Dynamic Drainage Analyzer (DDA)
- Laboratory dynamic drainage, refining, and retention analysers DFR-04 and RET20 LAB
- Formation and Retention Tester-FRET
- FBRM probes: M400L, S400QA SYSTEM, L500 Industrial SYSTEM
- Gas Chromathograph Varian CP 3800
- TOC Tekmar Dormann Apollo 9000
- Mütek PCD 03 and Zeta Potential
- Atomic Absortium Spectrometer Varian SpectrAA
- Particle Vision Measurement PVM 800L SYSTEM
- HPLC-GPC
- Near infrared
- MORFI MFA-5000 fibre analyser
- Microbiological laboratory
- Laboratory dissolved air flotation unit
- Laboratory ultrafiltration,reverse osmosis and UV units
- Laboratory flocculator
- Laboratory Photo-Fenton reactor
- Ozone generation unit
- Membrane bioreactors

For Further Information, please Contact:

Ángeles Blanco Suárez
Cellulose and Paper R&D Group – UNIVERSIDAD COMPLUTENSE
Tel: +34 91 394 4247
EMail: ablanco@quim.ucm.es

Network PARTNER: *EEN Madri+d*

UNIVERSIDAD COMPLUTENSE DE MADRID: Optical Chemosensors & Applied Photochemistry Group (GSOLFA)

R&D INSTITUTION PROFILE from Madrid - Spain
(Ref. 08 ES CP016)

GENERAL DESCRIPTION

TYPE OF INSTITUTION: Public University

SIZE: 6000+ Professors

ACTIVITY: Higher Education + Research

KEYWORDS: University

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The Optical Chemosensors & Applied Photochemistry Group (GSOLFA) has almost 20 year experience in the development of luminescent chemical sensors and biosensors (particularly those based on optical fibers) for environmental monitoring and process analysis, molecular engineering of optical indicator dyes, molecularly imprinted polymers for analytical applications, photochemical processes for optical chemosensing and water disinfection using sunlight.

ADDED VALUE (Of having your organization as Project Partner)

The group has 10+ year experience of successful collaboration with private companies in the analytical, petrochemical, environmental, electronic and ink sectors. The grou holds more than 12 national & international patents. Technology transfer has already provided environmental monitors to the market (chemical sensors, biosensors, industrial monitoring units).

OTHER RELEVANT INFORMATION

The group has already participated as partner in seven E-funded projects of the IV, V & VI FPs (integrated projects, STREP, INCO, Marie-Curie RTN, etc.)

For Further Information, please Contact:

Prof. Guillermo Orellana
Optical Chemosensors & Applied Photochemistry R&D Group – UNIVERSIDAD COMPLUTENSE
Tel: +34 913944220
EMail: orellana@quim.ucm.es

Network PARTNER: *EEN Madri+d*

UNIVERSITY OF APPLIED SCIENCE: Institute for Automation and Industrial IT

R&D INSTITUTION PROFILE from Germany
(Ref. 08 DE CP010)

GENERAL DESCRIPTION

TYPE OF COMPANY: Working Group for Environmental Computing at Institute for Automation and Industrial IT at a University of Applied Science

SIZE: 15 scientists and engineers

ACTIVITY: Using mathematical methods, computational intelligence, dynamic simulation and innovative measuring technologies to optimise process technology in environment technological plants and processes

KEYWORDS: Environment, Environmental engineering, Water Treatment/Pollution

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The working group is active in tasks in the areas of waste water transport and treatment, environmental protection as well as sustainable energy production and processing.

Latest works range from control and optimisation of wastewater treatment plants to the optimisation of biogas plants.

ADDED VALUE (Of having your organization as Project Partner)

The Institute of Automation and Industrial IT is characterized by modern equipment, an application-oriented curriculum and numerous research and industry projects. It offers an all-embracing range of services in teachings, research and development.

The interdisciplinary working environment allows building a bridge for combining theory and practice to attain hands-on experience in their scientific and technological studies

OTHER RELEVANT INFORMATION

- Experience in CRAFT projects
- Contacts to SMEs in the region
- International projects, e.g. In Central Asia

For Further Information, please Contact:

Sabrina Wodrich
NRW Europa
Tel: +49-208-30004-44
EMail: sw@zenit.de

Network PARTNER: *NRW Europa, Sabrina Wodrich*

UNIVERSITY OF BOLOGNA: Dep. Of Architecture and Planning (DAPT)

R&D INSTITUTION PROFILE from Italy
(Ref. 08 IT CP022)

GENERAL DESCRIPTION

TYPE OF COMPANY: Public University

SIZE: About 4000

ACTIVITY: Higher Education

KEYWORDS:

1. Re-habilitation and Recovery of Existing Buildings;
2. Energy Conscious Urban Planning and Design;
3. Landscape Design;
4. Energy and Architecture;
5. Construction Building Techniques

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The University of Bologna, Alma Mater Studiorum, was founded in 1088 and is considered to be the oldest university in Western Europe. Nowadays, it still remains one of the most important institutions of higher education across Europe with more than 100.000 enrolled students, 23 faculties, 69 departments, 3000 academics and 3000 administrative staff. Some of the activities have been decentralised in four campus areas in the Romagna region (Cesena, Forlì, Ravenna and Rimini).

The University of Bologna successfully participated in FP6 with a total of 103 projects funded by the European Commission in the different specific programmes while, in FP7 over 200 projects have been submitted in last calls and about the 10% of them have been funded.

The Department of Architecture and Planning (DAPT) of the University of Bologna, Technical Architecture Section, is specialized in architecture design at technological scale.

ADDED VALUE (Of having your organization as Project Partner)

(Fields of research activities of the group coordinated by Prof. Annarita Ferrante)

The main research field is sustainable building design with particular reference to existing urban contexts. Within such urban areas ny researches have been developed, from the formulation of guidelines finalized to the ecological and sustainable refurbishment of new inhabited city sections, to the flexible, low cost, low tech and energy conscious design at building and technological scale. Such development has concurred to the exploration of new modalities for the insertion of technologies finalized to the climatic and environmental control and to the production of energy

from RES integrated in the building envelopes. The design explorations constitute one of the control possibilities of the environmental quality of the constructed system. To such modality it is placed side by side, according to the recent dispositions in matter of energetic certification of the buildings, the use of systems of verification of the thermal behavior of the buildings.

OTHER RELEVANT INFORMATION

International cooperation: University of Athens, Mat Santamouris

For Further Information, please Contact:

Prof. Annarita Ferrante
Dept. Of Architecture and Planning (DAPT) – University of Bologna
Tel: +39 051 2093169
EMail: annarita.ferrante@unibo.it

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

UNIVERSITY OF BOLOGNA: Dep. Of Architecture and Planning (DAPT)

R&D INSTITUTION PROFILE from Italy
(Ref. 08 IT CP023)

GENERAL DESCRIPTION

TYPE OF COMPANY: Public University

SIZE: About 4000

ACTIVITY: Higher Education

KEYWORDS: 1. Sustainable buildings, 2. Energy saving, 3. Building rehabilitation, 4. IFC

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The University of Bologna, Alma Mater Studiorum, was founded in 1088 and is considered to be the oldest university in Western Europe. Nowadays, it still remains one of the most important institutions of higher education across Europe with more than 100.000 enrolled students, 23 faculties, 69 departments, 3000 academics and 3000 administrative staff. Some of the activities have been decentralised in four campus areas in the Romagna region (Cesena, Forlì, Ravenna and Rimini).

The University of Bologna successfully participated in FP6 with a total of 103 projects funded by the European Commission in the different specific programmes while, in FP7 over 200 projects have been submitted in last calls and about the 10% of them have been funded.

The Department of Architecture and Planning (DAPT) of the University of Bologna, Technical Architecture Section, is specialized in architecture design at technological scale.

ADDED VALUE (Of having your organization as Project Partner)

Fields of research activities of the group coordinated by Prof. Luca Guardigli

- Sustainable buildings: in particular the deepening research topics have concerned the analysis of performance requirements of buildings, with regards to health, environment and energy saving, the certification of sustainable products and materials for buildings, the evaluation of energy balance of buildings. In this field studies on eco-sustainable requirements (particularly on the theme Energy saving and ventilation) in public buildings (schools, offices).
- Qualification and control in building design: in particular the deepening topics have regarded the analysis and quality control in the building process, the Value analysis, the performance analysis of buildings, the technological design of buildings, the computer assisted and integrated building design.

- Rehabilitation of existing built fabric: in particular the deepening topics have regarded the analysis of historical and traditional constructive techniques, the light intervention technologies in historical buildings, the material and structural analysis of masonry buildings, the application of non-destructive techniques for structural diagnostics and diagnostics applied to restoration, the elaboration of detailed design rehabilitation in historical centers.

OTHER RELEVANT INFORMATION

International cooperation

- TU Delft
- Yale University, Faculty of Architecture
- University of Timisoara, Romania

For Further Information, please Contact:

Prof. Luca Guardigli
Dept. Of Architecture and Planning (DAPT) – University of Bologna
Tel: +39 051 2093171
EMail: luca.guardigli@unibo.it

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

UNIVERSITY OF BOLOGNA: Dep. Of Mechanical Engineering (DIEM)

R&D INSTITUTION PROFILE from Italy
(Ref. 08 IT CP024)

GENERAL DESCRIPTION

TYPE OF COMPANY: Public University

SIZE: About 4000

ACTIVITY: Higher Education

KEYWORDS: 1. Power plants, 2. Energy conversion, 3. Renewable energy sources

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

The University of Bologna, Alma Mater Studiorum, was founded in 1088 and is considered to be the oldest university in Western Europe. Nowadays, it still remains one of the most important institutions of higher education across Europe with more than 100.000 enrolled students, 23 faculties, 69 departments, 3000 academics and 3000 administrative staff. Some of the activities have been decentralised in four campus areas in the Romagna region (Cesena, Forlì, Ravenna and Rimini).

The University of Bologna successfully participated in FP6 with a total of 103 projects funded by the European Commission in the different specific programmes while, in FP7 over 200 projects have been submitted in last calls and about the 10% of them have been funded.

The Department of Mechanical Engineering (DIEM) of the University of Bologna, power plants section, is specialized in power plant design, development and testing (thanks to its laboratory). It has a large experience in the renewable energy field and participated to many European projects. The competences of the group range from advanced plant design dedicate to efficiency of energetic conversion (co-generation, optimization of the use of the energetic sources), exploitation of the renewable energies (gasification of the biomass, fuel cells, photovoltaic, geothermal energy), architecture and building plans.

ADDED VALUE (Of having your organization as Project Partner)

Fields of research activities of the group coordinated by ***Prof. Cesare Saccani***

- Multiphase flows plants: it is in course of experimentation, at the laboratory of the department, a system of pneumatic transport for the characterization of the solids in granular form to improving their transport. They are innovative procedures that will concur, using adapted calculation algorithms, in planning plants with less margin of error that actual ones.
- Plants for energy conversion from renewable energy sources: it has been designed a biomass boiler for the characterization of biofuels. The activity is going on with the collection of

numerous experimental data useful to progress in the techniques of designing this type of plants.

- Monitoring and control of plants: systems of measure and control with PROFIBUS technology at the service of experimental plants have been developed in laboratory and on industrial systems in order to estimate their reliability and their operating flexibility.
- Plants for the treatment of fluid currents: the experimentation on a fluidized bed industrial reactor purposely designed for the warm treatment of combustion steam of RSU is continuing; it is in course of realization a filtering advanced station for gas-solid flows.
- Management of production plants: studies on the management of the industrial production are in course. They begun with the analysis of the management of the forecast of the market demand. The studies have the scope to contribute to the rationalization of the production process beginning from the market demand, through the productive activity, in order to reach the management of the escorts and the orders.

OTHER RELEVANT INFORMATION

People involved

- Cesare Saccani Full Professor of Industrial Mechanical Plant in Engineering/Industrial sector. He is a member of: Academic Senate of the University of Bologna, Executive Committee of the Engineering/Industrial sector, Directive Committee of the Energy Department of the National Association of Industrial Plant Design. Prof. Saccani participated as scientific coordinator in many research programmes and in the planning of innovative device in the energetic and environmental plant design field. He is author of almost 70 publications.
- Augusto Bianchini Graduated in Mechanical Engineering in 2000 at the University of Bologna. Ph.D. in Engineering of Energetic Machine and Systems, with study on efficiency of energetic conversion plants, two year experience on biomass characterization in energetic conversion process. Authors of 20 papers of scientific-technical relevance..
- Maria Teresa Cascella Graduated in Mechanical Engineering in 2001 at the University of Bologna. Ph.D. in Mechanics of Materials and Technological Processes (2005), with study on fatigue of components, two year experience in European Projects presenting and managing and now fellow at DIEM, power plants section. Authors of 15 papers of scientific-technical relevance.
- Marco Pellegrini, Graduated in Mechanical Engineering in 2006 at the University of Bologna. He is now teaching fellow at the Mechanical Department (DIEM) of University of Bologna involved in power plants design. He has published one paper on international review.

Some publication of the group

- C. Saccani, A. Bianchini: Experimental fluidised bed plant for MSW flue gas hot treatment, XXXI ANIMP National symposium - Monastier di Treviso (Italy), 14-15 october 2004;
- G. Amati, M. Collini, C. Saccani: Increasing of energy conversion efficiency in waste energy plants, National Conference of Energetic Policy in Italy - Bologna (Italy), 18-19 April 2005;
- Bianchini, C. Saccani: Repowering of energetic recovering plants with low cost technologies, National Conference of Energetic Policy in Italy - Bologna (Italy), 18-19 April 2005;

- Bianchini, C. Saccani, P. Dal Sasso, R. Fabbri: Operating flexibility of small-scale cogenerative groups, Symposium “How Combined cycles can satisfy requested market flexibility?”, ANIMP-ATI - Milano (Italy), 12 july 2005;
- Bianchini, A. Guarnieri, G. Molari, C. Saccani, P. Venturi: Experimental plant for Biomass Characterization and Combustion, 14th European Biomass Conference & Exhibition Biomass for Energy, Industry and Climate protection - Paris (France), 17-21 ottobre 2005;
- Bianchini, A. Guarnieri, G. Molari, C. Saccani: Experimental test on energy conversion efficiency and environmental impact of maize combustion, 15th European Biomass Conference & Exhibition Biomass for Energy, Industry and Climate protection - Berlin (Germany), 7-11 may 2007;
- M.T. Cascella, E. Costa: Development of a fatigue test method on i.c.e. connecting rods, Amsler Symposium – Gottmadingen (Germany),10-14 june 2002;
- M.T. Cascella: Oligocycle fatigue: a characterizing methodology for high geometric complexity components, Lamiera, technical review, march 2004;
- A.Bianchini, M.Pellegrini, C.Saccani: Hot waste-to-energy flue gas treatment by an integrated fluidised bed reactor, Waste Management technical review, in course of publication.

For Further Information, please Contact:

Prof. Cesare Saccani
Dept. Mechanical Engineering (DIEM) – University of Bologna
Tel: +39 051 2093404 / +39 051 2093403
EMail: cesare.saccani@unibo.it

Network PARTNER: *SIMPLER-ASTER, Arianna Cecchi*

UNIVERSITY OF MALAGA: R&D Group on Engineering and Environmental Management (G.I.G.A.)

Research Institution Profile from Andalusia – Spain
(Ref. 08 ES CP008)

GENERAL DESCRIPTION

TYPE OF COMPANY: Malaga University. Department of Chemical Engineering

SIZE: 10 members

ACTIVITY: Research on Engineering and Environmental Management

KEYWORDS: Soil remediation, wastewater, solid wastes, management, soil contamination

COMPANY EXPERTISE

DESCRIPTION OF THE ORGANIZATION EXPERTISE

Research on Engineering and Environmental Management.

ADDED VALUE (Of having your organization as Project Partner)

Field of researches:

- Evaluation of contamination episodes of soil, water and groundwater
- Selection of remediation techniques for contaminated soils and waters
- Characterisation and management of residues and wastes (hazardous, urban, biomass...)
- Wastewater treatment (urban and industrial)

Multidisciplinary and experienced team. Have worked with start-up companies up to their consolidation, all of them with very high technological and investigation standards and requirements for its activities.

Technical competencies:

- Soil characterisation and analysis
- Software programming for modelling purposes
- Assessment in contaminated soil and water treatment and waste treatment
- Analysis and design of wastewater treatment operations

Equipment:

- Laboratory of soil and water contamination
- Automated Fermented/Bioreactor for treatment studies of wastes
- Water treatment pilot plant (1m3/h) with automatic control of pH and additives
- Analytical Atomic Absorption instrument
- Analytical gas chromatographs with several detectors (FID, TC, NPD and EC)
- Head space sampler for chromatography

Past activities in transfer:

- Listing of toxic and hazardous wastes (RTPs) in Andalucía
- Evaluation of soil contamination from scrape yards in the Basque Country
- Technical assessment for different manufacturing processes and quality control

Project to transfer

- Development of software packages for the mathematical simulation of the treatment and remediation of hydrocarbon contaminated soils using venting technologies.
- Technical assessment in the development of models for soil electro decontamination.
- Development of software packages for the simulation of electro kinetic treatments for soil contamination contention.
- Studies of revalorization of a number of wastes: lubricating oils, biomass, sewage sludge, etc.

Proposal- new technology

- Contaminated soils
- The objective of our research points to developing the remediation technology that suits the best to every case based on performance and economy of the process.
- Waste management
- Analysis of the required management operations and revalorization possibilities of the products obtained in other processes.

Advantages

- Contaminated soils
- It is possible to evaluate contaminants distribution and predict their movements in order to make risk assessments. We can also predict (and then measure) the performance of different clean-up technologies, select the most suitable and determine treatment times. We can also perform quality control during and post treatment.
- Waste management
- We can assist in the development of new products of higher added value or better commercial possibilities and in improving waste management operations and reducing disposal costs.

OTHER RELEVANT INFORMATION

Industrial Services Description **:** Among the ongoing research projects, that have been included in funding proposals to different administrations, which are related to the already mentioned fields of research are:

- Clean-up recovery of heavy metal contaminated soils by electro remediation technologies.
- Revalorization of agricultural wastes (greenhouses) and food industry (cheese production)
- Customers: Public administrations, food industry, general industry

Main results: Results from this research have produced several PhD thesis and also a number of publications in scientific journals (>100) and international conferences (>100). From a business perspective, some of our models and technical assessments have been used in northern Spain (Basque country).

State of advancement: Our research team is, at present, able to establish and develop the soil most suitable clean-up technique for a given contamination episode.

We can also establish the sequence and the design of the treatment operations required for an adequate waste treatment.

For Further Information, please Contact:

José Miguel Rodríguez Maroto
University of Málaga
Tel: +34 952 131915
EMail: maroto@uma.es

Network PARTNER: *CESEAND, Lucía Díaz*