ISTANBUL TECHNICAL UNIVERSITY
EU FRAMEWORK PROGRAMME PROJECTS
(2001 - 2013)

ITU European Union Centre Research Office

CATALOGUE OF
ISTANBUL TECHNICAL UNIVERSITY'S
EU FRAMEWORK PROGRAMME PROJECTS
(2001 -2013)

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TABLE OF CONTENTS

7th Framework Programme

FOREWORD

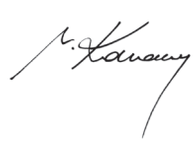
Istanbul Technical University (ITU), which has experience in engineering education since 1773, is one of Turkey's leading state universities. ITU actively upholds a strong commitment to carry out both applicable and value-added research with a pervasive impact on improving society and producing a new generation of technology and innovation.

With its distinct focus on excellence in research and teaching, ITU aims at exhancing relations with the esteemed institutions abroad, promoting the international exchange of staffs, attracting research talents, who took part in the leading international institutions. In line with this commitment, ITU has participated 2 projects from the 5th Framework Programme, 21 projects from the 6th Framework Programme and 47 projects from the 7th Framework Programme.

Within this catalogue, we would like to present an overview of all the EU Framework Programmes' projects that ITU has taken part in. The catalogue covers the research projects from the 5th, 6th, and 7th Framework Programmes between 2001 and 2013. This catalogue is intended to serve as a map of ITU's EU Research Projects for the institutions and researchers that are considering ITU as a potential partner.

We would like to take this opportunity to express our gratitude to our academic members, who have involved in the EU Framework Programmes Research Projects and provided information to us while preparing this catalogue. We wish that this catalogue would contribute to the proliferation of ITU's international cooperation and research projects.

Prof. Mehmet Karaca
Rector of Istanbul Technical University



ISTANBUL TECHNICAL UNIVERSITY

Founded in 1773 as the Imperial School of Naval Engineering (Mühendishane-i Bahr-i Hümayun) during the reign of Ottoman Empire, Istanbul Technical University (ITU) is one of the leading state universities in Turkey with approximately 32,000 students. The University offers 103 undergraduate and 156 graduate degree Programmes. ITU comprises 13 Faculties, 43 Departments, and 6 Graduate Institutes.

Mission

Raison d'étre of Istanbul Technical University is to expand the boundaries of science, technology and art and to respond to the needs of society with its applications.

Vision

To be a leading international university with its excellence in science, technology and art.

Our Values

- Human-centered and openness to differences
- Liberalism and Criticism
- Entrepreneurship and Competitiveness
- Originality and Innovativeness

Research

Being Turkey's first technical university, ITU aims to create a new generation of technology and innovation to drive economic growth by conducting value-added and industrially applicable research. ITU's researchers carry out research in the fields of engineering, natural sciences, earth/planetary sciences, arts and social sciences.

Regarding EU Funded Research, ITU currently has 2 projects from the 5th Framework Programme, 21 projects from the 6th Framework Programme, 47 projects from the 7th Framework Programme and 11 projects funded by other EU Programmes. Besides, ITU is actively involved in wide range of national projects. In this respect, ITU has around 7600 projects funded by different national research programmes since 2003.

ITU hosts ARI Science Park, KOSGEB Technology Development Centre, 360 research labs and 16 research centres, which all provide the university with close working relationships by outstanding engineering and technology firms and R&D institutions. ARI Science Park, located on 40.000 m^2 in the Ayazağa Campus, consists of 6 buildings housing more than 160 R&D companies with more than 5100 employees.

ITU faculty holds significant positions in a number of international institutions of academy. For instance, one of the three Turkish members of American Academy of Sciences, two of the three Turkish members of Russian Academy of Sciences and two of the three Turkish members of European Academy of Sciences are from ITU. Furthermore, the University has more than 150 international partnership agreements and is a member of various international networks such as European Association for International Education (EAIE), European University Association (EUA), International Association of Universities (IAU), Advanced Technology Higher Education Network (ATHENS), Black Sea University Network (BSUN), International Association of Universities (IAU), Community of Mediterranean Universities (CMU), and Top Industrial Managers for Europe (TIME).

Lastly, ITU Libraries hold more than 1 million items including books, periodicals, electronic resources, digital media collections, and musical recordings while the Mustafa Inan Library of Maslak Campus, provides 7 days 24 hours access to the ITU community. The Digital Library has digitized significant amounts of local material to enable online access to these resources. Additionally, the Special Collections department houses a collection of rare books pertaining to the history of engineering education and a wide range of archival documents on history of engineering in Turkey.

ITU EU CENTRE RESEARCH OFFICE

ITU European Union Centre Research Office; founded in 2002, serves as a Project Support Office to the ITU academic community regarding EU Grants. The Research Office has now established itself as a mentor office for EU related research by providing coordination and support services to the University researchers. In order to improve the development of research in the university, the Office contributes to the university's policy making around research activities by building bridge between the university administration and the research community.

ITU EU Centre Research Office provides coordination between the University and the national and international research funding organizations and offers invaluable assistance to the university researchers through comprehensive guiding during the application and management phases of EU Projects. Furthermore, the dissemination of information on EU Grants as well as information days and brokerage events to the ITU academic community, is central to its mission. Through its focus on providing facilitator services, ITU EU Centre Research Office aims at expanding ITU's participation in EU Funded Projects and hence, advance the development of research in the university.

The tasks and responsibilities of the ITU EU Centre Research Office are listed below:

- Collaboration with national (The Scientific and Technological Research Council of Turkey) and international funding institutions regarding European Union grants.
- Increasing participation of Istanbul Technical University to the European Union European Union Programmes by supporting researchers on project proposal preparation, and implementation stages.
- Provision of grant tracking for the ITU researchers through e-bulletins, e-mail services and the Office web site to foster participation of researchers in EU Funded Projects.
- Organizing info days and project proposal preparation and management trainings about European Union Grants for the ITU academic staff.
- Providing ITU academic community with financial support to participate in the info days and brokerage events organized by EU.
- Preparation of guidelines on administrative and financial procedures of EU Framework Programmes.
- Cooperation with Scientific Research Projects Unit and Department of Strategy Development in the university regarding financial and administrative procedures of the ongoing projects

The Directors of ITU EU Centre Research Office till now are:

- 2002-2005: Prof. Seval Sözen
- 2005-2009: Prof. Tüzin Baycan
- 2009-2012: Prof. Dilek Boyacıoğlu
- 2012-2013: Prof. Mustafa İnsel
- 2013- Present: Assoc. Prof. Hazım Kemal Ekenel
- 2014 November-Present: Prof. Tüzin Baycan

The Experts of ITU EU Centre Research Office are:

Dr. Didem Özgür

Jale Arslan

Başak Tiniş

CATALOGUE OF
ISTANBUL TECHNICAL UNIVERSITY'S
EU FRAMEWORK PROGRAMME PROJECTS

5th
FRAMEWORK PROGRAMME PROJECTS

Project Acronym and Name

WATER / Managing Scarce Water Resources in the Middle East Region- Water Technology for Middle East

Programme Acronym

INCO- Int. Scientific Cooperation Projects (1998-2002)

Sub-Programme Area

-

Contract Type

ICA3- CT- 2002-10001

Coordinator

TAHAL Consulting Engineers Ltd, Israel

Researcher's Name

Prof. Ayşegül TANIK

Researcher's Contact

tanika@itu.edu.tr

Total Budget/ITU's Budget

EUR 3.047.216 /EUR 157.824

Start - End Date

2002-2005

Partners

- Istanbul Technical University , Turkey
- IDE Technologies Ltd., Israel
- AFIKEY MAYIM 1995 Ltd., Israel
- Volcani, The Agricultural Research Organisation, Israel
- MDS, Malta Desalination Services Ltd., Malta
- INIMA Servicios Europeos de Medio Ambiente, S.A. , Spain
- LES Leading Edge Services Ltd., UK

Abstract

The objective of the project is the creation of new 50 million cubic metres per year (MCM/yr) of desalinated drinking quality water at an affordable cost, by innovative methods. Innovative methods are proposed for water saving by intensive fish farming and for brackish water desalination. Sources of about 50-60 MCM/yr of brackish water springs are proposed for desalination. In order to enable the use of these brackish water springs, it is necessary to continue to satisfy the existing demand. Water streams that can be saved have been considered as an offset. The offset water comes from: Substantial decrease of water directly used for fish farming purposes through the simultaneous use of closed-loop systems and the intensification of fish production. This is expected to provide 30 MCM/yr additional water;

- Treatment of saline water presently flowing to the Dead Sea estimated at 20-30 Million m^3/year additional water;

The project components are:

- Brackish water sources
- Desalination plant including innovative pre and post-treatment
- Fish farming intensification
- Transmission of raw water, of product water and of brines
- Water users balances
- Environment / eco-efficiency analysis

The project is concerned with an integrated and interdisciplinary planning and analysis of these components, including: technology, engineering, economics and eco-efficiency analysis. The first group of activities was concerned with the project scheme, quantifying it in terms of location, quantities and qualities of water sources, water uses, of desalination plants and of transmission systems (WP4 and WP5). The second group of activities set up the technological details of the treatment (desalination) plants based on accepted design criteria and pilot plants studies (WP3). The third group of activities was to evaluate the fish intensification component (WP1) in terms of technological and market studies. The fourth group of activities was to proceed and complete the economic analyses (WP2) and eco–efficiency model (WP6) for studying the various proposed alternatives of the project components. The results obtained include establishment of the various technologies (desalination and fish farming) and methodologies (cost analysis and eco-efficiency modeling), and establishment of the main data on water availability, desalination processes, water transmission and costs of various project components and alternatives. The economic cost analysis shows that desalinating the assumed available brackish water produces close to 50 MCM/yr of drinking water for the lowest unit costs. The main constraint the project had to deal with was a very limited supply of brackish water and it is not clear yet (before field tests etc.) whether the quantities considered are actually available and affordable.

Project Acronym and Name

MISPEC - Multiparametric in-Situ Spectroscopic Measuring Platform for Coastal Monitoring

Programme Acronym

FP5-EESD

Sub-Programme Area

KEY ACTION SUSTAINABLE MARINE ECOSYSTEMS

Contract Type

Cost-Sharing Contracts

Coordinator

Technishe Universitaet Berlin, Germany

Researcher's Name

Assoc Prof.Dr.-Ing. Fatma YONSEL

Researcher's Contact

fyonsel@itu.edu.tr +90 (212) 285 64 02

Total Budget/ITU's Budget

EUR 1.793.827 / EUR 0

Start - End Date

2001 - 2004

Partners

- Vienna University of Technology, Austria
- Universidad Complutense De Madrid, Spain
- Dublin City University, Ireland
- Institute of Ethnology of the Academy of Sciences of The Czech Republic, The Czech Republic
- Jobin Yvon S.A.S, France
- Istanbul Technical University, Turkey
- Me Grissard Gmbh , Germany

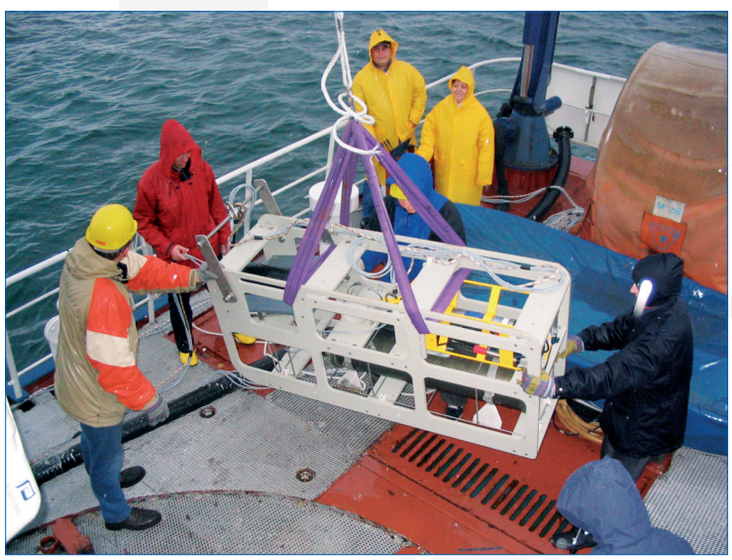
Website

http://cordis.europa.eu/projects/rcn/57247_en.html

Abstract

A new multiparametric in-site spectroscopic measurement platform for coastal water quality assessment will be developed based on an original prototype containing a high-resolution spectrometer and light sources. Research concentrates on innovative optical sensors and new sensor surfaces for high analytic specific detection as well as for group specific detection (sum parameter). Complementary sensors will be included to account for the highly variable coastal water quality. The data will be evaluated by means of pattern recognition for improved reliability. An extensive qualifying programme will include field tests at relevant European sites to end up with an approved system that will be ready for use.

Image



A picture during the Field Test at Bosphorus -Istanbul

CATALOGUE OF
ISTANBUL TECHNICAL UNIVERSITY'S
EU FRAMEWORK PROGRAMME PROJECTS

6th
FRAMEWORK PROGRAMME PROJECTS

Project Acronym and Name

SUS.DIV - "Sustainable Development in a Diverse World"

Programme Acronym

FP6-CITIZENS

Sub-Programme Area

CITIZENS-2002-7.1.2, CITIZENS

Contract Type

NoE (Network of Excellence)

Coordinator

Fondazione Eni Enrico Mattei, Italy

Researcher's Name

Prof. Tüzin BAYCAN

Researcher's Contact

tbaycan@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.902.692,95 / EUR 149.440,70

Start - End Date

2005 - 2010

Partners

- University College London, UK
- University of Leuven, Belgium
- Instituto Psicoanalitico per le Ricerche Sociali, Italy
- Università Politecnica Delle Marche, Italy
- Centre for Economic Research and Environmental Strategy, Cyprus
- The Hague University of Applied Sciences, The Netherlands
- IDEA Consult, Belgium
- The Centro Studi Luca d'Agliano, Italy
- Institute of Economics at the Bulgarian Academy of Sciences, Bulgaria
- University of Nottingham, UK
- Tilburg University, The Netherlands
- University of Amsterdam, The Netherlands
- Umea University, Sweden
- Stockholm University, Sweden
- Oracle – Reseau d'Administrateur Culturel Européens, Belgium
- Centre Interdisciplinaire de Recherche Comparative en Sciences Sociales, France
- Matej Bel University, Slovakia
- Istanbul Technical University, Turkey
- National and Kapodistrian University of Athens, Greece
- Vrije University Amsterdam, The Netherlands
- INLECOM Systems LTD, UK
- Bahcesehir University, Turkey
- Centre for Economic Policy Research, UK
- University of Ulster, UK
- Universidad Del Pais Vasco/Euskal Herriko Unibertsitatea, Spain
- University of Miskolc, Hungary
- Hamburg Institute of International Economics, Germany
- Institute of Ethnology of the Academy of Sciences of The Czech Republic, The Czech Republic
- Centre for Development Alternatives, India
- Centro de Investigación y Promoción del Campesinado, Bolivia
- College of Urban Planning and Public Affairs, USA
- Community Initiatives, USA
- Central Institute of Indian Languages, India
- School of International Studies at University of South Australia, Australia

Website

http://www.susdiv.org

Abstract

SUS.DIV is a five-year network of excellence that focuses on the relationship between cultural diversity and sustainable development. Its main objective is to integrate European research across disciplines and countries in order to provide society and policy makers with the instruments for managing cultural diversity as a key element for sustainable development. The Network is co-ordinated by the Fondazione Eni Enrico Mattei (FEEM) under the scientific leadership of Katholieke Universiteit Leuven (K.U.Leuven). It is composed of 35 Institutes from all around Europe and beyond.

Image

Project Acronym and Name

UNICAFE - Survey of the University Career of Female Scientists at Life Sciences versus Technical Universities

Programme Acronym

FP6-SOCIETY

Sub-Programme Area

SCIENCE AND SOCIETY

Contract Type

Specific Support Action

Coordinator

Hungarian Science and Technology Foundation, Hungary

Researcher's Name

Prof. Gülsün SAĞLAMER

Researcher's Contact

saglamer@itu.edu.tr

Total Budget/ITU's Budget

EUR 325.000 / EUR 40.000

Start - End Date

2006 - 2008

Partners

- Budapest University of Technology and Economics, Hungary
- Graz Medical University, Austria
- Semmelweis University, Hungary
- Istanbul Technical University, Turkey
- University of Oulu, Finland
- Tallinn University of Technology, Estonia
- University of Tor Vergata, Italy

Website

www.unicafe.ee

Abstract

The aim of the project is to carry out an **innovative pilot survey** to enhance knowledge on career patterns of female scientists at universities. The project will open up **new perspectives for further in-depth work** in the field by mapping the situation of female researchers in engineering and life sciences in seven universities in six countries in Europe with special regard to gender differences in research careers, critical areas where women are underrepresented, leading university positions, access to funding, mobility and work-life balance. Women face great difficulties in developing professional careers in equal opportunities to those of men in these sectors, especially regarding their proportion and representation at the **higher levels of the hierarchical ladder.** The project will examine and compare the situation of female researchers and decision makers. A **methodology** to map careers in university will be designed and tested in the partner institutions. The **survey** will involve Phd students, researchers and decision makers as well. Besides the **collection of detailed statistics**- which is missing at almost all involved universities - the consortium will conduct **interviews** with those female researchers who succeeded in doing a career in these areas of science in spite of the difficulties. The project will map not only the good practices but the bad ones as well in order to determine how the career of female researchers is set back in these areas. Furthermore it is one of the objectives of the project to **draw the attention of the university managements** to the importance of ensuring equal opportunities to women and men and the practice of gender mainstreaming as a policy of the European Union. The **partner countries** include two new member states (Hungary and Estonia), three old member states (Austria, Finland and Italy) and a candidate country (Turkey), so they provide an ideal **coverage of circumstances** available throughout Europe.

Image

Project Acronym and Name

CITYNET - Development of an Integrated Urban Management Tool

Programme Acronym

FP6-MOBILITY

Sub-Programme Area

MARIE CURIE RESEARCH TRAINING NETWORKS (RTN)

Contract Type

Marie Curie Actions-Research
Training Networks

Coordinator

Stuttgart University of Applied Science, Germany

Researcher's Name

Prof. A. Zerrin YILMAZ

Researcher's Contact

yilmazzer@itu.edu.tr

Total Budget/ITU's Budget

EUR 1.988.032,00 / EUR 167.798,00

Start - End Date

2007 - 2011

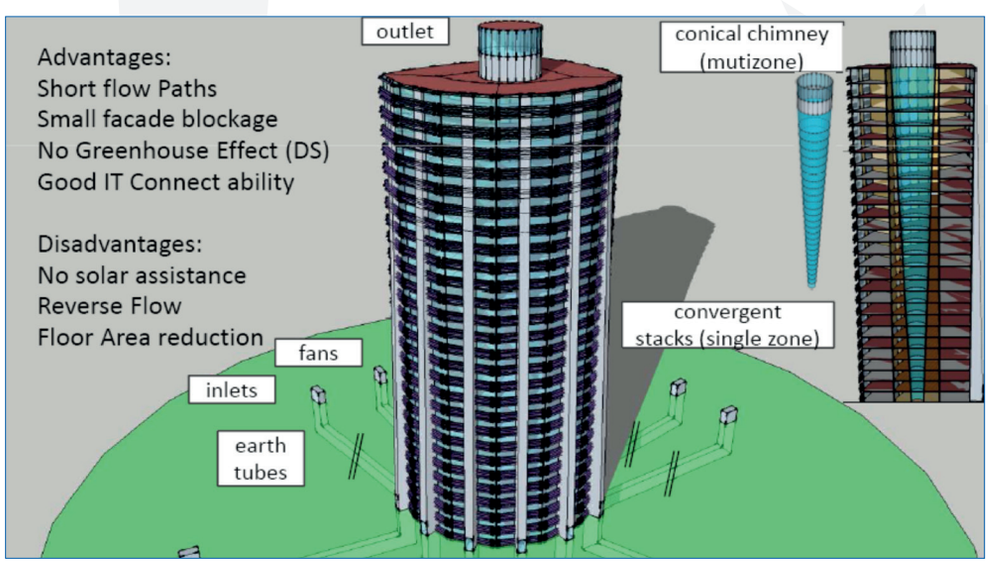
Partners

- Istanbul Technical University, Turkey
- Universitat Rovira I Virgili, Spain
- Politecnico Di Torino, Italy
- De Montfort University, UK
- Leicester, UK
- Loughborough University, UK
- Opole Technical University, Poland
- University College of Dublin, Ireland

Abstract

The proposed Marie-Curie Research Training Network (RTN) CITYNET generally aims to develop tools to improve the energy management of large scale urban projects. The common scope of the network research activities is to establish an **innovative internet based online tool for planning, managing and operating urban quarters** with low energy consumption and high renewable energy fraction in order to **reduce up to 30% of state of the art quarters' CO2-emissions.** A major research focus of the network will be the analysis, optimization, standardization and benchmarking of existing and planned buildings and energy efficient power plants (demand and supply side) of three urban planning sites and the implementation of the results into an intelligent energy management system. This system will provide internet online monitoring, simulation and visualization using Geographical Information System (GIS) software as the front end. CITYNET will consist of **eight** university research groups from **six** different European member countries and **Turkey** as an associated candidate-country and additionally involves **seven** commercial enterprises as well as community authorities as hosts for visits. The research will be carried out in civil, mechanical and environmental engineering as well as architecture, building physics, social science, computer science and economy.

Image Abstract



Project Acronym and Name

FLORA - Flavonoids and Related Phenolics for Healthy Living Using Orally Recommended Antioxidants

Programme Acronym

FP6-FOOD

Sub-Programme Area

FP6- FOOD-2003-T6.5

Contract Type

Specific Targeted Project

Coordinator

John Innes Centre, UK

Researcher's Name

Prof. Dilek BOYACIOĞLU

Researcher's Contact

boyaci@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.865.772 / EUR 127.000

Start - End Date

2005 - 2009

Partners

- Universita'degli Studi Di Milano, Italy
- Institute of Plant Genetics and Crop Plant Research, Germany
- Universita Cattolica Del Saco Cuore, Italy
- Plant Research International B.V., The Netherlands
- Universite Joseph Fourier, Grenoble, France
- Istanbul Technical University, Turkey
- Congenia Srl, Italy
- Ortogel S.P.A., Italy
- Biopolo Src C/O Ifom, Italy
- Consiglio Per La Ricerca E Sperimentazione In Agricoltura (Gov), Italy

Website

http://www.athena-flora.eu/

Abstract

There is growing evidence that bioactives in the diet play an important role in promoting health. Flavonoids and related phenolics are examples of bioactives from plants that have beneficial influences on a number of important risk factors associated with cardiovascular disease (the leading cause of death in Europe), cancer and age-related degenerative diseases. The aim of this proposal is to establish Europe at the forefront in understanding the link between diet and health, particularly the beneficial effects of flavonoids and related phenolics on cardiovascular disease, stroke and cancer. This will be done by fostering a unique interdisciplinary approach between plant geneticists, plant biochemists, chemists, food technologists, medical pharmacologists and clinical epidemiologists in this project. By providing clear recommendations of the efficacy of particular flavonoids and related phenolics to confer protection against target diseases and reliable estimates of active phenolic levels in a directory of foods, this programme will result in a recipe for promoting health through diet that will appeal to the diversity of tastes of European consumers.

There is a growing body of evidence that bioactive compounds in the diet play an important role in optimizing health. Flavonoids, and other phenolics are examples of a class of plant-specific bioactive compounds that confer beneficial effects on a number of important risk factors for cardiovascular disease and other age-related degenerative diseases. Dietary intake of flavonoids and related phenolics has been linked positively to reduced incidence of stroke, allergies, certain forms of cancer, hepatic disease and inflammation. A better understanding of the biological effects of different dietary flavonoids and other phenolics following their absorption will provide important clues to the biopotency of different phenolics.

The main objective of this project is to provide a more measured scientific foundation to the understanding of the role of flavonoids and related phenolics in protecting against disease. We aim to provide recommendations for daily intake and a directory of foods which can serve as dependable sources of flavonoids, in publicly-accessible formats as direct deliverables from this project. Specific objectives are as follows;

To link groups who can generate defined dietary material (model foods), with those who can measure the complete range of flavonoids and other phenolics, with those who can assess the impact of food processing and post harvest conditions on bio-availability and quality and with those in the medical field who can test the impact of specific flavonoids on cardiovascular and age-related degenerative diseases in research using animal model systems.

To test the importance of defined flavonoid contents and compositions of foods on parameters defining predisposition to cardiovascular disease in diseased and healthy human studies.

To investigate how flavonoid content and composition can be optimised by use of specific varieties and cultivation conditions, and defined food processing strategies.

To conduct a more detailed analysis of the cellular effects of specific (identified within the project) flavonoids and related phenolics in mammals to determine their sites and modes of action.

To assess the bioavailability of specific flavonoids and related phenolics and to gauge their impact on the human gut microflora.

To provide recommendations for daily intake of flavonoids and related phenolics in a publicly accessible format.

To provide a directory of foods which serve as dependable sources of flavonoids and related phenolics as a direct deliverable from this project.

Image

Project Acronym and Name

MINDE: Micro and Nano Deposition

Programme Acronym

FP6-MOBILITY

Sub-Programme Area

MOBILITY-1.4.1

Contract Type

Marie Curie Actions-Series Of Events

Coordinator

European Academy of Surface Technology, Germany

Researcher's Name

Prof. Ali Fuat ÇAKIR

Researcher's Contact

afcakir8@gmail.com

Total Budget/ITU's Budget

EUR 262.895

Start - End Date

2004 - 2008

Partners

- Members of the European Academy of Surface Technology

Website

http://www.east-site.net/index.php?id=22

Abstract

In 2004 the European Community, within the framework of the Marie Curie Program, sponsored a four year graduate student course on „Micro and Nano Deposition", abbreviated MINDE. The course program was organized by east, the European Academy of Surface Technology.

A wide range of international experts from university and industry were took part in teaching different aspects of surface science and engineering related to deposition from electrolytes or from the gas phase. The four one week courses constituting the MINDE Program took place from 2005 to 2008 respectively in Barcelona (Spain), Schwäbisch Gmünd (Germany) Athens (Greece) and Trento (Italy).

Some fifty students from all over Europe (2 from Turkey) were selected from applications based on merit and awarded a grant to follow the courses. Personal work of students within group projects was an important part of the MINDE Program. The broad international mix of students and teachers working with a common purpose was seen as a unique experience by the participants.

Project Acronym and Name

SEWERINSPECT - Integrated System for Structural Assessment and Upgrading of Sewers Based on Input from CCTV Inspection

Programme Acronym

FP6-SME

Sub-Programme Area

HORIZONTAL RESEARCH ACTIVITIES
INVOLVING SMES CO-OPERATIVE RESEARCH

Contract Type

SMEs-Co-operative research contracts

Coordinator

Tecnic - Tecniche E Consulenze Nell' Ingegneria Civile Spa - Consulting Engineers Spa, Italy

Researcher's Name

Prof. M.Hasan BODUROĞLU

Researcher's Contact

bodurogl@itu.edu.tr

Total Budget/ITU's Budget

EUR 792.860 / EUR 91.050

Start - End Date

2004 - 2007

Partners

- Optimess Gesellschaft Fur Optoelektronische Inspektions Und Messtechnik Mbh, Germany
- Risa Sicherheitsanalysen Gmbh, Germany
- General Underground Services Ltd, UK
- A. Tsouloftas & Sons Ltd, Kypros, Cyprus
- Sewerage Board of Limassol Amathus, Kypros, Cyprus
- Istanbul Technical University, Turkey

Website

http://www.sewerinspect.com

Abstract

The objective of this project is to develop an integrated Decision-Support-System (DSS) for the rehabilitation planning of sewers that, based on CCTV inspection results will assess the structural reliability of the inspected sewers as a function of time taking into account sewer deterioration by the various degradation mechanisms (voiding of bedding and backfill, corrosive soils and groundwater, sulphide formation in the wastewater flow, corrosive and erosive industrial wastes), seismic forces and uncertainties (in the estimated wall thickness of the pipe, soil support, loading, etc.), select the best remedial measures, prioritise rehabilitation projects and schedule re-inspection.

Image

Project Acronym and Name

LESSLOSS-Risk Mitigation for Earthquakes and Landslides

Programme Acronym

FP6 – IP Project

Sub-Programme Area

SUSTDEV-2002-3.IV.2.a

Contract Type

Integrated Project

Coordinator

Università Degli Studi Di Pavia, Italy

Researcher's Name

Prof. M.Hasan BODUROĞLU

Researcher's Contact

bodurogl@itu.edu.tr

Total Budget/ITU's Budget

EUR 9.748.000/ EUR 113.962

Start - End Date

2004 - 2007

Partners

- Centro Elettrotecnico Sperimentale Italiano Giacinto Motta SpA, Italy
- Applicazione Lavorazione Giunti Appoggi SpA, Italy
- Algosystems SA, Greece
- Arsenal GmbH, Austria
- Aristotle University of Thessaloniki, Greece
- Bureau de Recherches Geologiques et Minieres, France
- Commissariat à l-Energie Atomique, France
- Centre Int. De Métodes Numérics en Enginyeria, Spain
- Development & Engineering Consultants Ltd, Greece
- Dipartimento della Protezione Civile, Italy
- EDF SEPTEN, France
- Ente Nuove Tecnologie, l-Energia e l-Ambiente, Italy
- Faculdade De Engenharia da Universidade do Porto, Portugal
- Geodynamique et Structure, France
- Istituto Nazionale di Geofisica e Vulcanologia, Italy
- Institut National Polytechnique de Grenoble, France
- INSA-LYON, France
- Istituto Superior Técnico, Portugal
- Istanbul Technical University, Turkey
- Joint Research Centre, Belgium
- Kandilli Observatory and Earthquake Research Institute, Turkey
- Laboratório Nacional de Engenharia Civil, Portugal
- Maurer Soehne GmbH & Co. KG, Germany
- Middle East Technical University, Turkey
- Munich Reinsurance Company, Germany
- Necso Entrecanales Cubiertas SA, Spain
- Norwegian Geotechnical Institute, Norway
- National Technical University of Athens, Greece
- Rheinisch-Westfälische Tech. Hoch. Aachen, Germany
- Stamatopoulos and Associates Co. Ltd, Greece
- Studio Geotecnico Italiano Srl, Italy
- Swedish Geotechnical Institute, Sweden
- Reparação, consolidação e modificação de estruturas, SA, Portugal
- University of Bristol, UK
- University of Cambridge, UK
- Universite de Liege, Belgium
- University of Ljubljana, Slovenia
- University of Naples Federico II, Italy
- University of Newcastle upon Tyne, UK
- Università degli Studi di Milano Bicocca, Italy
- University of Patras, Greece
- Universidad Politécnica de Madrid, Spain
- Università di Roma -La Sapienza-, Italy
- University of Surrey, UK
- VCE Holding GmbH, Austria
- VINCI Construction Grands Projects, France

Website

www.LESSLOSS.org/main

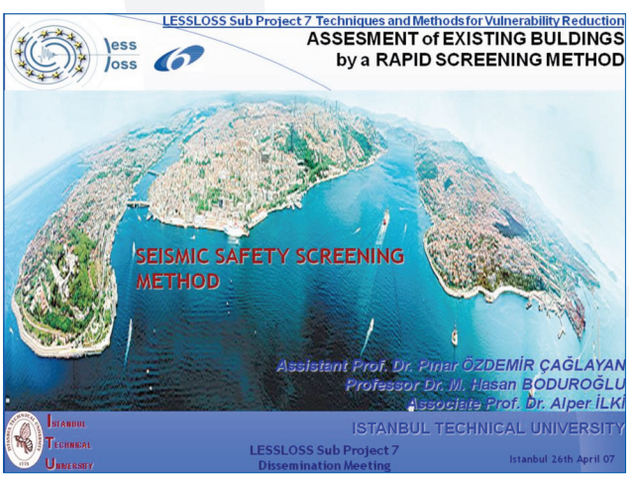
Abstract

Research component 2.2b

Techniques and methods for vulnerability reduction

The aim of Sub-Project 7 of the LESSLOSS Project is the reduction of the seismic vulnerability of buildings and infrastructures. This can correspond to very different interventions, as there are many types of structures, many materials and many ways to reduce vulnerability. This explainsthat a variety of topics is treated. Six researchgroups have participated in Sub-Project 7:Universite de Liege (ULIEGE), CentreInternacional de Métodes Numérics en Enginyeria (CIMNE), Istanbul Technical University (ITU), Istituto Superior Técnico (IST), Middle East Technical University (METU), Acciona Infraestructuras (ACCIONA) and the University of Bristol (UBRIS). A synthesis of the work performed during three years by seven Institutions has been published in the form of a book in which the reader can have an overview of the output of research. The overview is already wide, since the book has over300 pages. Its reference is: "Guidelines for Seismic Vulnerability Reduction in the Urban Environment", IUSS Press, 2007, A.Plumier Editor, ISBN 978-88-6198-008-2.

Image



Project Acronym and Name

ERA ENV - Integration of Associated Candidate Countries and new EU Member States in European Research Area by Environmental Approaches

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2005-1.I.6.3

Contract Type

Specific Support Action

Coordinator

FIMAN Development Services, Romania

Researcher's Name

Prof. Seval Sözen

Researcher's Contact

sozens@itu.edu.tr

Total Budget/ITU's Budget

EUR 499.999 / EUR 35.296

Start - End Date

2005 - 2006

Partners

- Central Laboratory of General Ecology, Bulgaria
- The Scientific and Technological Research Council of Turkey, Turkey
- Institut Fuer Automation und Kommunikation E.V. Magdeburg, Germany
- Istanbul Technical University, Turkey
- Budapest University of Technology and Economics, Hungary
- Austrian Research Promotion Agency, Austria
- Applied Research and Communications Fund, Bulgaria
- Ministerul Educatiei Si Cercetarii – Autoritatea Nationala Pentru Cercetare Stiintifi ca, Romania
- National Innovation Office, Hungary
- Technical University of Zvolen, Slovakia

Website

http://www.eraenv.com

Abstract

The aim of the project is

- to encourange and faciliate the participation of potential participants (research organizations and SMEs) from the New Member States (NMS) and Candidate Countries (CC) in the activities of the Priority 1.1.6.3 - Global Change and Ecosystems, focused on scientific activities related to Dnube River Basin and Black Sea Coast within EU 6th Framework Programme and

- to adversite FP6 in participating NMS and CC in order to raise the awareness regarding the the opportunities offered by the EU Research Programme and support the building of consortia with participants from the above mentioned area.

In this line the project:

- actively promotes the research competencies on environment in NMS and CC (at least 200 research organizations from NMS and CC will be promoted),

- trains reseach and SMEs representative on issues related to FP6 and 'Global Changes and Ecosystems' (11 training sessions organized and up to 240 researchers trained),

- promotes FP6/Global Changes and Ecosystems to research community and SMEs (2.750 brochures, 5.ooo leaflets, 2.750 CDs, on web page, monthly E-newsletters, one European Conference),

- supports researchers/SMEs in proposals elaboration and submission (up to 20 proposals with NMSand CC partners),

- establish partnerships between organizations from Member States and NMS and CC.

Image

Project Acronym and Name

WATERPIPE- Integrated High Resolution Imaging Ground Penetrating Radar and Decision Support System for WATER PIPEline Rehabilitation

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2005-3.II.3.3

Contract Type

STREP

Coordinator

Institute of Communication and Computer Systems of NTU, Greece

Researcher's Name

Prof. Seval SÖZEN

Researcher's Contact

sozens@itu.edu.tr

Total Budget/ITU's Budget

EUR 3.347.581 / EUR 120.840

Start - End Date

2006 - 2009

Partners

- Pipehawk Plc, UK
- Iride Acqua Gas Spa, Italy
- Advanced Microwave Systems Ltd, Greece
- Hydrosave UK Ltd, UK
- Huberg Sas - Huber Guenther & C, Italy
- Risa Sicherheitsanalysen Gmbh, Germany
- Tecnic - Tecniche E Consulenze Nell' Ingegneria Civile Spa - Consulting Engineers Spa, Italy
- Azienda Mediterranea Gas E Acqua Spa, Italy
- Compania Aquaserv S.A., Romania
- Istanbul Technical University, Turkey

Website

http://www.waterpipe-eu.org/

Abstract

Many EU Cities are experiencing increasing problems with their water pipeline infrastructure. The cost of replacing these old, worn-out systems, if left to deteriorate beyond repair, is astronomical and clearly beyond the resources of many communities. Re placement, however, is not the only choice as many of these systems can be rehabilitated at 30 to 70 percent of the cost of replacement. Accordingly, resources are now increasingly being allocated to address pipeline rehabilitation management issues.

Due to the emphasis on sustainable management, risk-based approaches for the rehabilitation management of the water supply network need to be developed. Rehabilitation decisions should be based, interalia, on inspection and evaluation of the pipeline conditions. Yet, utilities cannot locate a number of their old pipes and current inspection technologies typically do not provide the needed detailed information on pipeline damage.

The objectives of this work are:

1. To develop a novel, high-resolution imaging ground penetrating radar for the detection of pipes, leaks and damages and the imaging of the damaged region and evaluate it at a test site.

2. To produce an integrated system that will contain the equipment in "1" and a Decision-Support-System (DSS) for the rehabilitation management of the underground water pipelines that will use input from the inspections to assess, probabilistically, the time-dependent leakage and structural reliability of the pipelines and a risk-based methodology for rehabilitation decisions that considers the overall risk, including financial, social and environmental criteria.
3. To field test the equipment and the DSS.

Image

Project Acronym and Name

AUTOCOM - Automotive Controls and Mechatronic Research Center for Actively Safe, Clean and Efficient Road Vehicles - the AUTOCOM Center

Programme Acronym

FP6 - IST - INFORMATION SOCIETY TECHNOLOGIES - PRIORITY THEMATIC AREA 2 (PTA2)

Sub-Programme Area

INTELLIGENT TRANSPORT SYSTEMS (KEY THEME) , INNOVATIVE TECHNOLOGIES, SECURITY AND SAFETY, ECONOMIC AND REGIONAL IMPACTS

Contract Type

Public (EU)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Prof. Levent GÜVENÇ

Researcher's Contact

guvenc.1@osu.edu

Total Budget/ITU's Budget

EUR 1.000.000

Start - End Date

2005 - 2008

Partners

-

Website

http://www.transport-research.info/web/projects/project_details.cfm?ID=27831

Abstract

The main objective of the project coud be summarised as making the Automotive Controls Research Group (ACRG) in the Department of Mechanical Engineering at Istanbul Technical University (ITU) an excellent Automotive Controls and Mechatronics (Acronym: AUTOCOM) Centre for Actively Safe, Clean and Efficient Road Vehicles with an increased research and technological development (RTD) capacity and a higher level of participation in EU Funded Research activities. This main objective was achieved through several sub-objectives.

These sub-objectives and their measurable outcomes were:

· achieve a higher level of contribution to RTD capacity in Turkey and in the EU;

· to improve networking with other research centres in Europe– In this context, we cooperated with several European universities and research centres on diesel engine modelling and control, on engine modelling for control applications, on modelling and control of hybrid vehicles, on preventive/active safety systems and intelligent transportation systems and on driveline modelling;

· to send Ph.D. students and post-doctoral researchers to other centres for training and experiments;

· to organise three workshops on:

1. preventive and Active Safety Systems for Road Vehicles;

2. powertrain Modelling, Control and HiL Testing;

3. hybrid Electric Vehicle Modelling and Control. These workshops were held in Turkey and will all involved either a visit to the centre or a presentation on the centre and a separate session devoted to exploring future research and development cooperation possibilities. EU Officials in the relevant program were invited to the latter session.

· to visit other centres for cooperative activities and joint RTD proposal preparation – Selected researchers in the centre visited selected European universities and research centres.

· to hire two young researchers at the post-doctoral level and three young researchers at the doctoral student or engineer level;

· to renew selected S&T equipment in ACRG-ITU.

Image Abstract

Project Acronym and Name

SUSTAINABLE FUELUBE

CO2 Reduction Through Automotive Biocomponent Enabling and Sustainable Step Changes in Fuels and Lubricants Performance

Programme Acronym

FP6-MOBILITY

Sub-Programme Area

MOBILITY-1.3

Contract Type

Marie Curie Actions-Transfer Of Knowledge

Coordinator

Shell Research Ltd, UK

Researcher's Name

Prof. Cem SORUŞBAY

Researcher's Contact

sorusbay@itu.edu.tr

Total Budget/ITU's Budget

EUR 1.390.669 / EUR 316.011

Start - End Date

2005 - 2009

Partners

- Istanbul Technical University, Turkey
- Ruprecht-Karls-University Heidelberg, Germany
- Fuels Business Group, Shell Global Solutions, UK
- Cheshire Innovation Park, UK
- Center for Research and Technology, Hellas, Greece
- Eindhoven University of Technology, The Netherlands
- Lulea University of Technology, Sweden
- Universita Degli Studi Di Napoli "Federico II", Italy
- KTH Royal Institute of Technology, Sweden
- Trinity College, Dublin, Ireland

Website

http://www.istworld.org/ProjectDetails.aspx?ProjectId=f4d98abdb23c4a7a88ce8a409fadc18e&SourceDatabaseId=7cff9226e582440894200b751bab883f

Abstract

Eight research institutions from seven EU Member States have been brought together with two Shell global solutions research and technology centres in Thornton, United Kingdom and Hamburg, Germany by a Marie Curie FP6 Transfer of Knowledge initiative 'Sustainable Fuelube'. Over the 2005 - 2009 Marie Curie project phase, fellows from each university or research institution spent two years at Shell global solutions research and technology centres in the United Kingdom where they worked on projects to improve combustion and lubrication efficiency. By enabling the successful introduction of bio-components into future fuels and lubricant formulations, these projects support European Union environmental targets for improving local air quality, sustainability and combating climate change.

Establishing long-lasting university-industry relationships across national boundaries is an objective of the Marie Curie scheme. Up-to-date research knowledge is brought to industry via the research fellow and his / her academic supervisor. During the two-year Shell assignment, the fellow carried out research, and learned how Shell global solutions manages R&D projects and exploits this knowledge by developing innovative, sustainable products. Several of the research fellows were involved in a series of inter-linked projects involving theoretical chemical modelling, engine modelling and engine measurement studies of auto-ignition and pre-mixed combustion. This is focused on understanding how fuel properties affect future engine technologies, in particular knock and pre-ignition in spark ignition engines and Homogeneous charge compression ignition (HCCI) combustion. HCCI is being developed to substantially reduce exhaust emissions of nitrogen oxides and particulate matter, as well as improving engine efficiency and thus reducing carbon dioxide emissions.

Chemical kinetic models were developed for surrogate gasoline and validated by experiments. These models help explain why practical fuels show unexpected knock behaviour in modern engines, a phenomenon which has profound implications for future gasoline specifications and manufacture. Heat transfer in HCCI engines was modelled.

Over 10 papers were published in scientific journals and presented at conferences. Sustainable Fuelube also had significant achievements on three lubricant projects. A project which studied the balance between base oil and lubricant additives in order to help in the development of low friction lubricants resulted in project presentations at the Leeds-Lyon Symposium on Tribology in 2007 and 2008. The development of a friction modifier additive, for lubricants, was subsequently patented.

Another project to predict lubricant performance for improved efficiency involved the modification of an existing viscometer to enable mid-shear rate viscosity and friction measurements which subsequently validated the models which were developed during the fellowship.

The third project involved adhesion experiments on standard greases and low noise greases. A paper was presented on the measurement of the high pressure properties of lubricants, at the 2008 Leeds-Lyon symposium on tribology. An annual one-week workshop, held throughout the Marie Curie project, brought all the participants together (research fellows and the industrial and university supervisors), which enabled new technical synergies to be established.

Over forty researchers, representing the participating research institutions, Dublin, Eindhoven, Heidelberg, Istanbul, Lulea, Cambridge, Stockholm and Thessalonica, participated in the fourth annual workshop for 'Sustainable Fuelube' which was held at Shell technical centre in Thornton, United Kingdom in March, 2009. The scientific presentations and research results were delivered in a proactive peer reviewed environment. Several research projects are on-going during the fellows' reintegration year in their sending universities. A number of new research collaborations have been forged between Shell and the university participants.

Image

Project Acronym and Name

ESONET NoE: European Seas Observatory Network of Excellence Project

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2005-3.VI.1.1

Contract Type

Networks of Excellence

Coordinator

French Research Institue for Exploitation of the Sea, France

Researcher's Name

Prof. M. Namık ÇAĞATAY

Researcher's Contact

cagatay@itu.edu.tr

Total Budget/ITU's Budget

EUR 7.000.000 / EUR 230.000

Start - End Date

2007 - 2012

Partners

- Consiglio Nazionale Delle Ricerche, The National Research Council, Italy
- Stiftelsen Nansen Senter For Fjernmaaling, Norway
- Stockholm University, Sweden
- Alcatel Submarine Networks Sas Guralp Systems Limited,UK
- Norddeutsche Seekabelwerke Gmbh, Germany
- Altran Technologies, France
- Slr Environmental Consulting (Ireland) Limited, Ireland
- Send Off -Shore Electronics Gmbh, Germany
- Sis Sensoren Instrumente Systeme Gmbh, Germany
- Fugro Engineers Bv, The Netherlands
- Sercel Sa, France
- Medicion Ambiental Slne, Spain
- Teseo Srl, Italy
- Nke Sa, France
- Tecnomare Spa - Societa Per Lo Sviluppo Delle Tecnologie Marine, Italy
- Send Signal Elektronik Gmbh, Germany
- Sopab Brest, France
- University of Aberdeen, UK
- Foundation for Research and Technology Hellas, Greece
- Dokuz Eylul Universitesi, Turkey
- Konsortium Deutsche Meeresforschung E.V., Germany
- Universidade Dos Acores, Portugal
- Institute of Oceanology - Bulgarian Academy of Sciences, Bulgaria
- Istituto Nazionale Di Geofisica E Vulcanologia, Italy
- National Center for Scientific Research, France
- Royal Netherlands Institute for Sea Research, The Netherlands
- Hellenic Centre For Marine Research, Greece
- Beuth Berlin University of Applied Sciences, Germany
- The Arctic University of Norway, Norway
- Institut De Physique Du Globe De Paris, France
- University of Gothenburg, Sweden
- Istanbul Technical University, Turkey
- Marine Institute,Ireland
- Consejo Superior De Investigaciones Cientificas, Spain
- Fundacao Da Faculdade De Ciencias Da Universidade De Lisboa, Portugal
- Centro De Investigacao Tecnologica Do Algarve, Portugal
- Istituto Nazionale Di Fisica Nucleare, Italy
- Universidade Do Algarve, Portugal
- Norwegian Geotechnical Institute, Norway
- Bogazici University, Turkey
- Universite Libre De Bruxelles, Belgium
- Natural Environment Research Council, UK

Website

http://www.esonet-noe.org/

Abstract

ESONET stands for European Seas Observatory NETwork, networking institutions, persons, tools and know-how on deep sea observatories. It aims to promote the implementation and the management of a network of long-term multidisciplinary ocean observatories in deep waters around Europe. It wishes to define an organization – with the necessary critical mass – capable of gathering the resources of the participating institutes. The ultimate goal is to define durable solutions through a joint programme of activities.

An ESONET observatory is a deep sea station linking marine sensors to the shore by acoustic or cable connection in real or near-real time. These observatories enable data acquisition on oceanological and climatological phenomena at relative high frequency. Long-term observatories are crucial for European scientists to maintain an high level research that was developed through past and present framework programs. Only long-term observatories allow continuous observation of large numbers of parameters collected through power intensive sensors. This capability is crucial for observing natural processes that are either very episodic or statistically require long time series. The Sea of Marmara is chosen as one of the ESONET observatory sites.

Image

Project Acronym and Name

EMCOL: Eastern Mediterranean Centre for Oceanography and Limnology

Programme Acronym

FP6-INCO

Sub-Programme Area

INCO-2004-ACC-RSTP

Contract Type

Specific Support Action

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Prof. M. Namık ÇAĞATAY

Researcher's Contact

Phone: +90 212 285 62 11
E-mail: cagatay@itu.edu.tr

Total Budget/ITU's Budget

EUR 900.000

Start - End Date

2005 - 2008

Partners

-

Website

www.emcol.itu.edu.tr

Abstract

EMCOL's main objective is to establish a research centre designed to combine the trained scientists in Istanbul Technical University (ITU) with advanced field and laboratory facilities for marine and lake studies. EMCOL houses, administers and utilises the upgraded facilities and train new researchers in advanced methodoligies in marine geology-geophysics, paleoceanography and limnology.

EMCOL, 3-year EC FP6-2004-ACC-SSA-2 project (Contract No. 17490) has been initiated at İstanbul Technical University with the following main objectives:

1. To establish state-of-the-art laboratory and field infrastructure that will be used extensively in marine and lake studies, including natural hazards and environmental changes, so that the output will be comparable with that from European, American, and other worldwide centres of excellence, **2.** To develop highly qualified first- and second-generation researchers in interdisciplinary marine and lake studies at ITU, covering a wide range of fields such as underwater earthquake geology, tsunamis, submarine land slides, floods, climate change and environmental pollution, and **3.** To enhance interactions in projects and idea exchanges between ITU researchers and those in the EU countries.

Image

EMCOL

Project Acronym and Name

POP&C - Pollution Prevention and Control - Safe Transportation of Hazardous Goods by Tankers

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2002-3.4.2.4.11

Contract Type

Specific Targeted Research Project

Coordinator

Intertanko - International Tanker Owners, UK

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 2.204.873 / EUR 47.290

Start - End Date

2004 - 2007

Partners

- University of Strathclyde, UK
- Bureau Veritas, France
- Sirehna, France
- Center of Maritime Technologies, Germany
- National Technical University of Athens, Greece
- Gdynia Shipyard, Poland
- Maritime Simulation Rotterdam, The Netherlands
- Lloyd's Register, UK
- Izar Construcciones Navales S.A., Spain
- Sspa Sweden Ab, Sweden
- Istanbul Technical University,Turkey
- Herbert Software Solutions- Europe, UK
- Souter Shipping, UK
- University of Newcastle Upon Tyne, UK

Abstract

The consequences of tanker accidents are often catastrophic, as can be vividly attested by the recent disasters of the Erika and Prestige, raising the issue of oil spills to the highest priority for the EU Community. The POP&C project aims to address this issue head on by focusing on prevention and mitigation in ship design and operation for existing and new vessels. Specific objectives include:

• To develop a risk-based methodology to measure the oil spill potential of tankers

• To develop a risk-based passive pollution prevention methodology (design and operational lines of defence)

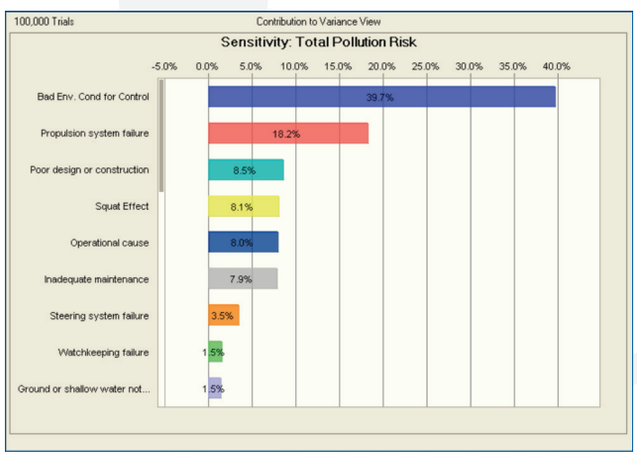
• To develop a risk-based active post-accident pollution mitigation and control framework.

The objectives will be achieved by identifying and ranking critical hazards such as collision and grounding, fire and explosion and structural failure (WP2), leading to estimates of probability of capsizing/sinking from loss of stability or structural failure (WP3, WP4), which combined with estimates of consequences within a risk-based framework will provide pollution risk (WP5). Risk reduction through preventative measures (WP6) and post-accident mitigation and control measures such as decision support tools, human-machine interface, safe refuge (WP7) will also be developed.

This STREP proposal perfectly addresses the scientific, technological and wider societal and policy objectives of the Sustainable Surface Transport thematic priority, and in particular increasing safety of waterborne transport, through integrating technologies for driving, piloting and manoeuvring assistance to improve safety and maximise the effective capacity of the infrastructure, including the secure transportation of hazardous goods (Research Domain 4.11).

The consortium comprises prime protagonists in the area of maritime safety in Europe and is organised to provide all the complimentary capabilities (partners represent all the industry sectors) that are necessary to satisfy the project objectives. The consortium consists of 4 universities, 5 research organizations, 2 classification societies, 2 shipyards, 3 tanker operators and uniquely includes the International Maritime Organisation (IMO).

Image Abstract



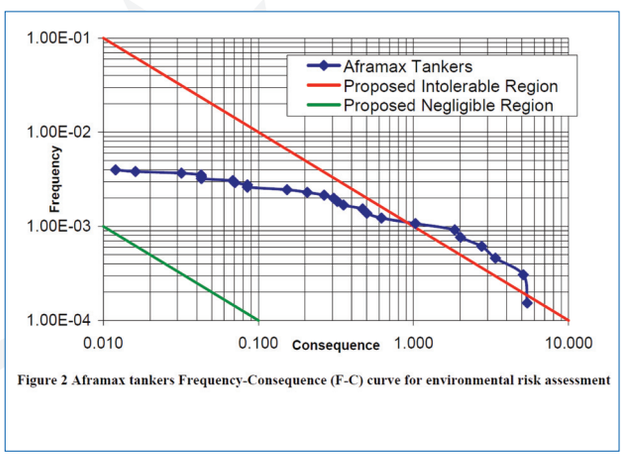


Figure 2 Aframax tankers Frequency-Consequence (F-C) curve for environmental risk assessment

Project Acronym and Name

EUROMAR BRIDGES - Building Bridges Between EU Member and Candidate States in Maritime Research on Transport Within the Frames of European Research Area

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2.2,SUSTDEV-2.1.1

Contract Type

Specific Support Action

Coordinator

Ship Design and Research Centre, Poland

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 258.146 / EUR 18.500

Start - End Date

2006 - 2008

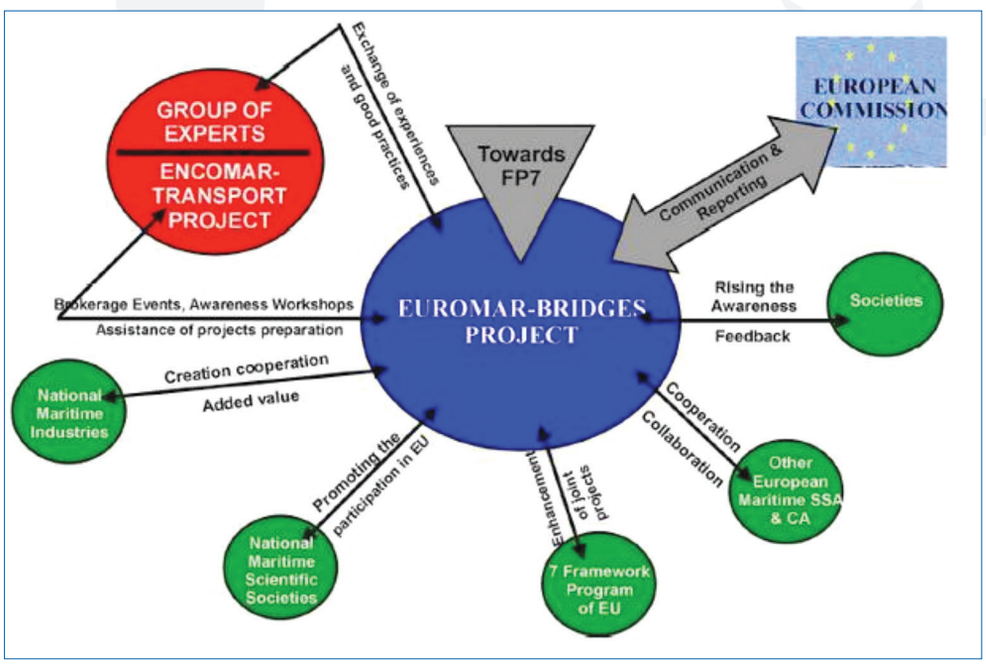
Partners

- Ovidius University-Centre of Advanced Engineering Sciences, Romania
- Dema Consulting, Slovakia
- Varna Scientific and Technical Unions, Bulgaria
- Institute of Transport Sciences, Hungary
- Riga Technical University-Institute of Materials and Structures, Latvia
- Klapeida University, Lithuania
- Institute of High Performance Computing and Information Systems, Russia
- University of Zagreb - Faculty of Engineering and Naval Architecture, Croatia
- Istanbul Technical University, Turkey

Abstract

The EUROMAR-BRIDGES project contributed to the objectives of the FP6-2002-Transport-2 call, as well as to the objectives of the Sustainable Surface Transport Priority (Priority 1.6.2) of the 6th Framework Programme of Research and Development of the European Commission. Moreover, the project supports objectives of the EU policy. The gathering the required knowledge, trends, data related to the state-of-art and bringing Europe down to the people within the New Member States and Candidate Countries as well as in third countries as Russia for pushing forward the cooperation activities between them and states coming from "Old Europe", which are one of the key factors of accelerated economic growth at the European level, is considered as flag objective of the EUROMAR-BRIDGES project. Followed by the recommendations given by the EC in FP6, COREDES and ERAMAR TN, the consortium and targeted audience will focused on the following thematic areas such as waterborne transport, waterborne safety, ports, shipping in order to assure the consistency of other undertaken research activities. For this purpose, within the one and a half year duration of the project, the following main activities were undertaken: nationally organized workshops to keep the maritime actors informed, special research area oriented brokerage events to improve technological excellence and inform about "new comers" competences, 2 new project proposals for FP7.

Image Abstract



Project Acronym and Name

SMOOTH - Sustainable Methods for Optimal Design and Operation of Ships with Air LubricaTed Hulls

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2005-3.2.2.2.4

Contract Type

Specific Targeted Research Project

Coordinator

Marin- Maritime Research Institute Netherlands, The Netherlands

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 1.438.250 / EUR 250.000

Start - End Date

2006 - 2009

Partners

- Akzo Nobel International Coating, UK
- Bureau Veritas , France
- Damen Shipyards, The Netherlands
- Istanbul Technical University, Turkey
- Atlas Copco Ketting Marine Center, The Netherlands
- N-L New-Logistics , Sspa- Sspa Sweden Ab, Sweden
- Development Centre for Ship Technology and Transport-Systems, Germany
- Thyssenkrupp Veerhaven, The Netherlands
- It- Imtech, The Netherlands

Website

http://www.marin.nl/web/JIPs-Networks/Archived-JIPs-Public/Smooth.htm

Abstract

The strategic objective of SMOOTH is to cover all aspects of air-lubricated ships still

requiring research and assessment to enable the technology transfer of air-lubrication into daily European shipbuilding and operation practice of both inland and coastal navigating ships.

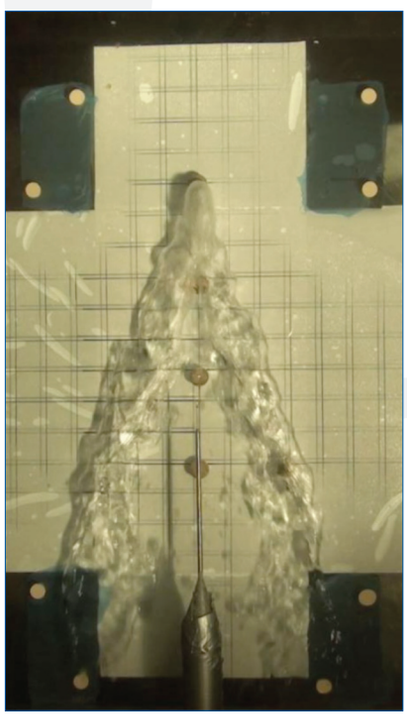
The first PELS project, a Dutch national project, demonstrated a positive overall energy win is achievable in all operational conditions of a ship when air lubrication is applied.

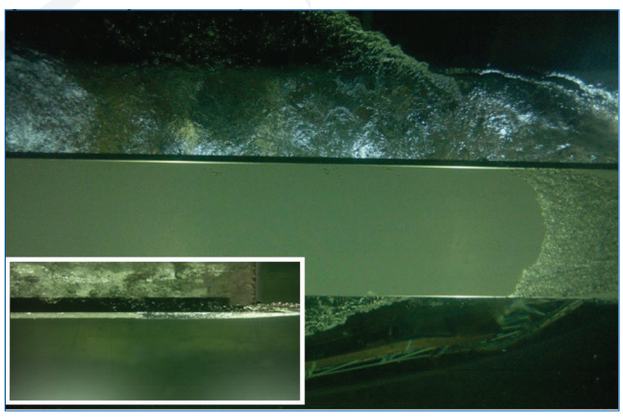
Based on these findings, the SMOOTH consortium estimates that ship efficiency improvements up to 20% is feasible. The consortium of SMOOTH consists of leading European research institutes and industrial partners from seven different European countries, each of them with unique skills, either as knowledge providers, top hydrodynamic labs and universities, end-users or air-system and maritime paint suppliers, to contribute to the successful implementation of air-lubricated ships.

SMOOTH aims at a considerable reduction of fuel consumption, CO2 discharge with at the same time improved safety by applying new, vanguard technologies. The application of this promising technique will strengthen the position of European shipbuilders compared to their Asian competitors. Two important factors in ship safety are manoeuvring and stopping performance. As with air-lubricated ships frictional resistance of a ship can be influenced by switching on and off the air-lubrication, the stopping performance of ships can be improved noticeably.

For example in cases when there is danger of collisions and groundings, sometimes leading to severe environmental pollutions. Besides the global dissemination of results, controlled dissemination of sensitive project results is enabled by the installation of a Supervisory Board, supporting the control of the running project by interested end-users and being exclusively legitimated to receive the results of the research.

Image Abstract





Project Acronym and Name

ENCOMAR - Enhanced Co-Operation Between EU Member States and Associated Candidate States in Maritime Research on Transport

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTAINABLE SURFACE TRANSPORT

Contract Type

Specific Support Action

Coordinator

Center of Maritime Technologies, Germany

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 379.955 / EUR 18.019

Start - End Date

2005 - 2006

Partners

- The Norwegian Marine Technology Research Institute, Norway
- Association of Finnish Marine Industries, Finland
- Ship Design and Research Centre, Poland
- Varna Scientific and Technical Unions, Bulgaria
- Institute of Transport Sciences, Hungary
- Riga Technical University-Institute of Materials and Structures, Latvia
- Klapeida University, Lithuania
- Ovidius University - Centre of Advanced Engineering Sciences, Romania
- Dema Consulting , Slovakia
- Institute of High Performance Computing and Information Systems, Russia
- Maritime Engineering Bureau, Ukraine
- University of Zagreb, Croatia
- Istanbul Technical University, Turkey

Abstract

The specific support action ENCOMAR-TRANSPORT project was funded by the sixth framework programme and launched to support the integration of the new EU Member States, applicant countries, Russia and Ukraine in research on maritime transport, thereby helping to jointly use R&D potentials and resources and to promote a culture of innovation throughout the enlarged European Union and neighbour countries.

ENCOMAR-TRANSPORT had two general strategic objectives:
- to support the integration of the associated candidate States, Russia and Ukraine into the European maritime research area, thus supporting EU policies and the formation of ERA; and - to support the goals defined in the maritime part of the sustainable surface priority of the Sixth Framework Programme, in particular to strengthen European competitiveness through scientific and technological excellence.

In detail, ENCOMAR-TRANSPORT had the following objectives:
- Increasing awareness of the maritime potentials of the 'new' EU Member States, applicant countries, Russia and Ukraine in research and industry
- Creating a network of maritime R&D contact points providing a basis for a sustainable infrastructure for maritime R&D cooperation.
- Inform about potentials and activities of European research in the new European member states, applicant countries, Ukraine, Russia and Turkey
- Inform the research community and industry in the EU member states about the potentials of new partners from countries not yet integrated in European research activities.

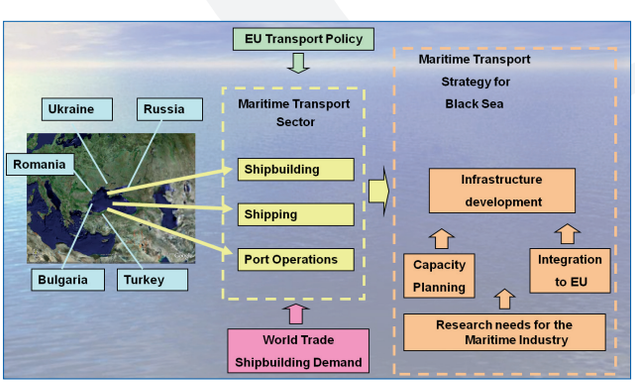
The approach to tackle the major project objectives was the identification of the main maritime actors and potential of each country executed by the each partner for their country. In order to increase awareness about the potentials of European maritime research, nine workshops were conducted on national level by the ENCOMAR-TRANSPORT partners to disseminate information about European maritime transport research in their individual countries. This was to enable a broad participation of research and industrial actors in those countries, in particular encouraging the participation of SMEs. Four Brokerage Events have been organised and managed by AMFI, Marintek, CMT and OUCCAES. These events were organised to give potential 'new' actors the opportunity to present their interests, potential, needs, skills and services towards the EU research community and maritime industry. Brokerage events took place in Budapest, Oslo, Hamburg and Rostock and were dedicated to four different thematic priorities. Three of the events were organised in conjunction with larger events, the SMM in Hamburg and conferences in Oslo and Rostock-Warnemünde. Three research fields with high potential for the integration of new EU member states, applicant countries, Russia and Ukraine were identified and expressions of interest were prepared, forwarded to Waterborne and described in more detail. Last but not least, project management was responsible for the efficient administration of the project and to promote and stimulate the establishment of contacts with other relevant external research projects and overall dissemination activities, and preparing the ENCOMAR-TRANSPORT website.

The project's action can be categorised into the following main areas:
- Creation of a Network of Maritime R&D National Contact Points in new member states, associated candidate countries, Russia and Ukraine
- Collection and dissemination of information on maritime actors, strategies and research priorities
- Inform about potentials and activities of European research on national/regional level by executing Awareness Workshops and other networking and dissemination activities
- Information of research community and industry in the 'old' EU member states about the potentials of partners from 'newcomers' via Brokerage Events
- Involving partners in proposal preparation of FP6 Call 3B
- Launching of EUROMAR-BRIDGES
- Expressions of interest in 3 priority areas
- Project management and execution.

The result of ENCOMAR-TRANSPORT gave much better overview of the industrial and scientific activities in the East-European Countries. This overview which also includes the overview of the maritime clusters in the participating Western European Countries has not been available before in such a detail. This could also be a basis for further development of stronger maritime clusters especially in the Eastern countries.

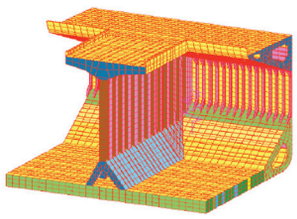
In summary, achievements and added value of the ENCOMAR project were:
- Developed new knowledge about EU R&D Policy on Maritime industry;
- Assuring the 'sustainable growth' of maritime knowledge;
- Exchange of experience and best practice in order to implement it and obviate mistakes;
- Exchange of R&D knowledge and best practices;
- Achieving the critical mass of the new representatives for further interactions within new European joint activities;
- Involving LLSRA into the first for them BP6 project EUROMIND.

Image Abstract



Project Acronym and Name

MARSTRUCT - Network of Excellence on Marine Structures



Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2.1.2

Contract Type

Networks of Excellence

Coordinator

Instituto Superior Técnico, Portugal

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 6.000.000 / EUR 60.000

Start - End Date

2004 - 2010

Partners

- Universities of Glasgow & Strathclyde, UK
- Université De Liege, Belgium
- Technical University of Varna, Bulgaria
- Technical University of Denmark, Denmark
- Helsinki University of Technology, Finland
- Vtt Industrial Systems, Finland
- Kvaerner Masa-Yards, Finland
- Bureau Veritas, France
- Principia Marine, France
- Sirehna, France
- Germanischer Lloyd, Germany
- Technical University of Hamburg Harburg, Germany
- Fsg- Flensburger Schiff bau Gesellschaft Mbh & Co Kg, Germany
- Center for Maritime Technologies E.V, Germany
- National Technical University of Athens, Greece
- Centro Tecnico Navale, Italy
- Università Di Genova, Italy
- Netherlands Organisation for Applied Scientific Research, The Netherlands
- Schelde Naval Shipbuilding, The Netherlands
- Norwegian University of Science and Technology, Norway
- Det Norske Veritas, Norway
- Technical University of Szczecin, Poland
- Centrum Techniki Okretowej, Poland
- Lisnave Estaleiros Navais Sa , Portugal
- Estaleiros Navais De Viana Do Castelo, Portugal
- University "Dunarea De Jos" of Galati, Romania
- Izar Construcciones Navales S.A., Spain
- Chalmers University of Technology, Sweden
- Istanbul Technical University, Turkey
- University of Newcastle, UK
- University of Southampton, UK
- The Welding Institute, UK

Website

http://www.mar.ist.utl.pt/marstruct/

Abstract

The overall objective of the Network, which has a duration of 5 years, is to improve the comfort, effectiveness, safety, reliability and environmental behaviour of ship structures through the application of advanced structural and reliability assessment within design, fabrication and operation, leading to increased public and commercial confidence in the competitiveness and use of waterborne transportation.

This objective will be achieved by strengthening the European competitiveness aiming at a permanent organisation of the type of a virtual institute, which will ensure the integration of the various European groups in a European Centre of Competence for structural analysis of ships with improved safety environmental behaviour and comfort.

The objective will be achieved through a programme for jointly executed research in the area of structural analysis of ships, the creation of research facilities and platforms and a continuous programme of dissemination and communication of research results. The way in which the programme is designed contributes to the mutual specialisation and complementarity through building up of strengths and the shrinking of weaknesses of the participants. This programme will strengthen the scientific and technological excellence of the European Research Area by integrating at a European Level a critical mass of resources and expertise that will be able to provide European leadership in the design of efficient and safe ship structures.

The activities of the Network will cover the different areas related with advanced structural analysis such as:

· Specification of the loading appropriate for the various modes of structural response and strength.

· Methods and tools for the analysis both numerically and experimentally of the structural strength and performance, including aspects such as ultimate strength, fatigue, crashworthiness, fire and explosion, resistance, and noise and vibration.

· Influence of fabrication methods and new and advanced materials on the structural strength and performance of ships.

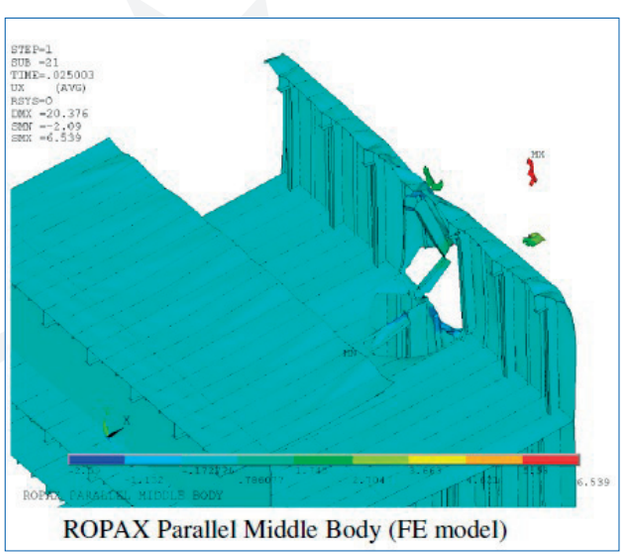
· Tools for design and optimisation of ship structures.

· Tools and methods of structural reliability, safety and environmental protection of ships.

Image Abstract

Overview of MARSTRUCT Work packages

	Technical Excellence Areas			
Vertical Integration / Horizontal Integration	*Methods and tools for loads and load effects (WP1)*	*Methods and tools for strength assessment (WP2)*	*Experimental analysis of structures (WP3)*	*Materials & fabrication of structures (WP4)*
	Tasks 1.1 Design environmental conditions 1.2 Wave induced loads 1.3 Hydrodynamic Impact Loads 1.4 Accidental loads 1.5 Design Loads	**Tasks** 2.1 Stress analysis in complex structures 2.2 Vibration analysis and comfort 2.3 Ultimate collapse strength 2.4 Fatigue and Fracture Strength 2.5 Crashworthiness and impact strength 2.6 Structural strength under fire and explosion 2.7 In-service monitoring of structural strength	**Tasks** 3.1 Experimental Equipment and Techniques 3.2 Slamming tests 3.3 Shock and vibration testing, onboard vibration measurement 3.4 Ultimate strength tests 3.5 Fatigue and fracture tests 3.6 Collision tests 3.7 Corrosion tests 3.8 Tests of structures under fire	**Tasks** 4.1 Design and fabrication of metallic structures 4.2 Design and fabrication of structures using composite materials 4.3 Adhesive Bonding 4.4 Fabrication Imperfections of Metallic Structures 4.5 Corrosion protection systems
Methods and tools for structure design and optimisation (WP5)	**Tasks** 5.1 Methods of design for production and for maintenance; 5.2 Tools for structural design; 5.3 Data exchange and sharing in structural design; 5.4 Structural optimisation tools			
Structural reliability, safety & environmental protection (WP6)	**Tasks** 6.1 Tools for structural reliability analysis of marine structures; 6.2 Reliability and risk based structural design methods and codes; 6.3 Risk based structural maintenance planning; 6.4 Safety of marine structures; 6.5 Environmental impact of marine structures			
Management, Integration (WP7)	**Task** 7.1 Management; 7.2 Integration; 7.3 Dissemination, 7.4 Exploitation			



ROPAX Parallel Middle Body (FE model)

Project Acronym and Name

BAWAPLA - Sustainable Ballast Water Management Plant

Programme Acronym

FP6-SUSTDEV

Sub-Programme Area

SUSTDEV-2005-3.2.2.2.4

Contract Type

Specific Targeted Reseach Project

Coordinator

Verein Zur Forderund Des Technologietransfers and Der Hochshule Bremerhaven E.V, Germany

Researcher's Name

Assoc Prof.Dr.-Ing. Fatma YONSEL

Researcher's Contact

fyonsel@itu.edu.tr +90 212 285 64 02

Total Budget/ITU's Budget

EUR 1.699. 956 / EUR 124.720

Start - End Date

2006 - 2010

Partners

- Optimarin As, Norway
- Burness Corlettthre Quays Limited, UK
- The Ballast Safe Filtration Company Ltd, Israel
- Burou Veritas, France
- Centro Internacional De Investigacion De Los Costeros, Spain
- Balance Technology Consulting Development, Germany
- University of Newcastle Upen Tyne, UK
- Istanbul Technical University, Turkey
- Willand Uv Systems Ltd. Wigan-Uk, Lisnave Estaleiros Navais Sa, Portugal
- Lvg Interntioal Gmbh, Germany

Website

http://www.bawapla.com

Abstract

Maritime transport is of fundamental importance to Europe and the rest of the world. Over 90% of European Union external trade goes by sea and more than 1 billion tonnes of freight a year are loaded and unloaded in EU ports. Shipping is the most important mode of transport in terms of volume. Furthermore, its history and the effects of globalisation, maritime transport will continue to be the most important transport mode in developing EU trade for the foreseeable future.

Transfer of species in ballast water started as early as shipping trade. The movement of some 3 to **12 billion tonnes of ballast water (BW)** in ships internationally each year has been responsible for the settlement of about 100 million tons of sediment. Its cleaning and the disposal of the ballast sludge produced involve enormous costs, (approximately 30.000 € for a small bulk carrier). Besides these economic aspects, BW has been recognised as a major vector for the **translocation of aquatic species** across bio-geographical boundaries. It is estimated that as **many as 10,000 alien species** of plants and animals are transported per day in ships around the world. As ships travel faster and world trade grows, organisms are better able to survive the journey, using the settled sediments as a substrate, and the threat of invasive species from ballast water increases.

Aim of the project is the development of a new hybrid **BW treatment technology** (UV, filters and electrolysis) into a self-controlled BW treatment system. The main objective of the proposed project is the invention of an effective treatment technology incorporating non permanent, seawater-generated active substances as a necessary measure to UV and Filter treatment technology. By producing active substances through **electrolysis of sea water**, there will be no need to carry or store hazardous and corrosive chemicals onboard ships. It also represents a more economical alternative to using chemicals for treating large volume of ballast water onboard ships.

Image Abstract

The Land Based System Picture of BAWAPLA in Newcastle at Blyth

Project Acronym and Name

SOPHIED-Novel Sustainable Bioprocesses for European Colour Industries

Programme Acronym

FP6-NMP

Sub-Programme Area

Sustainable Development Global Change and Ecosystems

Contract Type

Integrated Project

Coordinator

Catholic University of Louvain, Belgium

Researcher's Name

Prof. Candan Tamerler Behar

Researcher's Contact

ctamerler@ku.edu

Total Budget/ITU's Budget

EUR 6.260.000 / EUR 112.000

Start - End Date

2004 - 2008

Partners

- Tintoria gori manifattura lucchese lane e fibre, Italy
- Instituto de Biologia Experimental e Tecnolgia, Portugal
- Eubelius, Belgium
- STAB Tratamento de Agues e Biotecnologia, Portugal
- Istanbul Technical University , Turkey
- Università delgi Studi di Siena, Italy
- Ovelacq bvba, Belgium
- BIOtransfer, France
- Maria Curie Sklodowska University, Poland
- University of Westminster, UK
- BLC Leather Technology Center Ltd, UK
- Rayon Textile Industries and Foreign Trade Co Ltd, Turkey
- Labor Grieder, Switzerland
- UFZ- Umweltforschungszentrum Leipzig-Halle GmbH, Germany
- University of Naples Federico II, Italy
- Marwik Informatik, Switzerland
- Setas Kimya San AS, Turkey
- Conceria Antiba S.p.a., Italy
- Celabor SCRL, Belgium
- The Queen's University Environmental Science and Technology Research Centre ´QUESTOR`, UK
- Wetlands Engineering, Belgium
- Lapière et Libert, Belgium
- Hydrotox Labor für Ökotoxikologie und Gwässerchutz GmbH, Germany
- Centre National de la Recherche Scientifique Laboratoire de Bioinorganique Structurale Déléguation Provence, France

Website

http://www.sophied.net/

Abstract

SOPHIED is a **joint research and innovation initiative**, led by the Catholic University of Louvain and has as an objective the development of new, durable bio procedures for the European colour industry.

To address the problems encountered by the colour industry (weak market competitivity, lack of innovation, toxicity, environmental risks, and health risks for those working in the industry), SOPHIED groups and coordinates research, analysis and pilot testing at 7 universities, 3 research centres and 16 SMEs across Europe.

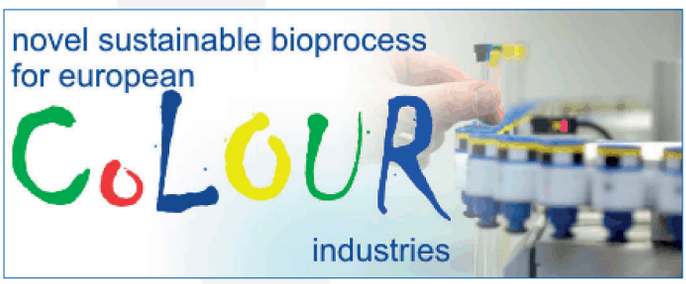
Based on a biotechnological approach, the heart of the project covers 3 objectives in parallel:

Objective1: Develop a new bioremediation technology to detoxify coloured industrial waters

Objective2: Modify existing dye production procedures to make them more environmentally and worker friendly thanks to enzymes

Objective3: Create new, less toxic bio dyes that are synthesised in a biotechnological manner.

Image



Project Acronym and Name

I3CON -Industrialised, Integrated, Intelligent Construction

Programme Acronym

FP6 – Priority 3 (NMP)

Sub-Programme Area

Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices (An Integrated Model For Smart Building Design, Construction and Management)

Contract Type

Collaborative Project: Large Scale Integrating Project

Coordinator

Dragados, Spain

Researcher's Name

Prof. Attila DİKBAŞ

Researcher's Contact

dikbas@itu.edu.tr

Total Budget/ITU's Budget

EUR 9.496.975 / EUR 175.000

Start - End Date

2006 - 2010

Partners

- Draaijer + Partners, The Netherlands
- Municipal Housing and Land Authority of Madrid, Spain
- Fraunhofer IAO, Germany
- Instapro, Romania
- Istanbul Technical University, Turkey
- University of Ljubljana, Slovenia
- Loughborough University, UK
- Perspectix, Switzerland
- SAES Ingenieros, Spain
- Thales Research and Technology, UK
- Uponor, Finland
- Technical Research Centre of Finland, Finland
- BSRIA, UK
- EurExcel, UK
- EQUA Simulation, Sweden
- Flaekt Woods, Finland
- Intracom, Greece
- JAMAUR, Estonia
- Lonix, Finland
- Martin & Martin Associates Limited, UK
- Politechnika Wroclawska, Poland
- Saint-Gobain Recherche, France
- Universiad Carlos III de Madrid, Spain
- University of Stuttgart, Germany
- Ed. Zueblin AG, Germany
- Vahanen Romania S.R.L, Romania

Website

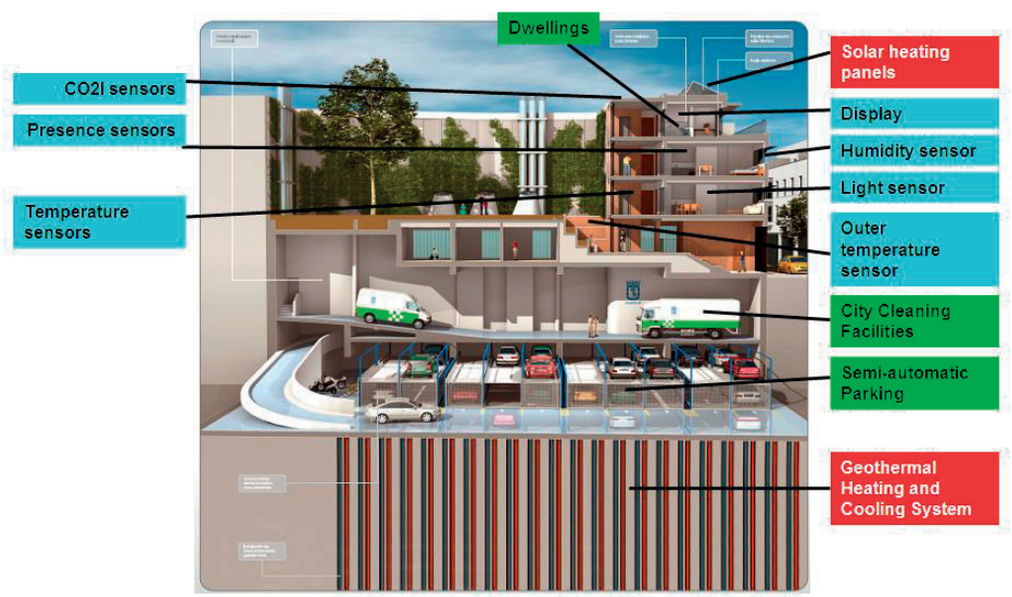
http://www.i3con.org/

Abstract

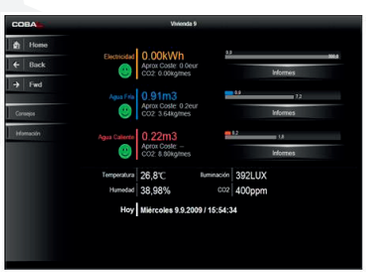
The project aims to enable the transformation towards a sustainable European construction industry delivering technologies for an integrated smart building services system using distributed control systems with embedded sensors, wireless connections, ambient user interfaces and autonomous controllers. The I3CON new Industrial business model and the developed control systems will contribute to manage and monitor efficiently the buildings needs while fulfilling everyone's comfort requirements.

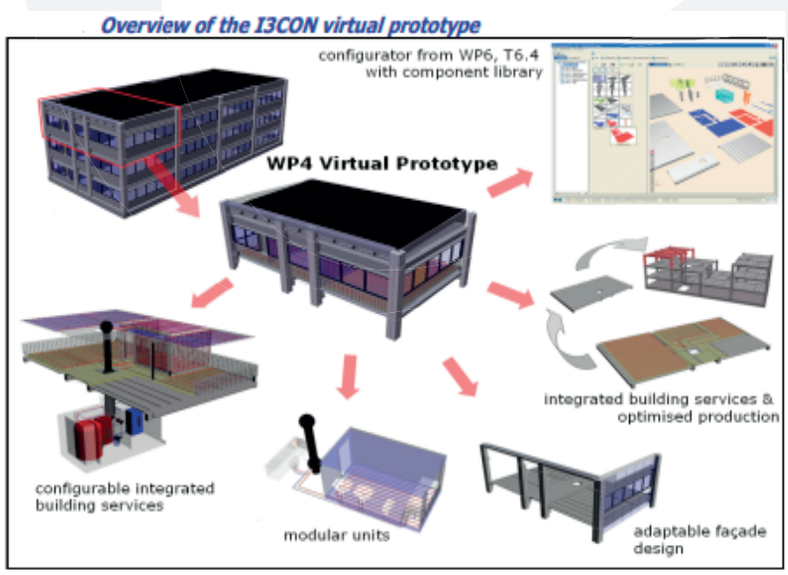
Therefore the project will contribute to the overall strategy of all industrialized nations to reduce the construction environmental footprint.

Image Abstract



Energy usage panel





CATALOGUE OF
ISTANBUL TECHNICAL UNIVERSITY'S
EU FRAMEWORK PROGRAMME PROJECTS

7th
FRAMEWORK PROGRAMME PROJECTS

Project Acronym and Name

AnaEE- Infrastructure for Analysis and Experimentation on Ecosystems

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2012-2.2.6

Contract Type

Combination of CP and CSA

Coordinator

The French National Institute for Agricultural Research, France

Researcher's Name

Prof. H. Nüzhet Dalfes

Researcher's Contact

dalfes@itu.edu.tr +90 (212) 285-6108

Total Budget/ITU's Budget

EUR 3.400.000,00 / EUR 119.523,00

Start - End Date

2012 - 2016

Partners

- Biotechnology and Biological Sciences Research Council, UK
- Norwegian Institute for Agricultural and Environmental Research, Norway
- The National Center for Scientific Research, France
- Technical University of Denmark, Denmark
- Istanbul Technical University, Turkey
- Fondazione Edmund Mach, Italy
- Global Change Research Centre, Academy of Science Czech Republic, The Czech Republic
- University of Anwerp, Belgium
- University of Helsinki , Finland
- Umea University, Sweden
- Rothamsted Research, UK
- INRA Transfert, France

Website

http://www.anaee.com

Abstract

AnaEE will set-up a distributed and coordinated network of state of the art in natura and in vitro experimental platforms equipped with the latest technology. They will be associated with analytical and modelling platforms and will be linked to networks of instrumented observation sites that will provide indispensable calibration and validation datasets.

1. In natura Long term Experimental Platforms (approx 35 in total) will be distributed across the main types of climate and land use (arable land, grassland, forest, wetlands…). Main experimental treatments will refer to land management, climate and biodiversity changes and will be applied for a long term when needed.

2. Highly-instrumented Ecotrons (7 planned) will allow us to have a better understanding of interacting processes by testing specific combinations of forcing variables and assessing retro-action of living organisms. Enclosed in environmentally controlled chambers, ecosystems can be synthesized de novo or sampled in plots of the Experimental Platforms for a detailed analysis of the impact of in natura long-term treatments.

AnaEE will combine the development of new sites (in vitro and in natura) and platforms (analytical and modelling) and the upgrade of existing sites. In particular, full advantage of time series of data in existing in natura sites will be made by adding new complementary facilities.

3. Analytical Platforms (approx 35 in total) at the cutting edge of technological development are needed to adapt to the new investigative capabilities and applied to samples of soil, water, organisms or air to help better understand and quantify the complex interactions between the different bio-geochemical cycles, ecological states, fluxes and compartments.

4. Databases, models and a European Modelling Platform will complete the AnaEE infrastructure. This Platform will consist of a toolbox of numerical models, sharing concepts between disciplines, which will evaluate and predict the effects of climate and land use changes on ecosystem processes.

AnaEE will therefore be a key instrument for the implementation of forthcoming national and joint programming initiatives notably the JPI "Agriculture, Food Security and Climate Change" (FACCE-JPI).

Image

Project Acronym and Name

DARECLIMED- Data Repositories and Computational Infrastructure for Environmental and Climate Studies in the Eastern Mediterranean

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2010-3.2

Contract Type

Support Actions

Coordinator

The Cyprus Institute, Cyprus

Researcher's Name

Prof. H. Nüzhet DALFES

Researcher's Contact

dalfes@itu.edu.tr
+90 (212) 285-6108

Total Budget/ITU's Budget

EUR 500.000,00 / EUR 64.595,03

Start - End Date

2011 - 2013

Partners

- Academy of Athens, Greece
- Tel-Aviv University, Israel
- The Weizmann Institute of Science, Israel
- The University of Crete, Greece
- Istanbul Technical University, Turkey
- The Jordon Meteorological Department, Jordon

Website

http://www.cyi.ac.cy/dareclimed-welcome.html

Abstract

The purpose of DARECLIMED is to create the appropriate environment forthe formation of a regional data infrastructure devoted to paleo-, current- and future climate, energy and water related data. Major goals and objectives are:

I. To improve the availability of data relevant to climate change assessments for the Eastern Mediterranean region and the Middle East, aiming for standards comparable to those of Western Europe, thereby achieving a more balanced territorial development

II. To identify and engage stakeholders in the region that have access to, own or have collected relevant data

III. To define conditions under which data can be shared while protecting the rights and interests of all stakeholders

IV. To develop broadly accepted quality control standards and procedures for all data types

V. To agree on minimal information, harmonization procedures and common representations of the data, so as to make them interoperable

VI. To develop a framework and capacity for comparison and integration of climate projections for the region derived from multiple datasets and models

VII. To support the build-up and integration of a regional infrastructure for climate research, with an emphasis on computing resources, through networking and prospective activities that will also facilitate the incubation of future collaborative climate research

VIII. To assess the current use of computer resources by the regional climate community

IX. To promote sharing of regional climate models and simulation results (including the creation of adequate repositories), in order to advance the optimal use of computational resources and enable the emergence of a broadly accepted scientific consensus on regional climate modeling and resulting climate projections.

Image

Project Acronym and Name

MAQUIS- Mediterranean Air Quality in Future Climate Scenarios

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2011-CIG

Contract Type

Support for training and career development of researcher (CIG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assist. Prof. Dr. Luca POZZOLI

Researcher's Contact

pozzoli.ist@gmail.com

Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2012 - 2015

Partners

-

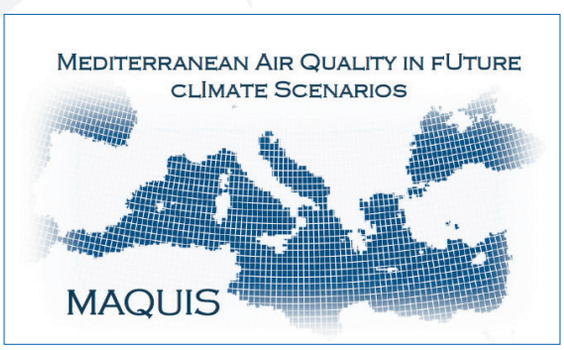
Website

http://careitu.org/projects/maquis/

Abstract

The project "Mediterranean Air QUality In future climate Scenarios" (MAQUIS) will improve our understanding of air quality climate interactions in a region of the world where significant climate changes are predicted to occur in the future. In particular we will characterize air quality in the eastern Mediterranean basin in current climate conditions and in future climate conditions; quantify the contribution of anthropogenic emissions to ozone and PM concentrations and how this contribution could change for different future emission scenarios; identify the main processes in a changing climate affecting ozone and aerosol concentrations (temperature, hydrological cycle, natural emissions, dynamics); assess the effectiveness of different emission reduction policies under present-day and future climate conditions. These issues will be addressed using a modeling system composed by the WRF meteorological model and CMAQ air quality model. A set of simulations describing air quality in present-day climate and in future climate, with present day and three different future emission scenarios will be performed and analyzed. We will apply the adjoint sensitivity analysis technique, which is very efficient in calculating sensitivities of few state variables or metrics with respect to a large number of input parameters. For this reason, the receptor-oriented nature of adjoint sensitivity analysis makes it particularly attractive for policy applications, such as identifying which are the parameters affecting population exposure and the environmental stress resulting from increased pollution levels. The MAQUIS project addresses in an integrated way scientific questions, which are contained in highly relevant European and international projects, and it can give a relevant support to advance the scientific knowledge over a region which is of high interest for social, economical and political reasons.

Image



Project Acronym and Name

ALErT- Anatolian pLateau climatE and Tectonic hazards

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2013-ITN

Contract Type

Networks for Initial Training (ITN)

Coordinator

University of Potsdam, Germany

Researcher's Name

Prof. Attila ÇİNER
Assoc. Prof. Cengiz YILDIRIM

Researcher's Contact

cinert@itu.edu.tr
cyildirim@itu.edu.tr

Total Budget/ITU's Budget

EUR 3.338.802,52 / EUR 477.590,08

Start - End Date

2013 -2017

Partners

- Universita Degli Studi Roma Tre, Italy
- University of Plymouth, UK
- Dokuz Eylul University, Turkey
- Bsf Swissphoto Gmbh, Germany
- Institut De Physique Du Globe De Paris, France
- Istanbul Technical University, Turkey
- Univerzita Komenskeho V Bratislave, Slovakia
- Oracle Deutschland B.V. & Co. Kg, Germany

Website

http://itn-alert.org/

Abstract

ALErT: Anatolian pLateau climatE and Tectonic hazards, is a virtual campus of 10 European academic and 5 industry partners in the fields of applied Earth sciences, natural hazard monitoring, and knowledge transfer. Our research focus is on the tectonic and climatic boundary conditions along the densely populated margins of the Central Anatolian Plateau, Turkey and associated natural hazards. Due to the international scale of the challenges associated with Global Change and active tectonics in plateau-margin environments worldwide, students with international experience and an interdisciplinary background will be best poised to take future leadership roles in academic, industry or policy realms. We combine the resources and training structures of universities, extramural research departments, and industry partners to equip the next generation of geoscientists with the skill sets they need to meet the challenges of dealing with natural hazards in rapidly changing environments and societies. Our efforts are rooted in (1) research-based learning using a fully interdisciplinary, network-wide approach; (2) state-of-the-art field-based method training and courses on data analysis; (3) interoperability of instructors and students; (4) secondments in industry; and (5) teaching communication skills, ultimately needed for knowledge transfer to industry, administration, and the public.

Image

Project Acronym and Name

NIOPLEX -Non-intrusive Optical Pressure and Loads Extraction for Aerodynamic Analysis

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

AAT.2013.4-2 ,AAT.2013.1-1

Contract Type

Small or medium-scale focused research project

Coordinator

Delft University of Technology, The Netherlands

Researcher's Name

Prof. N.L. Okşan ÇETİNER YILDIRIM

Researcher's Contact

Istanbul Technical University
Faculty of Aeronautics and Astronautics
Ayazaga Campus, Maslak 34469,
ISTANBUL/TURKEY
cetiner@itu.edu.tr

Total Budget/ITU's Budget

EUR 2.262.664,40 / EUR 130.400,00

Start - End Date

2013 - 2016

Partners

- National Center for Scientific Research, France
- University of Southampton, UK
- Universitaet Der Bundeswehr Muenchen, Germany
- Office National D'etudes Et De Recherches Aerospatiales, France
- Istanbul Technical University, Turkey
- Lavision Gmbh Lavision, Gmbh, Germany
- Technical University of Berlin, Germany
- University of Calgary, Unicalgary, Canada

Website

www.nioplex.eu

Abstract

NIOPLEX will contribute to the development of non-intrusive experimental flow diagnostics to improve the aerodynamic analysis capabilities in wind tunnels. The particular objective of the project is to develop an unprecedented comprehensive diagnostic approach, achieved by a simultaneous measurement of the surface pressure distribution on a model and the velocity and pressure field around it. Currently, Particle Image Velocimetry (PIV) is used as the major diagnostic technique to obtain the mean flow field and turbulent fluctuations. The surface pressure can be measured with Pressure Sensitive Paint (PSP), but there is essentially no means to conveniently access the pressure inside the flow. The present project focuses in particular on the method of "pressure measurement by PIV" and pursues how it can be developed to a stage that makes it ready for application to industrial problems. Comparison with PSP will determine if the PIV-based approach may be regarded as complementary to PSP or as a possible or partial replacement. The project ultimately aims to support the design of improved aeronautical transport systems by a better and more flexible flow-pressure diagnostics, suitable for aerodynamic performance and aeroacoustic source analysis. These capabilities can impact the design process at an earlier stage with the use of additional experimental data during the development cycle. NIOPLEX brings nine leading research teams together in a consortium to achieve these objectives. The final results of the project will provide a clear scenario on viable technologies for pressure analysis in aerodynamic flows. The measurement procedures will be demonstrated on test cases relevant to industrial research. Specific measurement protocols will be formulated to ease their use. The results will be made of wide impact by extensive dissemination activities within the academy and among industry.

Image

Project Acronym and Name

RESILIENCE2050.EU - New Design Principles Fostering Safety, Agility and Resilience for ATM

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

AAT.2012.6.2-4

Contract Type

Small or medium-scale focused research project

Coordinator

Innaxis Foundation and Research Institute, Spain

Researcher's Name

Assoc. Prof. Gökhan İNALHAN

Researcher's Contact

inalhan@itu.edu.tr

Total Budget/ITU's Budget

EUR 2.794.477/ EUR 205.102,4

Start - End Date

2012 - 2015

Partners

- Stichting Nationaal Lucht- En Ruimtevaartlaboratorium, The Netherlands
- King's College London, UK
- Istanbul Technical University, Turkey
- Devlet Hava Meydanlari Isletmesi Genel Mudurlugu, Turkey
- Universidad Politecnica De Madrid, Spain
- Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany

Website

www.resilience2050.eu
http://cal.uubf.itu.edu.tr/

Abstract

Objective

The Air Transport in general and the Air Traffic Management system are formed by a high number of elements, human, organisational and technological, that interact with each other creating a unique system of intrinsic complexity. The variability of the initial conditions and the high number of potential scenarios makes the system performance particularly difficult to predict. As a consequence, the propagation of perturbations and disruption, and the understanding of the allocation of resources needed to mitigate those undesired phenomena, represent a major challenge in today system design.

Technological and procedural solutions are being investigated in a number of research projects, but the adaptability of the system to perturbations has proven a demanding research topic that Europe needs to address to understand the how to build a future operational concept resistant to these undesired events.

There is no definition of resilience in air transport yet and therefore there are no unique metrics for it. Potentially, different metrics take into account different aspects of the resilience of the system.

Therefore it is important to develop metrics quantifying the level of resilience of the system and the likelihood of an (undesired) emergent phenomenon to propagate throughout the system without an exact understanding of the different mechanisms to mitigate it.

The Resilience 2050.eu project presents a research project that leans on the analysis of the resilience concepts, analyses the current system behaviour focusing on the propagation of undesired events and builds the future ATM concept designed to adapt to disruptions and perturbations, providing a methodology to address the resilience of the system, including a solid quantitative assessment.

Image

Project Acronym and Name

GLOCALFINEART - GLobal cOntemporary art market: the intrinsiC and sociologicAL components of FINancial and artistic valuE of ARTtworks

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2013-IAPP

Contract Type

Industry-Academia Partnerships and Pathways

Coordinator

Erasmus University Rotterdam, The Netherlands

Researcher's Name

Prof. Tüzin BAYCAN

Researcher's Contact

tbaycan@itu.edu.tr

Total Budget/ITU's Budget

EUR 1.920. 638 / EUR 190.165,74

Start - End Date

2013 - 2017

Partners

- Universidad de Granada, Spain
- Istanbul Technical University, Turkey
- Bvisible Srl, Italy
- Monti & Taft Srl, Italy

Website

http://glocalfineart.com/

Abstract

The Contemporary Art world and market lack the basic information support and analytical tools that are widely available in similar environments and even for Pre-impressionist and Modern art. The huge amount of information (magazines, fairs, galleries etc.) available in various languages, creates chaos and is not summarised in any useful way which takes into account the different weight that phenomena may have in different environments. As a consequence the Contemporary art world and market are increasingly nontransparent, fragmented, oligopolistic and difficult to newcomers. This is especially true for Europeans, whose local worlds and markets are loosing appeal, and who lack the tools to look at developing countries. On the other side, the creation of appropriate analytical tools requires to concentrate knowledge now scattered in different areas (art economics, art history), further deepen and widen it, use it in a down-to.earth way typical of a private company. The partners in this project will develop the necessary sinergies to meet such challenge through an intense transfer of knowledge program and very close interaction. The project will lay ground for a whole new suite of studies on the art market, open new business opportunities, set a model useful also outside the Contemporary Art World.

Image

GLOCALFINEART

Project Acronym and Name

POCACITO- POst-CArbon Cities of TOmorrow – Foresight for Sustainable Pathways Towards Liveable, Affordable and Prospering Cities in a World Context

Programme Acronym

FP7-SSH

Sub-Programme Area

SSH.2013.7.1-1

Contract Type

Small or medium-scale focused research project

Coordinator

Ecologic Institut Gemeinnützige GMBH, Germany

Researcher's Name

Prof. Tüzin BAYCAN

Researcher's Contact

tbaycan@itu.edu.tr

Total Budget/ITU's Budget

EUR 2.977.211/ EUR 114.000

Start - End Date

2013 - 2017

Partners

- Fondazione Eni Enrico Mattei, Italy
- Aarhus University, Denmark
- Charles University, The Czech Republic
- Politecnico Di Torino, Italy
- Energy Cities/Energie-Cites Association, Belgium
- Centre For European Policy Studies,Belgium
- Swedish Environmental Research Institute, Sweden
- United Nations Development Programme Joanneum Research Forschungsgesellschaft Mbh, Austria
- Istanbul Technical University, Turkey
- Inteligencia Em Inovacao,Centro De Inovacao Associacao Privada Sem Fins Lucrativos, Portugal
- The Leibniz Institute for Regional Development and Structural Planning, Germany

Website

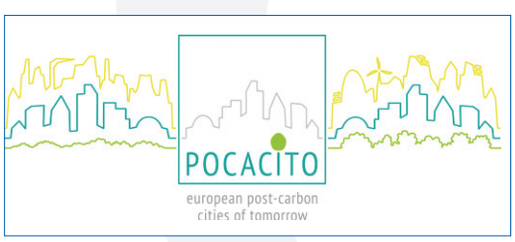
http://pocacito.eu/

Abstract

The project POst-CArbon CIties of TOmorrow - foresight for sustainable pathways towards liveable, affordable and prospering cities in a world context (POCACITO) will develop an evidence-based 2050 roadmap for EU post-carbon cities. POCACITO facilitates the transition of EU cities to a forecasted sustainable or "post-carbon" economic model. The project focuses on towns, cities, megacities, metropolitan areas and urban clusters larger than 1 million people as well as small and medium-sized cities. POCACITO's approach uses participatory scenario development as a mutual learning and living lab environment strategy. The project recognises that post-carbon city transitions should improve urban resilience to fluctuating environmental and socio-economic pressure. Pressure in this context includes long-term changes in urban resident demographics, city and rural migration patterns, and potential city health concerns.

Further, POCACITO develops innovative long-term outlooks for European post-carbon cities to address climate adaptation and urban environmental metabolism concerns by using a participatory city case study approach. Case study cities include Barcelona, Copenhagen/Malmö, Istanbul, Lisbon, Litomerice, Milan/Turin, Offenburg and Zagreb. These cities will develop qualitative post-carbon visions with local stakeholders. Visions will be chosen based on selected best-practice measures and preliminary city assessments. Accompanying studies will yield a typology of post-carbon cities and a post-carbon city index. A "marketplace of ideas" will spread best practices from other EU cities and global cities in global emerging nations, allowing an international exchange of urban best practices. Related research will produce case study city roadmaps and an evidence-based 2050 roadmap for post-carbon EU cities within a global context. The project's research supports the sustainable development objective of the Europe 2020 strategy and the Innovation Union flagship initiative.

Image



Project Acronym and Name

SEISMIC- Societal Engagement in Science, Mutual learning in Cities

Programme Acronym

FP7-SCIENCE-IN-SOCIETY-2013-1

Sub-Programme Area

SiS.2013.1.2-1

Contract Type

CSA-SA

Coordinator

Austrian Institute of Technology, Austria

Researcher's Name

Prof. Tüzin BAYCAN

Researcher's Contact

tbaycan@itu.edu.tr

Total Budget/ITU's Budget

EUR 3.357.290,49 / EUR 166.005

Start - End Date

2014 - 2017

Partners

- Stichting Platform31, The Netherlands
- Eurocities Asbl, Belgium
- Iq Samhallsbyggnad Ab,Sweden
- Chalmers University of Technology, Sweden
- AIT Austrian Institute of Technology Gmbh, Austria
- Regional Environmental Center for Central and Eastern Europe, Hungary
- Humboldt-Universitat Zu Berlin, Germany
- Cittalia-Centro Europeo Di Studi Ericerche Per I Comuni E Le Citta-Fondazione Di Ricerche Dell'anci, Italy
- Istanbul Technical University, Turkey
- Charles University, The Czech Republic
- Centre for Strategy & Evaluation Services, UK
- Centre Scientifique Et Technique Du Batiment, France

Website

http://www.seismicproject.eu/

Abstract

The European Research Area is targeting efforts in research and innovation on the current challenges faced by society. These challenges are complex, multidimensional and require the engagement of different actors alongside researchers, particularly relating to integrated and sustainable urban development.

In an effort to bridge the gap between the scientific community and society, SEiSMiC (Societal Engagement in Science, Mutual learning in Cities) aims to create a structured dialogue and mutual learning with citizens and urban actors by setting up National Networks (and expanding on existing networks where possible) in 10 countries across Europe. These networks will specifically include urban stakeholders from civil society, business, NGOs, youth, media, musea but also from research and policy). On the European level, an Advisory Group (with EU-wide urban stakeholder organisations) and an Observer Group (with JPI Urban Europe and European Parliament representatives) will also be established.

The objectives of SEiSMiC as Mobilisation and Mutual Learning Action Plan are threefold. Firstly it aims to mobilise a wide range of urban stakeholders at the local level with a view to, secondly, feed the experiences and challenges of social innovation at local level into the European urban research agenda and to enhance the social dimension of the strategic research agenda of JPI Urban Europe. Thirdly, it will diffuse the initiatives, projects and results of JPI Urban Europe (and other European programmes) to all urban actors at local, regional, national and European level.

It is expected that by means of this multi-level, multi-actor, integrated and inclusive approach, research activities can be increased, new concepts and solutions will be more targeted and accepted, social innovation with the social context is strengthened, and commonalities and differences in European needs, awareness and solutions in the urban field can be identified.

Image

Project Acronym and Name

FESTA - Female Empowerment in Science and Technology Academia

Programme Acronym

FP7-SIS

Sub-Programme Area

SIS.2011.2.1.1-1

Contract Type

Coordination and support actions
(Supporting)

Coordinator

Center for Gender Research at Uppsala University, Sweden.

Researcher's Name

Prof. Gülsün SAĞLAMER

Researcher's Contact

saglamer@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.291.096 / EUR 543.779

Start - End Date

2012 - 2017

Partners

- Uppsala University, Sweden
- University of Southern Denmark, Denmark
- Fwth Aachen Universität, Germany
- Fondazione Bruno Kessler, Italy
- University of Limerick, Ireland
- Istanbul Technical University, Turkey
- South - West University, Bulgaria

Website

www.festa-europa.eu

Abstract

FESTA is concerned with implementing changes in the working environment of academic researchers, to encourage female researchers to stay and make a career in the academy and to create organizational environments where their competence is valued and fostered. In particular, we address the working environment of researchers in the lower levels of their careers, to make it possible for them to advance to the ranks of highest scientific expertise. The different partner institutions will take actions on some core issues, which have seldom been directly addressed in previous research or implementation, in particular on the level of the daily environment of researchers: formal and informal decision making processes, meeting cultures, PhD supervision, perceptions of excellence in hiring processes and in the work environment, and resistance to equality measures. FESTA partners are geographically diverse and come from universities and research institutions of different sizes and with different histories. The consortium consists of researchers in science and technology, social scientists with a solid background in research on gender in academia, persons with governing and administrative positions on high levels in the institutional hierarchy, and gender equality officers. As gender equality projects are seldom simply transferable from one context to another, FESTA actions will be carefully analyzed in regard to the contextual success and failure factors. FESTA will come out with a variety of measures which research environments in different European contexts can use in addressing core issues in their gender equality work. These will be formulated as toolkits and manuals and disseminated both nationally and on the European level in workshops, conferences and through the different networks of the FESTA partners, in addition to web and paper publishing.

Image

Project Acronym and Name

SHEMERA – Euro-Mediterranean Research Cooperation on Gender and Science: She Euro-Mediterranean Research Area

Programme Acronym

FP7-SIS

Sub-Programme Area

SIS-2010-2.1.3.1: WOMEN IN SCIENCE:
EURO-MEDITERRANEAN COOPERATION

Contract Type

Small/medium-scale focused research project
for specific cooperation actions dedicated to
international cooperation partner countries(SICA)

Coordinator

Université Libre de Bruxelles, Belgium

Researcher's Name

Prof. Gülsün SAĞLAMER

Researcher's Contact

saglamer@itu.edu.tr

Total Budget/ITU's Budget

EUR 2.372.195,32 / EUR 66.400,00

Start - End Date

2011 - 2014

Partners

- Hungarian Science and Technology Foundation, Hungary
- National Documentation Centre / National Hellenic Research Foundation, Greece
- Istanbul Technical University, Turkey
- Fondazione Idis - Città Della Scienza, Italy
- Arab and African Research Centre, Egypt
- Academy of Scientific Research and Technology, Egypt
- Association Culturelle M'barek Ait Menguellet, Algeria
- Alexandria University, Egypt
- University of Jordan, Jordan
- Royal Scientific Society, Jordan
- Université Saint-Joseph, Lebanon
- Université Hassan II, Mohammedia-Casablanca, Morocco
- Birzeit University, Palestinian-Administered Areas
- Aleppo University, Syrian Arab Republic
- University of Carthage, Tunisia

Website

http://shemera.eu

Abstract

The overall objective of this proposal is enhancing research cooperation on gender and science between the European Union and the Mediterranean countries.

Research cooperation is aimed at better understand the roots of gender inequality in science in the area, taking into account cultural diversities and traditions, and analyse how the Mediterranean countries are addressing this issue. It will deal with gender equality from a twofold perspective: the representation of women in scientific research and technological development and the integration of the gender dimension in research policy. The project will provide state of the art description, data collection and relevant comparative analysis on gender and science in all the Mediterranean countries, focusing on three

key themes: statistics on women in science, gender equality policies and research on gender inequalities in science careers. These results will be made accessible to the research community and policy makers via an online database, publishable reports and workshops. With the overall purpose of enhancing networking and steering policy-making on gender and science in the years to come, the project will finally develop recommendations for policy-makers aimed at enhancing the presence

of women in scientific research and technological development at all levels and ensuring a better integration of the gender dimension in research policy.

The Mediterranean countries included in the proposal are the Mediterranean Partner Countries (MPCs), i.e. the Mediterranean countries included in the list of International Co-operation Partner Countries: Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestinian-administered areas, Syrian Arab Republic, Tunisia.

Image

Project Acronym and Name

ATHENA - AnThocyanin and Polyphenol Bioactives for Health Enhancement Through Nutritional Advancement

Programme Acronym

FP7-KBBE

Sub-Programme Area

KBBE-2009-2-2-02

Contract Type

Small Or Medium-Scale Focused Research Project

Coordinator

John Innes Centre, UK

Researcher's Name

Prof. Dilek BOYACIOĞLU

Researcher's Contact

boyaci@itu.edu.tr

Total Budget/ITU's Budget

EUR 39.666.649 / EUR 240.211

Start - End Date

2010 - 2014

Partners

- Universite Joseph Fourier Grenoble 1, France
- Universita Degli Studi Di Milano, Italy
- European Institute of Oncology, Italy
- Consiglio Per La Ricerca E Sperimentazione In Agricoltura, Italy
- Stichting Dienst Landbouwkundig Onderzoek, The Netherlands
- Institute of Food Research, UK
- Kos Genetic S.R.L. , Italy
- Leibniz - Institut Fuer Pfl anzengenetik und Kulturpfl anzenforschung, Germany
- Universita Cattolica Del Sacro Cuore, Italy
- Istanbul Technical University, Turkey

Website

http://www.athena-flora.eu/

Abstract

In November 2007, a group of pre-eminent doctors, health-care specialists, policy makers and politicians published 'Grand challenges in chronic non-communicable diseases'1 highlighting the severity of the global chronic disease epidemic and the economic burden it will place on societies over the next 50 years. A significant proportion of chronic diseases are preventable and the Grand Challenge article outlined a number of policy changes and research initiatives necessary to remove critical barriers to solving this immense health problem. A commentary by Rachel Nugent posted in Nature summarised the major difficulty with this initiative: 'Alas, this Grand Challenge has no money, no Foundation, no benefactor. Indeed, it is a kind of reverse Grand Challenge,

as it consists of scientists telling us what needs to be done to address chronic non-communicable diseases and hoping that someone will pony up the money to do it'. Chronic diseases can be prevented by reducing sociobehavioral

risk factors, increasingly the most significant of which are unhealthy diets. The ATHENA proposal represents an admittedly small, but focused and effective contribution to meeting this Grand Challenge through understanding the basis for dietary improvements to protect societies against chronic disease.

The overall objective of the ATHENA project is to provide a robust scientific foundation for improved dietary recommendations that include foods with high levels of anthocyanins and related polyphenols to promote health and to protect against chronic disease. Investigations need to be extended to human studies, and a number of questions have arisen that need to be addressed for understanding to be formulated into effective, accurate dietary recommendations and preventive medicine strategies. The specific objectives are to find answers to the following questions:

1. Benefits and risks: What is the dose response to anthocyanin phytonutrients? Are anthocyanins from different food sources equivalent? How well do anthocyanins perform in promoting health compared to other polyphenol phytonutrients such as stilbenes, isoflavones and epicatechins?

2. Mechanisms of action: What are the mechanisms of action of polyphenol phytonutrients in combating chronic diseases? How do anthocyanins limit weight gain/fat development? How do dietary anthocyanins offer cardioprotection? How do dietary anthocyanins slow the progression of cancers?

3. Food or Pharma: Supplements or extracts of polyphenols do not appear to promote health as well as when they are consumed in whole foods. What is the influence of nutritional context on the efficacy of polyphenol phytonutrients? Does nutritional context influence the bioavailability of polyphenol

phytonutrients?

4. Roles in human: Do dietary anthocyanins afford protection against cardiovascular disease, cancer and other chronic diseases in human?

Image

Project Acronym and Name

COLORSPORE-New Sources of Natural, Gastric Stable, Food Additives, Colourants and Novel Functional Foods

Programme Acronym

FP7-KBBE

Sub-Programme Area

KBBE-2007-2-3-03

Contract Type

Networks for Initial Training (ITN)

Coordinator

Royal Holloway and Bedford New College, UK

Researcher's Name

Prof. Beraat ÖZÇELİK

Researcher's Contact

ozcelik@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.102.563 / EUR 400.000

Start - End Date

2008 - 2011

Partners

- Nestec S.A, Switzerland
- Aquapharm Biodiscovery Limited, UK
- Istanbul Technical University, Turkey
- Johann Wolfgang Goethe Universitaet Frankfurt Am Main, Germany
- The French National Institute fore Agricultural Research, France
- The University of Medicine & Pharmacy at Ho Ch Minh City, Vietnam
- Universita Degli Studi Di Napoli Federico II, Italy

Website

http://ec.europa.eu/research/bioeconomy/food/projects/food_processing/colorspore_en.htm

Abstract

Functional foods provide a buoyant growth sector and the use of carotenoids is the most dynamic not only as colorants but as food additives. One issue with these products is their instability both on the shelf and upon digestion. Recently, gastric-stable bacterial-derived carotenoid preparations have been discovered by members of this consortium and these 2nd generation carotenoid preparations, and the bacteria that produce them will be studied. Existing prototypes will be developed as potential food additives but an extensive screen for new 2nd generation prototypes will also be made from marine environments. The consortium includes microbiologists, biochemists and food bio-technologists and will determine the identity of new carotenoid preparations and the bacteria that produce them. The nutritional value of these bacteria will be assessed and a risk-benefit assessment made using modern metabolomic technologies as well as traditional toxicology in order to designate the prototypes as QPS (ie, qualified presumption of safety). Bio-processing of these bacterial carotenoid preparations will eliminate traditional chemical synthesis and the use of organic solvents. Also the delivery system will utilise a synergistic biological matrix making it a sustainable source.

Image Abstract

Project Acronym and Name

OIL&SUGAR - Training and Collaborationon Material Developments and Process Improvements in Oil and Sugar Production

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

MARIE CURIE ACTION "INTERNATIONAL RESEARCH STAFF EXCHANGE SCHEME"

Contract Type

International research staff exchange scheme (IRSES)

Coordinator

Katholieke Universiteit Leuven, Belgium

Researcher's Name

Prof. Mustafa ÜRGEN

Researcher's Contact

urgen@itu.edu.tr

Total Budget/ITU's Budget

EUR 292.600 / EUR 32.000

Start - End Date

2012 - 2016

Partners

- National Technical University of Athens, Greece
- Ecole Centrale des Arts et Manufactures, France
- Istanbul Technical University, Turkey
- Aleksandras Stulginskis University, Lithuania

Abstract

The problems encountered in the industrial processing of oil and sugar are connected with corrosion, biochemical and/or biological reactions, friction, wear, and combined corrosion-wear of materials used in mechanical parts. The main concerns are on one hand a material degradation that generates risks of contamination during food production, and on the other hand the actual machinery that needs to be improved from a technological and an economical point of view.

This project aims to intensify research and training activities in the fields of science and technology of main importance in oil and sugar production, and to contribute by a multidisciplinary approach to overcome the limits of existing production technologies. Partners intend to contribute to find solutions to these complex problems by carrying out research projects through networking activities, by organizing the training of young researchers, and by transferring among them advanced technology- and material-related knowledge.

The activities proposed are aimed at investigating:
- the mechanisms of material degradation with a peculiar attention on the specific biological surroundings encountered in oil and sugar processing,
- the recent developments in metallic materials and coating technologies as to optimize the characteristics of materials and to increase process efficiency in oil and sugar production,
- new processing technologies and research methodologies made available by partners.

The complementary of the partners backgrounds is a guarantee to generate new scientific and technological insights as an attraction pole of young researchers for material and process developments in oil and sugar production. Modern methods of surface modification of materials, new extraction technology, novel biocompatible materials, and advanced ex- and/or in-situ characterization methods of material surfaces are the core of this project.

Image

Project Acronym and Name

OBSERVE - Strengthening and Development of Earth Observation Activities for the Environment in the Balkan Area

Programme Acronym

FP7-ENVIRONMENT

Sub-Programme Area

ENV.2010.4.1.4-1

Contract Type

Coordination (or networking) actions

Coordinator

Aristotle University of Thessaloniki, Greece

Researcher's Name

Prof. Orhan ALTAN

Researcher's Contact

oaltan@itu.edu.tr +90 (212) 285 38 10

Total Budget/ITU's Budget

EUR 1.515.880,00 / EUR 89.760

Start - End Date

2010 - 2012

Partners

- Institute of Geodesy and Photogrammetry - ETH Zurich, Switzerland
- University of Ljubljana, Slovenia
- Geolmaging Ltd, Cyprus
- Infometria Ltd,Greece
- Istanbul Technical University, Turkey
- University of Haifa, Israel
- University of Belgrade, Serbia
- The University of Architecture, Civil Engineering and Geodesy Polytechnic University of Tirana, Albania
- University of Sarajevo, Bosnia Herzegovina
- Geosat Ltd, Croatia
- The Remote Sensing Technology
- Institute - German Aerospace Center, Germany
- Gisdata Ltd, Serbia
- Sts Cyril and Methodius University in Skopje, the Former Yugoslav Republic of Macedonia

Website

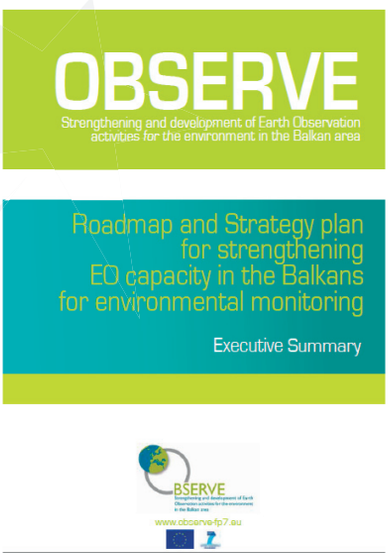
http://www.observe-fp7.eu

Abstract

Balkan countries do not have a coherent and continuous approach towards the challenge of implementing integrated Earth Observation (EO) applications in environmental monitoring and management. The defect in the implementation of EO applications and their use in the environmental decision making are manifested through the limited synergies among national and regional institutions, ineffective technological means and discontinuous record of participation to international organizations and committees.

The aim of the ***OBSERVE*** project is to collect and compile all the necessary information for delivering an integrated analysis on the current status of EO activities and networks in the Balkans regarding environmental monitoring, the potential benefit from the full exploitation of an integrated capacity development strategy and the prospect of creating a relevant permanent EO Community in the broader region. ***OBSERVE*** project has the ultimate goal to raise awareness and establish firm links with the regional decision making bodies on the importance of a mutual and enhanced EO application network on environmental monitoring according to the principles of the GEO.

Image



Project Acronym and Name

SERIES - Seismic Engineering Research Infrastructures for European Synergies

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2008-1.1.2

Contract Type

Combination of CP and CSA

Coordinator

University of Patras, Greece

Researcher's Name

Prof. Alper İLKİ

Researcher's Contact

ailki@itu.edu.tr

Total Budget/ITU's Budget

EUR 8.700.000 / EUR 178.500

Start - End Date

2009 - 2013

Partners

- European Center for Training and Research in Earthquake Engineering, Italy
- National Technical University of Athens, Greece
- University of Ljubljana, Slovenia
- University of Bristol, UK
- Universita Degli Studi Di Trento, Italy
- The Chancellor, Masters and Scholars of the University of Oxford, UK
- Technical University 'Gheorghe Asachi' of Iasi, Romania
- Middle East Technical University, Turkey
- Atomic Energy and Alternative Energies Commission, France
- Istanbul Technical University, Turkey
- Laboratorio Nacional De Engenharia Civil, Portugal
- Public Scientific Institute-Institute of Earthquake Engineering and Engineering Seismology Ss Cyril And Methodius University Skopje Iziis, the Former Yugoslav Republic of Macedonia
- The French Institute of Science and Technology for Transport, Development and Networks, France
- Geodynamique Et Structure, France
- The Chancellor, Masters and Scholars of the University of Cambridge, UK
- JRC - Joint Research Centre- European Commission, Belgium
- P&P Lmc Srl,Italy
- Bosphorus University, Turkey
- Kassel University, Germany
- Vce Holding Gmbh,Austria
- Aristotle University of Thessaloniki, Greece
- Universita Degli Studi Di Napoli Federico II, Italy

Website

www.series.upatras.gr

Abstract

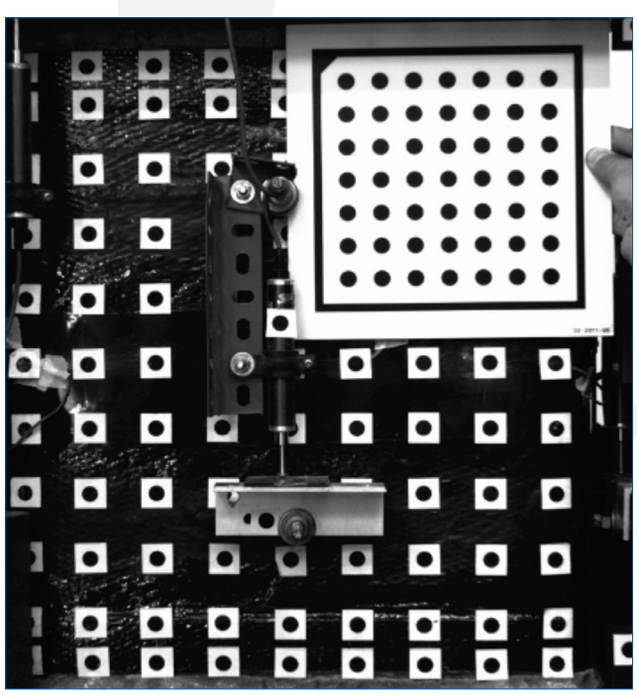
The project aims at bridging the two gaps of RTD in experimental earthquake engineering and structural dynamics: (a) between Europe and the US or Japan, and (b)) between European countries with high seismicity.

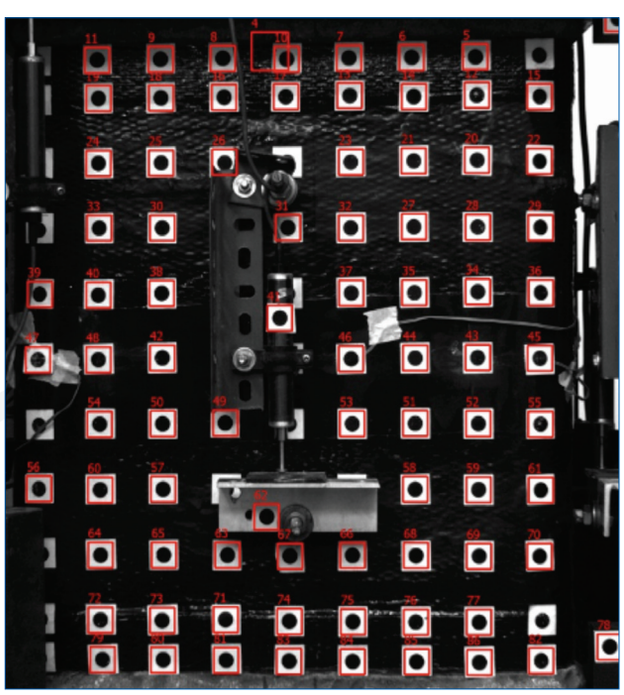
Image Abstract

A visual optical system developed by ITU

C202C1 Per 5. Tem 14:12:35 2012

Data	Time	Marker0 dX(mm)	Marker0 dY(mm)	Marker1 dX(mm)	Marker1 dY(mm)	Marker2 dX(mm)	Marker2 dY(mm)	Marker3 dX(mm)	Marker3 dY(mm)	Marker4 dX(mm)	Marker4 dY(mm)	rker5 dX(r
0	14:12:39.517	0	0	0	0	0	0	0	0	0	0	0
1	14:12:56.220	0.019	-0.007	0.017	0.001	0.01	-0.014	0.015	-0.006	0.159	0.163	0.023
2	14:13:02.707	0.019	-0.009	0.019	-0.002	0.006	-0.013	0.016	-0.004	0.159	0.163	0.012
3	14:14:49.923	0.017	-0.012	0.02	-0.006	0.009	-0.017	0.024	-0.012	0.159	0.163	0.025
4	14:14:59.282	0.015	-0.012	0.014	-0.007	0.013	-0.009	0.02	-0.016	0.159	0.163	0.018
5	14:15:04.343	0.014	-0.013	0.013	-0.009	0.011	-0.012	0.022	-0.013	0.159	0.163	0.009
6	14:15:14.793	0.016	-0.009	0.014	-0.01	0.013	-0.013	0.018	-0.01	0.159	0.163	0.02
7	14:15:19.421	0.012	-0.019	0.014	-0.008	-0.001	-0.023	0.03	-0.023	0.159	0.163	0.027
8	14:17:10.250	0.011	-0.108	0.011	-0.1	-0.005	-0.109	0.022	-0.104	0.159	0.163	0.019
9	14:17:15.640	0.005	-0.169	0.011	-0.175	-0.002	-0.17	0.01	-0.162	0.159	0.163	0.012
10	14:17:21.479	0.009	-0.238	0.011	-0.249	-0.006	-0.248	0.019	-0.231	0.159	0.163	0.01
11	14:17:27.373	0.011	-0.311	0.004	-0.321	-0.002	-0.32	0.01	-0.302	0.159	0.163	0.013
12	14:17:32.785	0.002	-0.367	-0.003	-0.385	-0.004	-0.374	0.006	-0.353	0.159	0.163	0.016
13	14:17:38.912	-0.004	-0.44	-0.011	-0.456	-0.019	-0.445	0.003	-0.418	0.159	0.163	0.003
14	14:17:45.465	-0.017	-0.506	-0.014	-0.521	-0.021	-0.508	-0.011	-0.479	0.159	0.163	-0.004
15	14:17:50.971	-0.018	-0.574	-0.013	-0.588	-0.018	-0.567	-0.001	-0.544	0.159	0.163	-0.004
16	14:17:56.649	-0.019	-0.63	-0.012	-0.646	-0.015	-0.621	-0.009	-0.6	0.159	0.163	-0.003
17	14:18:03.154	-0.009	-0.696	0	-0.707	-0.011	-0.68	0.013	-0.653	0.159	0.163	0.007
18	14:18:08.881	0.007	-0.727	0.014	-0.745	0.005	-0.713	0.02	-0.697	0.159	0.163	0.021
19	14:18:14.928	0.024	-0.789	0.033	-0.809	0.015	-0.78	0.044	-0.755	0.159	0.163	0.045
20	14:18:20.330	0.041	-0.831	0.043	-0.852	0.031	-0.822	0.047	-0.795	0.159	0.163	0.05
21	14:18:25.909	0.056	-0.873	0.065	-0.894	0.057	-0.869	0.061	-0.828	0.159	0.163	0.067





Project Acronym and Name

MERMAID - Innovative Multi-purpose Off-Shore Platforms: Planning, Design and Operation

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

OCEAN.2011-1

Contract Type

Collaborative project (generic)

Coordinator

Technical University of Denmark, Denmark

Researcher's Name

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Researcher's Contact

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Total Budget/ITU's Budget

EUR 7.376.567 / EUR 152.451

Start - End Date

2012 - 2015

Partners

- Chalmers University of Technology, Sweden
- Dong Energy Power As, Denmark
- Bolding & Burchard Aps, Denmark
- Istanbul Technical University, Turkey
- Braunschweig University of Technology, Germany
- Flanders Marine Institute, Belgium
- Dansk Akvakultur Forening, Denmark
- DHI, Denmark
- Institute of Hydroengineering of Polish Academy of Sciences, Poland
- University of Bologna, Italy
- National and Kapodistrian University of Athens, Greece
- Hortimare Bv, The Netherlands
- Kefalonia Fisheries Industrial and Commercial Company AE , Greece
- Musholm As, Denmark
- Athens University of Economics and Business - Research Center, Greece
- University of Dundee, UK
- Enel Ingegneria E Ricerca Spa,Italy
- Italian Institute for Environmental Protection and Research, Italy
- Stichting Deltares, The Netherlands
- Stichting Dienst Landbouwkundig Onderzoek, The Netherlands
- The Cyprus Research and Educational Foundation, Cyprus
- University of Cantabria, Spain
- Institute of Marine Research,Norway
- Universita Degli Studi Roma Tre, Italy
- Energy Research Centre of The Netherlands, The Netherlands
- Statoil Petroleum As, Norway
- Hvalpsund Net As, Denmark

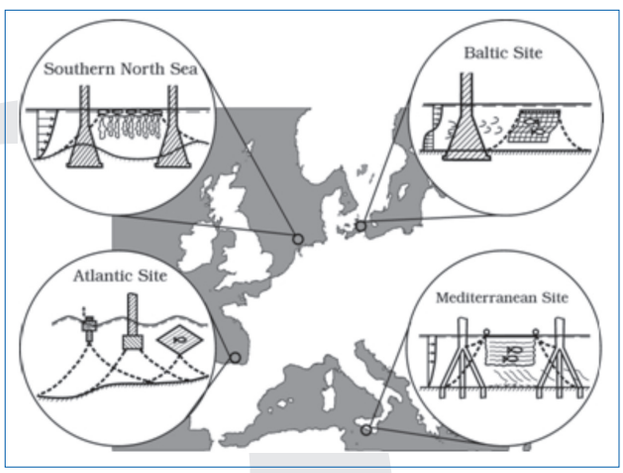
Website

http://www.mermaidproject.eu/

Abstract

European oceans will be subject to massive development of marine infrastructure in the near future. The most obvious is the energy facilities e.g. offshore wind farms, exploitation of wave energy, expansion of electricity connections, and also further development and implementation of marine aquaculture. This will also lead to an increased need for marine infrastructure to support installation and the ongoing operation of the facilities. However, both economical costs and environmental impact have to be reduced in order to increase the feasibility of the use of ocean space. Marine structures for offshore wind farms and aquaculture have to be installed at various sites and on much larger scale than earlier implementation of offshore structures in order to fulfil EU strategies (1) for reduction of fossil-based energy and (2) to become a major player in sustainable aquaculture. However the feasibility is much more sensitive to the costs of structures and the installation of the structures than for instance Oil & Gas facilities. Novel innovative design concepts should address different physical conditions in order to make the best use of the ocean space. Going from deep water (north of Spain) to shallow water with high morphological activity (the Wadden sea) and further to inner waters like the inner Danish/Baltic areas and the Adriatic sea changes the focus from a strong physical aspect to environmental impact. This will make it possible to develop, test and integrate different technologies but also to address site specific challenges. Both for offshore renewables and for aquaculture a substantial part of the costs is variable cost related to operations and maintenance of the plants. It is obvious that optimization of the use of ocean space for different purposes might benefit from shared resources such as staff allocation, transportation of staff and material from and to the platforms, use of forecasting systems, ships etc.

Image Abstract



Project Acronym and Name

SAFECAST - Perfomance of Innovative Mechanical Connections in Precast Buildings Structures Under Seismic Conditions

Programme Acronym

FP7-SME

Sub-Programme Area

COLLECTIVE RESEARCH, RESEARCH FOR SME ASSOCIATIONS

Contract Type

Research for SME Associations / Groupings

Coordinator

Assobeton- Associazione Nazionale

Industrie Manufatti Cementizi, Italy

Researcher's Name

Prof. Faruk KARADOĞAN

Researcher's Contact

karadogan@itu.edu.tr

Total Budget/ITU's Budget

EUR 3.962.776 / EUR 321.440,0

Start - End Date

2009 - 2012

Partners

- Politecnico Di Milano, Italy
- Laboratorio Nacional De Engenharia Civil- National Laboratory for Civil Engineering, Portugal
- Lu.Ge.A Progetti Costruzione Gestione Spa, Italy
- Asociacion Nacional De Prefabricados Y Derivados Del Cemento – Andece, Spain
- National Technical University of Athens, Greece
- Prelosar Sl - Prefabricados De Losas Riojanas Sl, Spain
- University of Ljubljana, Slovenia
- Commission of the European Communities - Directorate General Joint Research Centre – JRC, Belgium
- Truzzi Prefabbricati Srl, Italy
- Dlc Srl, Italy
- Istanbul Technical University, Turkey
- Labor S.R.L., Italy
- Associacao Nacional Dos Industriaisde Prefabricacao Em Betao, Portugal
- Halfen Gmbh,Germany
- Syndesmos Ellinikon Viomichanion Prokataskevis Skirodematos, Greece
- Turkish Precast Concrete Association, Turkey

Website

www.safecastproject.eu

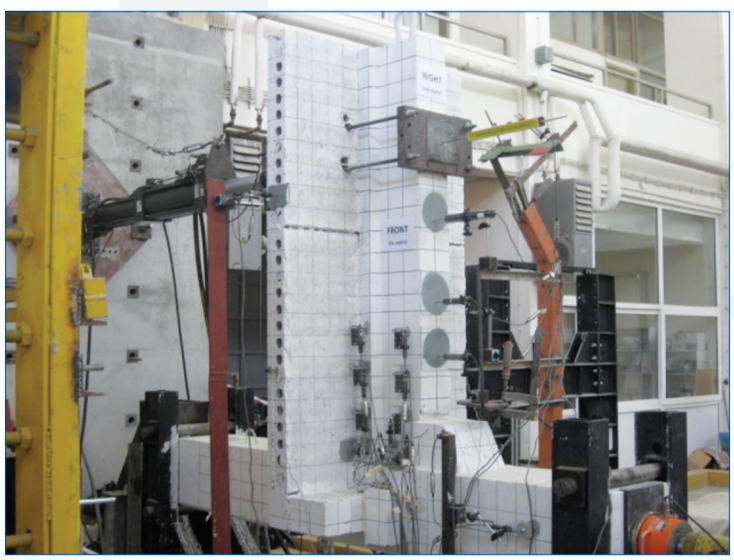
Abstract

The seismic behaviour of connections in precast construction systems has been largely recognized as a crucial matter to be addressed both by the industry sector and by the related research community. In spite of this situation, the complexity of the problem and the variety of inherent issues to be harmonizedly dealt with in proposing design procedures for connections and precast structures as a whole, have made it difficult so far to conceive self-sufficient solutions and approaches of general validity.

Scope of SAFECAST is to give effective answers to this need of self-sufficient, harmonized solution of the problems of correct seismic design of joints and connections in precast structures. The innovative aspect of the project is the unified performance based perspective in which the problem of the characterization of the seismic behaviour of connections will be dealt with. Such complex problem, in fact, needs to be dealt with in a unified performance based framework, since when dimensioning and designing the system for an optimum performance under earthquake loading, all the other basic performance requirements, i.e. durability, deformability limits, energy dissipation, are also to be taken into account and complied with.

The consortium represents a unique combination of countries joined by two peculiar characteristics: for all of them seismic loads play a fundamental role in the construction sector. Secondly, all partners are concrete counties, nations for which concrete is the main construction material. For these reasons, the immediate expected consequence of the project is to improve competitiveness of precasting, as a sector, to promote a general increase in the quality and safety of constructions offered to the market and end-users in general, to enhance the contents of precast building solutions in terms of quality guarantee, performance optimization, reliability, safety in the event of an earthquake.

Image



Project Acronym and Name

IMNOXE - Improvement of NO_x Emissions with Satellite NO_2 Retrievals and Ground Observations

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

MARIE CURIE ACTION

Contract Type

International Re-integration Grants (IRG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Asst. Prof. Dr. Burçak Kaynak TEZEL

Researcher's Contact

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Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2011 - 2015

Partners

-

Abstract

Recent developments in the remote sensing allow acquiring vertical column information of NO_2 as well as other air pollutants in the atmosphere with the use of electromagnetic radiation. The availability of these state-of-the-art retrievals as tropospheric NO_2 columns with comparable spatial resolutions to regional air quality models and global coverage within days including remote areas where other means of measurements are not available are long-needed additions to the sparse ground-based observations. Using satellite observations to improve our scientific understanding of atmospheric processes by integrated analysis of satellite, and ground-based observations with regional air quality models is the starting point of this research. The improvement of NO_x emissions via satellite NO_2 retrievals is one of the emerging research areas with the development and availability of the remote sensing retrievals. The overall objective of the research presented here is to improve the NO_x emission inventories by integrating observations from satellite retrievals, and ground observations with regional air quality modeling which is in line with the EU Seventh Framework (FP7) Environment theme where Earth observation and assessment tools are given as one of the emphasized research areas and it is also related to the Space theme, where an emphasis is given to the research area of Space-based applications serving European society. One of the important endpoints of this research is informing the decision-makers in their design of environmental policy in the area of NO_x emissions. The proposed research program is a multidisciplinary topic which combines environmental sciences, modeling, remote sensing and environmental policy. The novelty of this project that distinguishes it from similar research in Europe is its focus area. Here, NO_2 satellite retrievals will be used to improve NO_x emissions in and around Turkey where the emission inventories have less detail and higher uncertainties

Image

Project Acronym and Name

ENVIROGRIDS - Building Capacity For A Black Sea Catchment Observation And Assessment System Supporting Sustainable Development

Programme Acronym

FP7-ENV

Sub-Programme Area

FP7-ENV-2008-1

Contract Type

SICA

Coordinator

University of Geneva, Switzerland

Researcher's Name

Prof. Seval SÖZEN

Researcher's Contact

sozens@itu.edu.tr

Total Budget/ITU's Budget

EUR 8.100.000 / EUR 283.288

Start - End Date

2009 - 2013

Partners

- UNIGE & UNEP, Switzerland
- Arx iT, Switzerland
- Melitopol State Pedagogical University Azov-Black Sea Ornithological Station, Ukraine
- The Commission on the Protection of the Black Sea against Pollution, Turkey
- Black Sea Regional Energy Centre, Bulgaria
- Czech Centre for Science and Society, The Czech Republic
- European Organization for Nuclear Research, Switzerland
- Center for Advanced Studies, Research and Development in Sardinia, Italy
- Danube Delta National Institute for Research and Development, Romania
- Danube Hydrometeorological Observatory, Ukraine
- Swiss Federal Institute of Aquatic Science and Technology, Switzerland
- The Geoinformation Systems and Remote Sensing Consulting Centre, Georgia
- Institute of Biology of the Southern Seas, Ukraine
- International Commission for the Protection of the Danube River, Austria
- The Institute of Geography of the Romanian Academy, Romania
- Institute for Water Education, UNESCO-IHE, The Netherlands
- Istanbul Technical University, Turkey
- National Institute of Hydrology and Water Management, Romania
- The Odessa National University, Ukraine
- St. Petersburg State University, Russian Federation
- Taurida National University, Ukraine
- University of Barcelona/European Topic Centre Land Use and Spatial Information, Spain
- Ukrainian Scientific and Research Institute of Ecological Problems, Ukraine
- The Technical University of Cluj-Napoca, Romania
- VITUKI, Hungary
- SORESMA, Belgium
- The National Institute of Meteorology and Hydrology of Bulgarian Academy of Sciences, Bulgaria
- Cevre ve Orman Bakanligi, Turkey
- University of Malaga, Spain
- United Nations Educational, Scientific and Culture Organisation, France

Website

http://www.envirogrids.net

Abstract

EnviroGRIDS aims at building capacities in the Black Sea region to use new international standards to gather, store, distribute, analyze, visualize and disseminate crucial information on past, present and future states of this region, in order to assess its sustainability and vulnerability. To achieve its objectives, EnviroGRIDS will build a Grid-enabled Spatial Data Infrastructure (GSDI) becoming one of the integral systems in the Global Earth Observation System of Systems (GEOSS), and compatible with the new EU directive on Infrastructure for Spatial Information in the European

Union (INSPIRE), as well as UNSDI developments.

The scientific aim of the EnviroGRIDS @ Black Sea Catchment project is to start building an Observation System that will address several GEO Societal Benefit Areas within a changing climate framework. This system will incorporate a shared information system that operates on the boundary of scientific/technical partners, stakeholders and the public.

It will contain an early warning system able to inform in advance decision-makers and the public about risks to human health, biodiversity and ecosystems integrity, agriculture production or energy supply caused by climatic, demographic and land cover changes on a 50-year time horizon.

Main outcomes;

• a gap analysis of existing regional observation systems to prepare recommendations for improvement of networks for data acquisition in the region/country,

• an improved regional network to coordinate the efforts of partners active in observation systems

• a spatial data infrastructure to link, gather, store, manage and distribute key environmental data,

• real-time access sensors and satellites data,

• spatially explicit scenarios of key changes in land cover, climate and demography,

• grid-enabled spatial data infrastructure for large calculations and datasets,

• streamlined production of indicators on sustainability and vulnerability of societal benefits,

• early warning and decision support tools at regional, national and local levels,

• capacities developed in the implementation of many new SDI frameworks (INSPIRE, GEOSS, UNSDI,..).

Image

Project Acronym and Name

SAFECLADDING - Improved Fastening Systems of Cladding Wall Panels of Precast Buildings in Seismic Zones

Programme Acronym

FP7-SME

Sub-Programme Area

SME-2012-2

Contract Type

Research for SME Associations/ Groupings

Coordinator

Bureau International Du Beton Manufacture, Belgium

Researcher's Name

Assoc. Prof. Ercan YÜKSEL

Researcher's Contact

yukselerc@itu.edu.tr

Total Budget/ITU's Budget

EUR 2.118.600 / EUR 319.906,9

Start - End Date

2012 - 2015

Partners

- Assobeton - National Italian Association of Precast Concrete Producers, Italy
- Turkish Precast Concrete Association, Turkey
- Verein Zur Forderung Und Entwicklung Der Befestigungs-, Bewehrungs Und Fassadentechnik Ev, Germany
- Politecnico Di Milano, Italy
- University of Ljubljana, Slovenia
- National Technical University of Athens, Greece
- Istanbul Technical University, Turkey
- JRC -Joint Research Centre- European Commission, Belgium
- B.S. Italia Spa, Italy
- Afaprefabrik Prefabrike Beton San.ve Tic. AS, Turkey
- Yapi Merkezi Prefabrikasyon AS, Turkey

Website

www.safecladding.eu

Abstract

The current design practice of precast buildings is based on a frame model where the peripheral cladding panels enter only as masses without any stiffness. The panels are then connected to the structure with fastenings dimensioned with a local calculation

on the base of their mass for anchorage forces orthogonal to the plane of the panels. This design approach does not work, as it was recently dramatically shown by several recent violent shakes, like L'Aquila in 2009 and Grenada in 2010. The panels, fixed in this way to the structure, come to be integral part of the resisting system conditioning its seismic response. The high stiffness of this resisting system leads to forces much higher than those calculated from the frame model. These forces are related to the global mass of the floors and are primarily directed in the plane of the walls. Furthermore, the seismic force reduction in the type of precast structures of concern relies on energy dissipation in plastic hinges formed in the columns. Very large drifts of the columns are needed to activate this energy dissipation foreseen in design. However, typically the capacity of the connections between cladding and structure is exhausted well before such large drifts can develop. Therefore, the design of these connections cannot rely on the seismic reduction factor used for design of the bare structure. New technological solutions for connectors with proper design approaches are urgently required. The research project SAFECLADDING is thus aimed to investigate, by means of a balanced combination of experimental and analytical activity, the seismic behaviour of precast structures with cladding wall panels and to develop innovative connection devices and novel design approaches for a correct conception and dimensioning of the fastening system to guarantee good seismic performance of the structure throughout its service life.

Image

Project Acronym and Name

EGEE-III : Enabling Grids for E-science III

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2007-1.2-03

Contract Type

CPCSA

Coordinator

European Organization for Nuclear Research, Switzerland

Researcher's Name

Assoc. Prof. Turgay ALTILAR

Researcher's Contact

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Total Budget/ITU's Budget

EUR 49.022.472 / EUR 0

Start - End Date

2008 - 2010

Partners

- Science and Technology Facilities Council, UK
- The National Institute for Research and Development in Informatics, Romania
- Switch -Teleinformatikdienste Fuer Lehre und Forschung, Switzerland
- Delivery of Advanced Network Technology to Europe Limited, UK
- The Institute for High Energy Physics at the Universitat Autònoma de Barcelona, Spain
- Laboratorio De Instrumentacao E Fisica Experimental De Particulas, Portugal
- Academia Sinica, Taiwan
- University of Zagrep University Computing Centre, Crotia
- Tel Aviv University, Israel
- University of Wisconsin-Madison, United States
- Trust-It Services Ltd, UK
- Chonnam National University Republic of Korea, Republic of Korea
- Vrije Universiteit Brussel, Belgium
- AGH University of Science and Technology, Poland
- Bt Services Sa, France
- The University of North Carolina at Chapel Hill, United States
- Elsag Datamat S.P.A, Italy
- University of Cyprus, Cyprus
- Uninett Sigma As, Norway
- Inter-University Research Institute Corporation, High Energy Accelerator Research Organisation, Japan
- Csc-Tieteen Tietotekniikan Keskus Oy Suomi, Finland
- Korea Institute of Science And Technology Information, Republic of Korea
- Trinity College, Dublin, Ireland
- Institute of Informatics Slovak Academy of Sciences, Slovakia
- Institute of Physics University of Belgrade, Serbia
- The Scientific and Technological Research Council of Turkey, Turkey
- The Foundation for Fundamental Research on Matter, The Netherlands
- University of Melbourne, Australia
- The Italian Institute for Nuclear Physics, Italy
- Institute for Particle and Nuclear Physics, Wigner Research Centre for Physics, Hungarian Academy of Sciences, Hungary
- The Karlsruhe Institute of Technology, Germany
- University of Linz, Austria
- The Jožef Stefan Institute, Slovenia
- Vetenskapsradet - Swedish Research Council, Sweden
- Russian Research Centre Kurchatov Institute, Russian Federation
- Greek Research and Technology Network S.A., Greece
- Czech Education and Scientific Network, The Czech Republic
- The National Centre for Scientific Research, France
- Cggveritas Services Sa, France
- University of Helsinki, Finland
- Suomi, Finland

Website

http://www.eu-egee.org

Abstract

A globally distributed computing Grid now plays an essential role for large-scale, data intensive science in many fields of research. The concept has been proven viable through the Enabling Grids for E-sciencE project (EGEE and EGEE-II, 2004-2008) and its related projects. EGEE-II is consolidating the operations and middleware of this Grid for use by a wide range of scientific communities, such as astrophysics, computational chemistry, earth and life sciences, fusion and particle physics. Strong quality assurance, training and outreach programmes contribute to the success of this production Grid infrastructure.

Built on the pan-European network GEANT2, EGEE has become a unique and powerful resource for European science, allowing researchers in all regions to collaborate on common challenges. Worldwide collaborations have extended its reach to the benefit of European science.

The proposed EGEE-III project has two clear objectives that are essential for European research infrastructures: to expand, optimize and simplify the use of Europe's largest production Grid by continuous operation of the infrastructure, support for more user communities, and addition of further computational and data resources; to prepare the migration of the existing Grid from a project-based model to a sustainable federated infrastructure based on National Grid Initiatives. By strengthening interoperable, open source middleware, EGEE-III will actively contribute to Grid standards, and work closely with businesses to ensure commercial uptake of the Grid, which is a key to sustainability.

Federating its partners on a national or regional basis, EGEE-III will have a structuring effect on the European Research Area. In particular, EGEE-III will ensure that the European Grid does not fragment into incompatible infrastructures of varying maturity. EGEE-III will provide a world class, coherent and reliable European Grid, ensuring Europe remains at the forefront of scientific excellence.

Project Acronym and Name

MMFP-Multimodal Face Processing

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2012-CIG

Contract Type

Support for Training and Career Development of Researcher (CIG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assoc. Prof. Dr. Hazım Kemal EKENEL

Researcher's Contact

ekenel@itu.edu.tr
http://web.itu.edu.tr/ekenel/

Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2013 - 2017

Partners

-

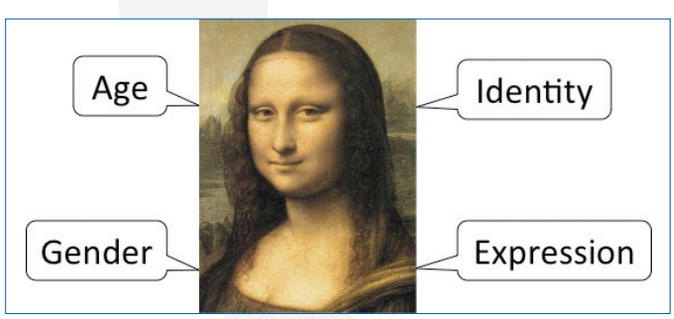
Website

http://simitlab.itu.edu.tr/projects.html

Abstract

Faces play a central role in human communication. When interacting with someone, we use their face to identify them, to determine their gender, their emotional state and even their health. Automatic facial image interpretation involves developing algorithms, which can estimate such information from digital images and video. Such technology has a wide range of applications, including use in human-computer interfaces, assistive systems for human-human interaction, healthcare, entertainment, smart environments, and security. Considering the shift to the paradigm of human-centred computing for natural interfaces, convenient healthcare applications for daily monitoring, and advanced security needs of the society, the interest in face processing is expected to continue with increasing pace. The objective of this project is to derive and utilize multiple modes of information from face images to facilitate its practical use in several domains, such as assistive systems, entertainment, and multimedia content analysis.

Image Abstract



Project Acronym and Name

CLARIN - Common Language Resources and Technology Infrastructure

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2007-2.2-01

Contract Type

Combination of CP and CSA

Coordinator

Utrecht University, The Netherlands

Researcher's Name

Asst.Prof.Dr. Gülşen ERYİĞİT

Researcher's Contact

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Fax : +90 0212 2853424

Total Budget/ITU's Budget

EUR 5.632.085 / 0

Start - End Date

2008 - 2011

Partners

- German Research Center for Artificial Intelligence, Germany
- Max Planck Gesellschaft Zur Foerderung Der Wissenschaften E.V, Germany
- Institue of Mathematics and Computer Science, University of Latvia, Latvia
- Charles University, The Czech Republic
- Lancaster University, UK
- Universitat Pompeu Fabrae, Spain
- University of Leuven, Belgium
- The University of Sheffield, UK
- KTH Royal Institute of Technology, Sweden
- University of Bergen, Norway
- Lund University, Sweden
- CSC — IT Center for Science Ltd, Finland
- Athena Research and Innovation Center in Information Communication & Knowledge Technologies, Greece
- The Institute for Dutch Lexicology, The Netherlands
- University of Malta, Malta
- Istanbul Technical University, Turkey
- University of Zagreb, Faculty of Humanities and Social Sciences, Croatia
- Institute for Parallel Processing of the Bulgarian Academy of Sciences, Bulgaria
- Evaluations and Language Resources Distribution Agency Sa, France
- World Lithuanian University, Lithuania
- The Alexandru Ioan Cuza University of Iasi, Romania
- Fundacao Da Faculdade De Ciencias Da Universidade De Lisboa, Portugal
- Helsingin Yliopistosuomi,Finland
- Hungarian Academy of Sciences, Research Institute for Linguistics, Hungary
- University of Iceland, Iceland
- University of Copenhagen, Denmark
- Research Institute for Artificial Intelligence, Romanian Academy, Romania
- University of Tartu, Estonia
- The Chancellor, Masters and Scholars of the University of Oxford, UK
- University of Vienna, Austria
- University of Tübingen, Germany
- The National Research Council, Italy
- The National Center for Scientific Research, France
- Institue of Computer Science Polish Academy of Sciences, Poland
- Wroclaw University of Technology, Poland

Website

http://www.clarin.eu/external

Abstract

The ultimate goal of CLARIN is the construction and operation of a shared distributed infrastructure that aims at making language resources and technology available to the humanities and social sciences research communities at large. The preparatory phase will pave the way for implementation along 4 dimensions: Funding and governance: The aim is to bring together the funding agencies and to work out a ready-to-sign draft agreement between the funding agencies in the participating countries about governance, financing, construction and operation of the infrastructure. Technical: The technical objective is to provide a detailed specification of the infrastructure, agreement on data and interoperability standards to be adopted, and a running, validated prototype based on these specifications.

Image

Project Acronym and Name

VITAL- Virtualized Programme mable Interfaces For Smart, Secure And Cost-Effective Iot Deployments In Smart Cities

Programme Acronym

FP7-ICT

Sub-Programme Area

FP7-SMARTCITIES-2013

Contract Type

STREP

Coordinator

National University of Irland Galway, Ireland

Researcher's Name

Prof. Sema OKTUĞ
Prof. Esref ADALI

Researcher's Contact

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adali@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.192.411 / EUR 189.620

Start - End Date

2013 - 2017

Partners

- The French Institute for Research in Computer Science and Automation, France
- Santer Reply Spa, Italy
- Atos Spain, S.A., Italy
- Research and Education Laboratory In Information Technologies - Athens Information Technology, Greece
- Images & Co Ltd , UK
- Camden Town Unlimited, UK
- Istanbul Technical University, Turkey
- Istanbul Metropolitan Municipality, Turkey

Website

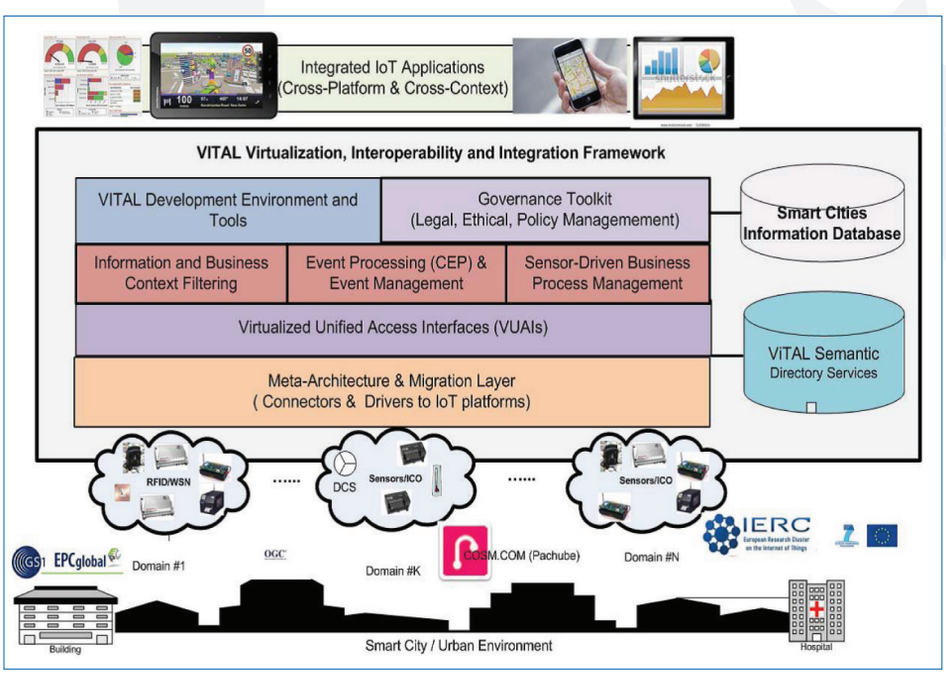
http://vital-iot.eu/

Abstract

Internet-of-Things (IoT) applications are currently based on multiple architectures, standards and platforms, which have led to a highly fragmented IoT landscape. This fragmentation is evident in the area of smart cities, which typically comprise several technological silos (i.e. IoT systems that have been developed and deployed independently). Nowadays there is a pressing need to remove these silos in order to allow cities to share data across systems and coordinate processes across domains, thereby essentially improving sustainability and quality of life. In response to this need, VITAL will realize a radical shift in the development, deployment and operation of IoT applications, through introducing an abstract virtualized digital layer that will operate across multiple IoT architectures, platforms and business contexts. Specifically, VITAL will provide platform and business context agnostic access to Internet-Connected-Objects (ICO). Moreover, it will research virtualized filtering, complex event processing (CEP) and business process management mechanisms, which will be operational over a variety of IoT architectures/ecosystems. Themechanisms will compromise the diverse characteristics of the underlying ecosystems, thereby boosting interoperability at the technical and business levels. VITAL will also provide development and governance tools, which will leverage the project's interfaces for virtualized access to ICOs.

VITAL will allow solution providers to (re)use a wider range of data streams, thereby increasing the scope of potential applications. It will also enable a more connected/integrated approach to smart city applications development, which will be validated in realistic deployments in London and Istanbul. The partners will contribute and adapt a host of readily available urban infrastructures, IoT platforms and novel IoT applications, which will ease the accomplishment of the project's goals basedon an optimal value for EC money.

Image Abstract



Project Acronym and Name

REALMARS - Research on Location Estimation in Multi-Carrier Systems

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

PEOPLE-2007-4-3.IRG

Contract Type

International Re-integration Grants (IRG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assoc. Prof. Güneş Karabulut KURT

Researcher's Contact

gkurt@itu.edu.tr

Total Budget/ITU's Budget

EUR 50.000

Start - End Date

2009 - 2011

Partners

-

Website

http://cordis.europa.eu/projects/rcn/90496_en.html

Abstract

Multi-carrier (MC) transmission, in particular orthogonal frequency division multiplexing (OFDM), is employed in various systems mainly due to its robustness. In particular, with the deployment of WiMAX (and the upcoming LTE) systems, research in OFDM hastened. In OFDM systems, smart antenna systems with multiple transmit and receive antennae and location estimation are likely to be an area of interest. In recent years, adaptive antennae and array processing greatly impacted the performance of wireless communication systems.

Also, location based services are gaining importance everyday increasing the need for better location estimation algorithms. In this work, we propose to investigate one of the most essential issues of adaptive antenna systems: the estimation of angles of arrival (AOA) for OFDM systems and its utilization in location estimation and development of location based services. The main advantage for location estimation using angles compared to distance (timing advance) is that instead of three reference points, only two reference points are sufficient. In our work, we propose to use basis selection (BS) algorithms, namely the matching pursuit (MP) algorithms for AOA and location estimation, by exploiting the sparsity property of AOA for OFDM.

The main advantages of applying BS algorithms to this estimation problem are the decreased complexity and increased resolution. When OFDM systems are compared to single carrier systems in terms of AOA estimation, the main advantage is that for each subcarrier, the received phase depending on the angle of arrival is different. This results in diversity in the angle of arrival equations. In this work, we will also concentrate on the advantage of this diversity and its improvement on the accuracy of location estimation systems as well as the location based services that can be developed based on the obtained accuracy levels.

Image

Project Acronym and Name

HSDAC- A 16-bit, 2 Giga -Sample-Per-Second, Digital-to-Analog Converter With 85 Db Sfdr At Fout=400Mhz.

Programme Acronym

FP7 - PEOPLE

Sub-Programme Area

FP7-PEOPLE-2009-RG

Contract Type

International Re-integration Grants (IRG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assoc. Prof. Dr. Turker KUYEL

Researcher's Contact

tkuyel@itu.edu.tr

Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2010 - 2014

Partners

-

Abstract

A current steering Digital to Analog Converter (DAC) is the enabling integrated circuit for high-speed waveform generation, with key applications such as UMTS cellular base stations, DOCSIS compliant digital TV broadcast, and RF test equipment. There is continuous demand for higher speed and higher resolution DACs that can generate waveforms at higher output frequencies with good linearity.

The most important linearity metric of a high speed DAC is Spurious Free Dynamic Range (SFDR), and other measures such as Intermodulation Distortion (IMD) or Adjacent Channel Leakage Ratio (ACLR) depend on SFDR. Even with the state of the art DACs, SFDR drops very fast with increasing output frequency. Best 16-bit, high-speed DACs can achieve 95 dB SFDR at Fout = 1MHz, however, SFDR drops to less than 70 dB at Fout > 100 MHz. To generate more accurate waveforms at high frequencies, it is crucial to identify, understand and address the dynamic error mechanisms of DACs. In a nutshell, the project proposal consists of identification, avoidance and elimination of dynamic error mechanisms, demonstrated by a 16-bit, 2 Giga-sample-per-second (GSPS) DAC , on a 0.18u CMOS process. The focus will be on switch design, clock network design, output network design, switching algorithm design and built in self-test (BIST) structures.

VLSI design tools and test equipment will be provided by Istanbul Technical University.

Project funds will be used to support two researchers and, and multiple shuttle tape-outs. The project coordinator is familiar with the real technical issues involved, he has 13 years of industry experience in DAC testing, DAC design, and DAC design management at prestigious US corporations such as Texas Instruments and Linear Technology. He released numerous DACs to production and he has many refereed publications and patents on DAC design.

Project Acronym and Name

AISENSE - Human-Computer Interaction and Computer Vision for Improving Healthy Living of Elderly through Exer-gaming

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2011-CIG

Contract Type

European Re-integration Grants (ERG)

Coordinator

Istanbul Technıcal Unıversıty

Researcher's Name

Asst. Prof. Dr. Hülya YALÇIN

Researcher's Contact

hulyayalcin@itu.edu.tr

Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2011 - 2015

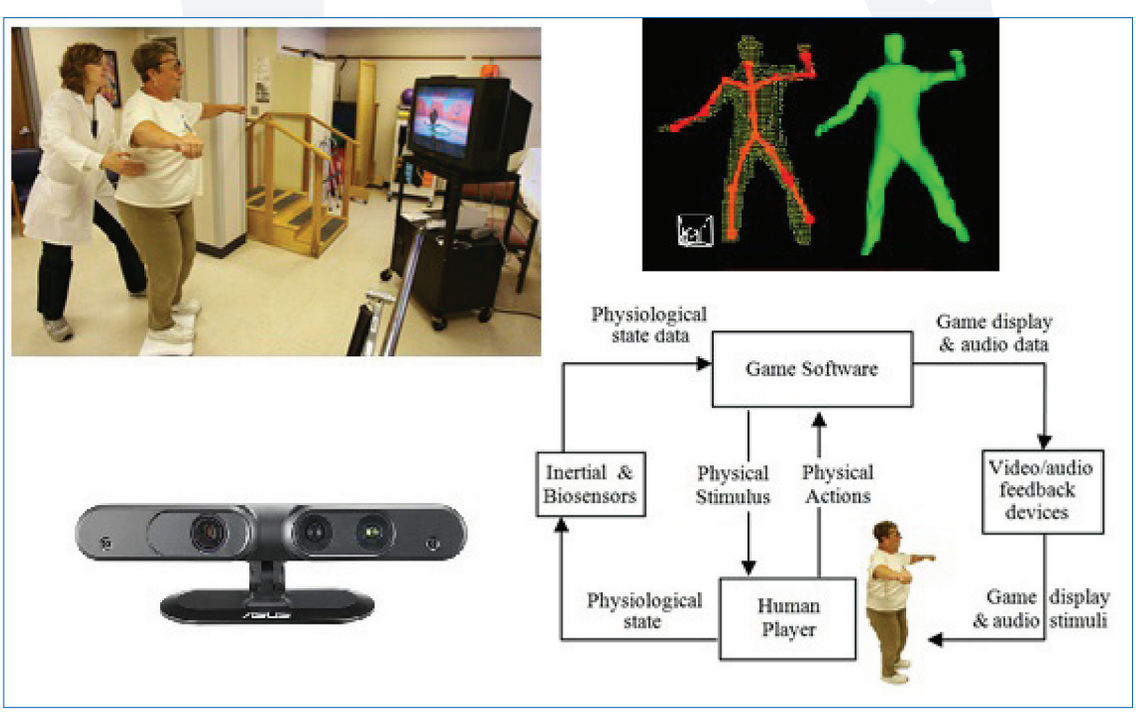
Partners

-

Abstract

The objective of the proposed research is to build an exer-gaming system that allows elderly people to naturally interact with a virtual environment through their body movements and assess their physical performance. The human-computer interaction will be achieved through recognition of the body movements of the subject using multiple numbers of vision sensor platforms which have rgb cameras and depth sensors on them. The research focus will be on the development of algorithms that allow different types of sensors to detect various aspects of the activity in the environment collectively. The successful implementation of the system will be employed in designing an exercise game application that will allow elderly people to interact with the system through a natural interface, their own body movements. The physical performance of the elderly people will be assessed by processing the measurements collected from the inertial sensors and biosensors worn on the body of the subject and hence improve health of elderly by providing better rehabilitation tools.

Image Abstract



Project Acronym and Name

HM-PP - Advances in Horizontal Merger Policy and Selected Public Policy Topics

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-PEOPLE-2009-RG

Contract Type

International Re-integration Grants
(IRG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assoc. Prof. Sencer ECER

Researcher's Contact

ITU Department of Economics Faculty of Management
Macka, Istanbul, Turkey
ecer@itu.edu.tr

Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2010 - 2014

Partners

-

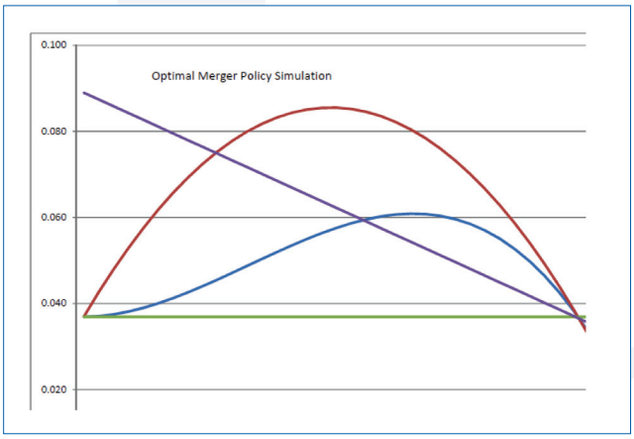
Website

http://www.sencerecer.net/hmpp/

Abstract

Accurate merger control is crucial for consumer welfare and competitiveness. The US is currently undertaking a major revision of its merger control policy, which is expected to have a significant impact in corresponding EU policies. This Project's primary objective is to advance the accuracy of merger control policies by showing that firms' reactions to these policies in the form of non-price strategies have the potential to undo these policies' benefits to consumers. As such, this Project is extremely timely for the EU. In particular, the Researcher will first model firms' product differentiation strategies in response to a blocked or deterred merger, and he expects to show that firms that are prevented from merging strategically increase product differentiation to sustain higher prices. These higher prices would be an unintended consequence as merger control policy generally aims to block or deter mergers precisely to prevent higher prices for consumers. Modeling such unintended consequences is a novel and original contribution to the literature. To analyze this impact, multi-stage game theoretical models will be developed and solved for optimal merger enforcement. Then, the models will be extended to other non-price strategies. A second objective in this Project is to carry out an empirical research program in Public Policy topics paralleling over thirty master's theses that the Researcher has supervised at Georgetown University's Public Policy Institute. A selected topic, Mental Health and Macroeconomic Fluctuations, is detailed in the Proposal. This Project will allow the Researcher to transfer knowledge acquired at the University of Texas at Austin (Ph.D.), Georgetown University (teaching and research), and Law and Economics Consulting Group (LECG) (consulting and research) and to accomplish lasting cooperation with his US colleagues.

Image Abstract



Project Acronym and Name

SI-Drive- Social Innovation: Driving Force of Social Change

Programme Acronym

FP7-SSH (Social Sciences and Humanities)

Sub-Programme Area

SSH.2013.3.2-1

Contract Type

Large scale integrating projects (CP-IP)

Coordinator

TUDO/sfs - Technische Universität
Dortmund Sozialforschungsstelle, Germany

Researcher's Name

Assoc. Prof. Sencer ECER

Researcher's Contact

ITU Department of Economics Faculty of Management
Macka, Istanbul, Turkey
ecer@itu.edu.tr

Total Budget/ITU's Budget

EUR 6.268.976,80 / EUR 97.000,00

Start - End Date

2014 - 2017

Partners

- Institute for Work and Technology, Westfälische Fachhochschule Gelsenkirchen, Germany
- Netherlands Organisation for Applied Scientific Research, The Netherlands
- Young Foundation, UK
- Brunel University, UK
- Centre for Social Innovation, Austria
- Austrian Institute of Technology, Austria
- University of Deusto, Spain
- Applied Research and Communications Fund, Bulgaria
- International Organisation for Knowledge Economy and Enterprise Development Sweden
- Kazimiero Simonavičiaus Universitetas, Lithuania
- Lama Development and Cooperation Agency, Italy
- University Danubius Galati, Romania
- European Federation of National Organisations Working with the Homeless, Belgium
- Social innovation lab Croatia
- Istanbul Technical University, Turkey
- Heliopolis University Cairo, Egypt
- Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences, Russia
- Zhejiang University Hangzhou, China
- Bertha Centre for Social Innovation and Entrepreneurship, Cape Town, South Africa
- United Nations Economic Commission for Latin America and the Caribbean, Chile
- Centro de Innovación Social, Agencia Nacional para la Superación de la Pobreza Extrema, Colombia
- The University of Sidney, Australian Centre for Innovation, Australia
- Tata Institute of Social Sciences, India
- Center for research on Social Innovation University of Quebec, Canada

Website

http://www.si-drive.eu/

Abstract

SI-DRIVE extends knowledge about social innovation (SI) in three major directions:

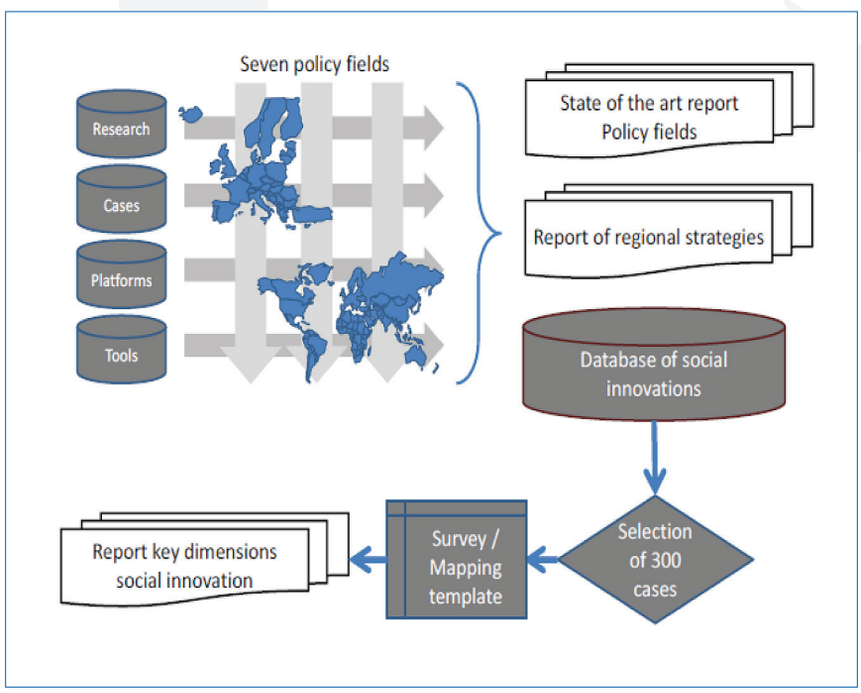
- Integrating theories and research methodologies to advance understanding of SI leading to a comprehensive new paradigm of innovation.
- Undertaking European and global mapping of SI, thereby addressing different social, economic, cultural, historical and religious contexts in eight major world regions.
- Ensuring relevance for policy makers and practitioners through in-depth analyses and case studies in seven policy fields, with cross European and world region comparisons, foresight and policy round tables.

SI-DRIVE involves 15 partners from 12 EU Member States and 10 from other parts of the world. The approach adopted carefully interlinks the research process to both the complexity of the topic and the project workflow:

- First, cyclical iteration between theory development, methodological improvements, and policy recommendation:
- Second, two mapping exercises at European and global level. Initial mapping will capture basic information about 1000+ actual successful and failed social innovations from a wide variety of sources worldwide, leading to a typology of SI (testing the SI perspectives proposed by the BEPA report) and using this to examine the global SI distribution. Subsequent mapping will use the typology to focus on well documented SI, leading to the selection of 10 cases each for in-depth analysis in the seven SI-DRIVE Policy Fields.
- Third, these case studies will be further analysed, used in stakeholder dialogues in 7 policy field platforms and in analysis of cross-cutting dimensions (e.g. gender, diversity, ICT), carefully taking into account cross-sector relevance (private, public, civil sectors), and future impact.

The outcomes of SI-DRIVE will address all objectives required by the Call, cover a broad range of research dimensions, impacting particularly in terms of changing society and empowerment, and contributing to the objectives of the Europe 2020 Strategy.

Image Abstract



Project Acronym and Name

EUREN-TR-3/EuropeanResearchers' Night in Turkey-3

Programme Acronym

FP7-PEOPLE

Sub-Programme Area

FP7-2008-PEOPLE-NIGHT

Contract Type

Support actions

Coordinator

Ege University Science & Technology Center, Turkey

Researcher's Name

Asst. Prof. Dr. Murat ÇAKAN

Researcher's Contact

cakanmu@itu.edu.tr

Total Budget/ITU's Budget

EUR 64.835 / EUR 13.470,35

Start - End Date

2008 - 2008

Partners

- Istanbul Technical University, Turkey

Website

http://www.bilimmerkezi.itu.edu.tr/etkinlik.asp

Abstract

Objective

The overall objective is to organize the third Researchers Night in Turkey in order to provide the general public and in particular young people with the opportunity to meet researchers within the context of festive and innovative activities. The ultimate aim is to enhance public recognition of researchers and their role in society as well as to encourage more young people to embark on careers in science and consequently to increase Europe s (and Turkey's) attractiveness for researchers, while providing a wider public awareness about the EU support to science & research. EUREN-TR-3 aims to address the Turkey dimension of this European-wide public awareness campaign. The objectives will be achieved by activities designed to attract and entertain the participants of different age groups and backgrounds and to deliver them the main message that researchers are normal people, with hobbies complimenting their research-linked personalities.

The strategic objectives of will be:

- to organize the European Researchers Night 2008 in Turkey in two separate cities

- Izmir and Istanbul, as a third year follow up
- to address a far larger group (10,000 people) from different age groups and backgrounds

- to enhance public recognition and respect of researchers and their roles in society, through extensive media coverage and a balanced mixture of research linked festive activities

- to increase awareness of the resources European Union devotes to support research and researchers

- to encourage the young people to embark on scientific careers and to introduce possibilities in new careers

- to emphasize the importance of science for further development of technology and industry.

The project will promote the activity and increase awareness of general objectives prior to the event, organize festive and innovative activities during the event and monitor and disseminate the results during and after the event.

Image

Project Acronym and Name

EUROTURBO 9 - Support to Ninth European Conference on Turbomachinery

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

AAT.2010.7-6 AAT.2010.7-9

Contract Type

Support actions

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Prof. Mete ŞEN

Researcher's Contact

senmet@itu.edu.tr

Total Budget/ITU's Budget

EUR 18.987 / EUR 15.000

Start - End Date

2010 - 2011

Partners

- Von Karman Institute for Fluid Dynamics, Belgium
- Rhode-Saint-Genese, Belgium
- Universita Degli Studi Di Napoli Federico II, Italy

Website

http://www.etc9.itu.edu.tr/

Abstract

Objective

The European Turbomachinery Conference is the only scientific event in the EU covering in depth all fluid dynamics and thermodynamics aspects of turbomachinery design and operation. Its objectives are to enhance excellence in this field, to address and improve the technological level and competitiveness of turbomachinery design products and their operation as part of propulsion systems and energy conversion processes.

EUROTURBO 9 is the ninth in a series of bi-annual conferences started for the first time in Erlangen (Germany) in 1995. This conference will be of prime interest to researchers, design engineers, users of turbomachinery components and to students being trained in presentation and discussion of their first scientific results. The conference is intended to be a primary driver for technology transfer across Europe in this field through the presentatiion of the latest developments and best practices. It is also intended to enhance cross-fertilization between the aeronautical fields, found in the edge of turbomachinery technology today and all other fields using turbomachines. The conference is also seen as an integrating element between the Western and the Eastern European countries and as an additional mean to foster collaboration in turbomachinery research at a European level. Finally, this conference is seen as an ideal forum to relate and disseminate the results of research projects funded by the European Commission. Therefore, a support for this conference of less than 15 % of the total Budget is requested from the Commission.

Image

Project Acronym and Name

HYPOX - In Situ Monitoring of Oxygen Depletion in Hypoxic Ecosystems of Coastal and Open Seas, and Land-Locked Water Bodies

Programme Acronym

FP7 - ENVIRONMENT

Sub-Programme Area

ENV.2008.4.1.2.1

Contract Type

Small or Medium-Scale Focused Research Project

Coordinator

Max Planck Gesellschaft Zur Foerderung Der Wıssenschaften E.V., Germany

Researcher's Name

Prof. M. Namık ÇAĞATAY

Researcher's Contact

Phone: +90 212 285 62 11
E-mail: cagatay@itu.edu.tr

Total Budget/ITU's Budget

EUR 4.665.281 / EUR 126.000

Start - End Date

2009 - 2012

Partners

- Stituto Nazionale Di Geofisica E Vulcanologia, Italy
- University of Bremen, Germany
- French Research Institute for Exploitation of the Sea, France
- The Leibniz Institute of Marine Sciences at the University of Kiel, Germany
- A.O. Kovalevskiy Institute of Biology of Southern Seas, Ukraine
- Istanbul Technical University , Turkey
- University of Patras , Greece
- Royal Netherlands Institute for Sea Research, The Netherlands
- GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
- The Scottish Association for Marine Science, UK
- The Royal Netherlands Academy of Arts and Sciences, The Netherlands
- The Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Germany
- Helmholtz-Zentrum Geesthacht Zentrum fur Material und Kustenforschung Gmbh, Germany
- Institut Fuer Ostseeforschung Warnemuende an der Universitaet Rostock, Germany
- Universty of Gothenburg, Sweden
- The National Institute for Research and Development of Marine Geology and Geoecology, Romania
- Swiss Federal Institute of Aquatic Science and Technology, Switzerland

Website

http://www.hypox.net/

Abstract

Hypoxic (low oxygen) conditions in aquatic ecosystems increase in number, duration and extent due to global warming and eutrophication.

Global warming will lead to degassing of oxygen, increased stratification, reduced deep-water circulation and changes in wind patterns affecting transport and mixing. Projected increases in hypoxia (e.g. doubling of dead zones) are accompanied by enhanced emission of greenhouse gases, losses in biodiversity, ecosystem functions and services such as fisheries, aquaculture and tourism.

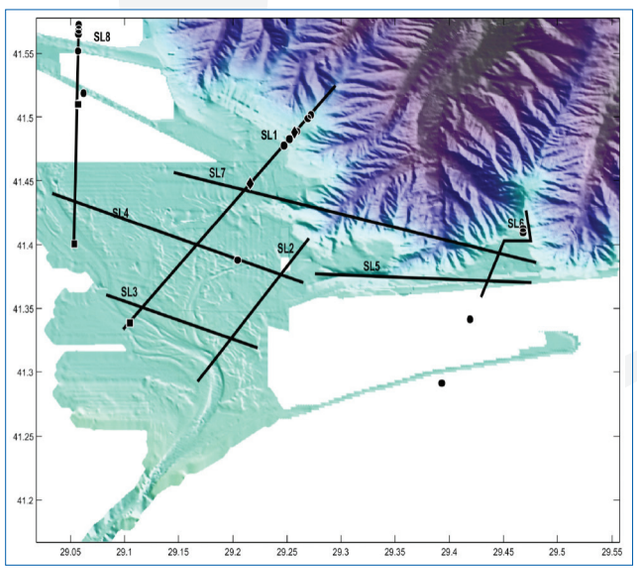
A better understanding of global changes in oxygen depletion requires a global observation system continuously monitoring oxygen at high resolution, including assessment of the role of the seafloor in controlling the sensitivity of aquatic systems to and recovery from hypoxia.

Here we propose to monitor oxygen depletion and associated processes in aquatic systems that differ in oxygen status or sensitivity towards change: open ocean, oxic with high sensitivity to global warming (Arctic), semi-enclosed with permanent anoxia (Black Sea, Baltic Sea) and seasonally or locally anoxic land-locked systems (fjords, lagoons, lakes) subject to eutrophication.

We will improve the capacity to monitor oxygen depletion globally, by implementing reliable long-term sensors to different platforms for in situ monitoring; and locally by training and implementing competence around the Black Sea. Our work will contribute to GEOSS tasks in the water, climate, ecosystem and biodiversity work plans, and comply to GEOSS standards by sharing of observations and products with common standards and adaptation to user needs using a state of the art world data centre.

We will connect this project to the GOOS Regional Alliances and the SCOR working group and disseminate our knowledge to local, regional and global organisations concerned with water and ecosystem health and management.

Image Abstract



Project Acronym and Name

EMSO - European Multidisciplinary Seafloor Observation

Programme Acronym

FP7 - INFRASTRUCTURES

Sub-Programme Area

INFRA-2007-2.2-01

Contract Type

Combination of CP and CSA

Coordinator

Istituto Nazionale Di Geofisica E Vulcanologia, Italy

Researcher's Name

Prof. M. Namık ÇAĞATAY

Researcher's Contact

Phone: +90 212 285 62 11
E-mail: cagatay@itu.edu.tr

Total Budget/ITU's Budget

EUR 5.423.781 / EUR 167.000

Start - End Date

2008 - 2012

Partners

- Natural Environment Research Council, UK
- French Research Institute for Exploitation of the Sea, France
- Fundacao Da Faculdade De Ciencias Da Universidade De Lisboa, Portugal
- Royal Netherlands Institute for Sea Research, The Netherlands
- Hellenic Centre for Marine Research, Greece
- Germany Marine Research Consortium, Germany
- Universty of Gothenburg, Sweden
- The Arctic University of Norway, Norway
- Marine Institute, Ireland
- Istanbul Technical University, Turkey
- The Portuguese Foundation for Science and Technology, Portugal
- The Spanish National Research Council, Spain

Website

http://www.emso-eu.org/management/

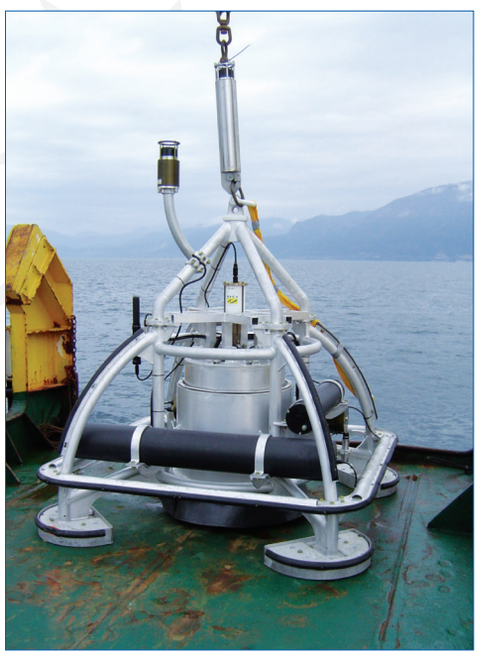
Abstract

The European Multidisciplinary Seafloor Observation - Preparatory Phase (EMSO-PP) is a 4-year project with the main objective of establishing the legal and governance framework for EMSO, an infrastructure servicing scientists and other stakeholders in Europe and outside Europe for long-term deep water observation and investigation. The Preparatory Phase will handle all further actions towards the actual realisation of the infrastructure and its long-term management.

Moreover, it will promote the catalytic process and synergic effort at EC and national levels, coordinating and harmonising all the resources made available, in link with the Network of Excellence ESONET. One peculiarity of the EMSO infrastructure, among the ones indicated within ESFRI, is that it is geographically distributed around European waters from the Arctic to the Mediterranean Sea EMSO cabled deep-sea observatories deployed on specific sites will allow as a basic scientific objective to make real-time long-term monitoring of environmental processes in the geosphere, biosphere and hydrosphere of European seas. The observatories will be organised in a unique management structure at European level which is part of an international endeavour in seafloor observatories.

Image

european multidisciplinary seafloor observatory emso



Project Acronym and Name

MARSITE - New Directions in Seismic Hazard assessment through Focused Earth Observation in the Marmara Supersite

Programme Acronym

FP7-ENVIRONMENT

Sub-Programme Area

ENV.2012.6.4-2

Contract Type

Collaborative project

Coordinator

Boğaziçi University, Turkey

Researcher's Name

Prof. Naci GÖRÜR
Assoc. Prof. Ziyadin ÇAKIR

Researcher's Contact

gorur@itu.edu.tr
ziyadin.cakir@itu.edu.tr

Total Budget/ITU's Budget

EUR 7.769.608 / EUR 253.520

Start - End Date

2012 - 2015

Partners

- Istituto Nazionale Di Geofisica E Vulcanologia, Italy
- European Centre for Training and Research in Earthquake Engineering, Italy
- The Scientific and Technological Research Council of Turkey, Turkey
- European Space Agency, France
- Bureau de Recherches Geologiques et Minieres, France
- French Research Insitute for Exploitation of the Sea, France
- The University of Pavia, Italia
- Guralp Systems Ltd, UK
- Istanbul University, Turkey
- Euro-Mediterranean Seismological Centre, France
- Sarmap Sa, Switzerland
- The French Insitute of Science and Technology for Transport, Development and Networks, France
- Daimar Srl, Italy
- Amra - Analisi E Monitoraggio Del R Ischio Ambientale Scarl, Italy
- Helmholtz-Centre Potsdam - GFZ German Research Centre for Geosciences, Germany
- Istanbul Technical University, Turkey
- National Research Council, Italy
- Institut National De L Environnement Et Des Risques Ineris, France
- National Center for Scientific Research, France
- Kocaeli University, Turkey

Website

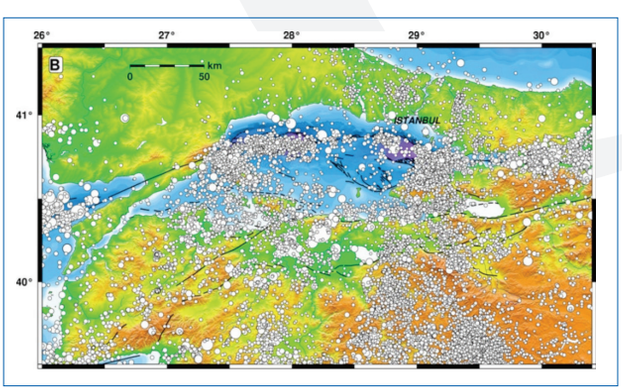
http://marsite.eu/

Abstract

Objective

The recent devastating earthquakes and associated tsunamis in Japan, Indonesia, and Haiti, which killed more than half a million people, highlighted how mankind is still far away from a satisfactory level of seismic risk mitigation. Among the regions around the Mediterranean Sea for which earthquakes represent a major threat to their social and economic development, the area around the Marmara Sea, one of the most densely populated parts of Europe, is subjected to a high level of seismic hazard. For this region the MARSITE project is proposed with the aim of assessing the state of the art of seismic risk evaluation and management at European level. This will be the starting point to move a step forward towards new concepts of risk mitigation and management by long-term monitoring activities carried out both on land and at sea. The MARSITE project aims to coordinate research groups with different scientific skills (from seismology to engineering to gas geochemistry) in a comprehensive monitoring activity developed both in the Marmara Sea and in the surrounding urban and country areas. The project plans to coordinate initiatives to collect multidisciplinary data, to be shared, interpreted and merged in consistent theoretical and practical models suitable for the implementation of good practices to move the necessary information to the end users.

Image



Project Acronym and Name

TEFLES - Technologies and Scenarios for Low Emissions Shipping

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

SST.2010.1.1-4

Contract Type

Small or medium-scale focused research project

Coordinator

Inova-Inova Consultores En Excelencia e Innovacion Estrategica, S.L., Spain

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 2.259.405,00 / EUR 69.600,00

Start - End Date

2011 - 2014

Partners

- Vicus Desarrollos Tecnologicos, S.L., Spain
- Consultores Investigacion Tecnologica S.L., Spain
- Couple Systems Gmbh, Germany
- Hamburgische Schiff bau-Versuchsanstalt Gmbh, Germany
- Barreras-Hijos De J. Barreras Sa, Spain
- Istanbul Technical University, Turkey
- Autoridad Portuaria De Vigo, Spain
- Saft Sa, France
- Heatmaster B.V., The Netherlands
- University of Newcastle Upon Tyne, UK

Website

http://tefles.eu/

Abstract

Reduction of emissions in shipping is currently driven by new regulations and impact on wealth and climate change, while traffic steadily grows at up to 6% rates yearly in spite of economic recession. Ships on port approach, maneuvering up to mooring and on loading and unloading, also affect the local population. TEFLES addresses both sea and at port emissions scenarios by developing after treatment technologies and combining a selection of innovative and promising technologies with potential high impact, integrating them and assessing their impact with models on sea and port operation scenarios.

In addition to after treatment solutions, novel aplicable technologies reducing emissions in operations and reductions in the time of operations at port are also considered. Shore power connection, power generation, propulsion, and advanced use of residual heat applications are included as high potential impact emission reduction solutions.

The assessed technology solutions and models are then integrated on the impact models of the sea and port scenarios, and then validated on a Atlantic MoS scenario including head ports. The simulation models will also be applicable to other shipping scenarios.

Economic aspects, cost benefit, and regulatory and policy issues are further considered. IMO, EMSA, and national and regional administrations will be consulted, and an end users group will be set up to enlarge the partnership, which already includes ports, specialised industries, and a shipyard. A Short Sea Shipping Association and one of the most qualified MoS operators have adhered through letters of interest.

Each scenario model will be completed with a final workshop after validation. Dissemination through Beta testing seminars on use of the models will be provided, as well as a web page.

Image Abstract

Project Acronym and Name

TARGETS- Targeted Advanced Research for Global Efficiency of Transportation Shipping

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

SST.2010.1.1-2 TPT.2010-5

Contract Type

Small or medium-scale focused research project

Coordinator

Hamburgische Schiff bau-Versuchsanstalt Gmbh (Germany)

Researcher's Name

Prof. Mustafa İNSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 2.668.391 / EUR 180.600

Start - End Date

2010 - 2013

Partners

- University of Newcastle Upon Tyne, UK
- University of Strathclyde, UK
- A.P. Moller - Mærsk A/S, Denmark
- Alpha Marine Services Ltd, Greece
- Center of Maritime Technologies Ev, Germany
- Istanbul Technical University, Turkey
- Technische Universitaet Hamburg-Harburg, Germany
- Synthesis Marterra Ae, Greece
- Safety At Sea Limited, UK
- Shipbuilders and Shiprepairers Association, UK

Website

http://www.targets-project.eu/

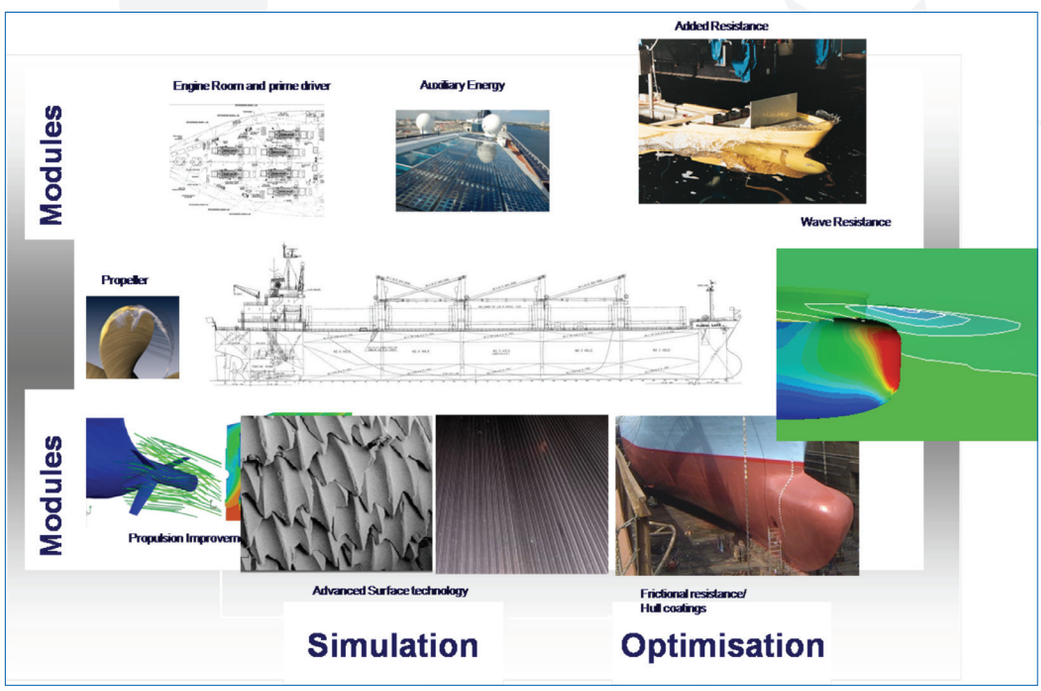
Abstract

The TARGETS proposal has been initiated in response to the COOPERATION work programme of the European Commission, Theme 7, Transport and Aeronautics. In particular, it addresses area SST.2010.1.1-2 / Energy Efficient Ships, in that it seeks to provide substantial improvements to ship energy consumption during the operation of cargo vessels.

The prime goal of TARGETS - Targeted Advanced Research for Global Efficiency of Transportation Shipping – is a global analysis of the most important causes of energy consumption on board of cargo ships in a comprehensive and holistic approach. Having identified resistance and propulsion aspects as primary causes of energy consumption, work will be dedicated to the improvement of such characteristics. In addition, a global energy consumption simulation system will be developed to be applied during new vessel design as well as during operation.

Assembling leading European fluid dynamics and energy specialists and major EU shipping operators covering a broad range of cargo transport operations, containers, bulk and tanker, the TARGETS project will contribute designs, tools and operational guidelines for an energy efficient operation of cargo ships, and hence make a significant contribution to the reduction of green house gas emissions.

Image Abstract



Project Acronym and Name

ARIADNA-Maritime Volumetric Navigation System

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

SST.2008.5.2.2

Contract Type

Small or medium-scale focused research project

Coordinator

Isdefe-Ingeniería De Sistemas Para La Defensa De España , Spain

Researcher's Name

Prof. Mustafa INSEL

Researcher's Contact

insel@itu.edu.tr - mustafainsel@gmail.com

Total Budget/ITU's Budget

EUR 2.504.758 / EUR 85.854

Start - End Date

2009 - 2013

Partners

- Ingeniería De Sistemas Para La Defensa De España, Spain
- Teleconsult Austria Gmbh, Austria
- Via Donau - Osterreichische Wasserstraßen-Gesellschaft Mbh, Austria
- Consar - Italian Shipowners Research Consortium, Italy
- Istanbul Technical University, Turkey
- True Heading AB, Sweden
- HSVA, Germany
- Grupo Mecánica Del Vuelo Sistemas S.A., Spain
- Consultores Investigación Tecnológica S.L., Spain

Website

http://www.ariadna-fp7.eu/

Abstract

The objective of the project ARIADNA is to design from a new concept and build a new series of navigation support systems to allow optimisation of the maritime infrastructures, the navigation on dense traffic in ports and access areas, rivers, channels, lock access areas, and traffic separation areas as well leading to efficient (in terms of capability and economic terms) and environmentally-friendly operations.

ARIADNA based products can be also useful to avoid human error in navigation, provide warning and manoeuvring support for collision avoidance, and provide risk and warning assessment to vessel and navigation control systems in channels, port access areas, narrow inland waterways and congested areas.

Ship information is already transmitted by AIS, VTS and communication systems depending on the ship or vessel size, and equipment. The manoeuvring constraints by vessel are considered and each vessel transmits the information on his manoeuvring capabilities in such a way that the other ships in the area can manoeuvre with precise knowledge of the position of the other ships. The experience from such operations will encourage ship designers to optimize the manoeuvring capabilities at early design stage.

ARIADNA is based on the implementation of the Volumetric Navigation System (VNS) concept. A Volumetric Navigation System (VNS) started with great interest in new traffic navigation solutions considering certain scenarios in which all the vehicles share information in order to be part of a collaborative navigation network. In those scenarios, 3D volume dimensions are used to define the position of an associated volumetric envelope in time. In the maritime navigation the "volume" of the ship is the envelope of the ship after a given time. Horizontal dimensions of this ship's envelope will consider his current speed and also from his extreme stopping and manoeuvring capabilities from the given speed and load, and correction for the drift due to local measured wind and mapped currents. The vertical dimension in navigation at sea is the water distance below the keel at fore and the aft of the ship and the sea bottom as given by cartography and tide. The display may overlap the Electronic Chart Display and Information System (ECDIS) screen. VNS is a human error avoiding tool for collision avoidance, manoeuvring and navigation in low separation traffic lines and channels, crossings, port traffic, congested shallow waters.

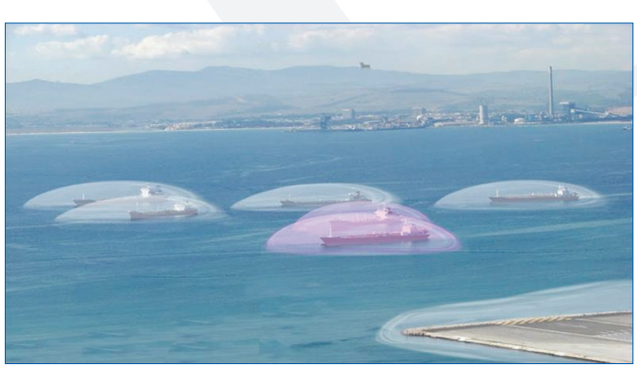
The system key points are:

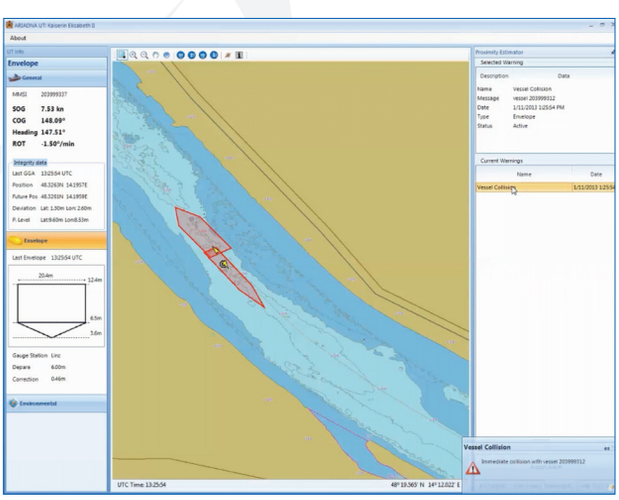
· Every vessel may be represented by a safety volume envelope which geometry will depend on its real shape, navigation and dynamical parameters and the surrounding environment;

· The position and course and heading of a vessel may be accurately calculated in real time from its position, speed and drift by GPS and GNSS technologies. Combining position, course, drift and volume, each vessel may be considered as a geo-referenced geometrical volume;

· In an scenario with different ship sizes and tonnage and speeds each vessel or boat generates his own volume that is transmitted to the other vessels in the area . The shore, docks river or channel sides and shallow water obstacles generate a warning when the "volume of the vessel" approaches at different levels of risk.

Image Abstract





Project Acronym and Name

2BFUNTEX- Boosting Collaboration Between Research Centres and Industry to Enhance Rapid Industrial Uptake if Innovative Functional Textile Structures and Textile Related Materials in a Mondial Market

Programme Acronym

NMP3-CA-2011-290500

Sub-Programme Area

NMP.2011.2.3-3

Contract Type

Coordination (or networking) actions

Coordinator

Universiteit Gent, Belgium

Researcher's Name

Prof. Fatma KALAOĞLU

Researcher's Contact

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Total Budget/ITU's Budget

EUR 1.467.500 / EUR 35.485

Start - End Date

2012 - 2015

Partners

- Vlaamse Instelling Voor Technologisch Onderzoek N.V., Belgium
- Saechsisches Textilforschungsinstitut E.V., Germany
- National Research Council, Italy
- Warsaw University of Technology, Poland
- University of Twente, The Netherlands
- Inotex Spol Sro, The Czech Republic
- The Ait Austrian Institute of Technology Gmbh, Austria
- Ecoplus.Niederosterreichs Wirtschaftsagentur Gmbh, Austria
- Autex Vzw, Association of Universities of Textiles, Belgium
- Technitex Faraday Limited, UK
- Istanbul Technical University, Turkey
- Kiev National University of Technologies and Design, Ukraine
- Ukrainian Chamber of Commerce and Industry, Ukraine
- ITKİB ITA Egitim Arastirma ve Danismanlik Limited Sirketi, Turkey
- Ege Universitesi, Turkey
- Association Up-Tex, France
- North West Textiles Network Limited, UK
- Kaunas University of Technology, Lithuania
- VTT Technical Research Centre of Finland, Suomi/Finland
- Danish Technological Insitute, Denmark
- Fundacion Tekniker, Spain
- Technical University 'Gheorghe Asachi' of Iasi, Romania
- Oztek Tekstil Terbiye Tesisleri Sanayi ve Ticaret AS, Turkey
- Future in Textiles Association, Romania
- Svum As, The Czech Republic

Website

www.2bfuntex.eu

Abstract

Main objective of the project is to support research and industrial innovation actors to define joint research projects and actions in functional textile structures and textile related materials. Set up multidisciplinary project teams oriented toward exploiting the untapped potential. Enhance transfer of the knowledge available at universities and research institutes to industry.

Image

Project Acronym and Name

DRISCS – Dynamic Response and Instability of Seabed-Coastal Structure Systems under Waves

Programme Acronym

MC-CIG

Sub-Programme Area

ENVIRONMENT AND GEOSCIENCES

Contract Type

Support for training and career development of researcher (CIG)

Coordinator

Istanbul Technical University, Turkey

Researcher's Name

Assoc. Prof. Mehmet Barış Can ÜLKER

Researcher's Contact

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Total Budget/ITU's Budget

EUR 100.000

Start - End Date

2013 - 2017

Partners

-

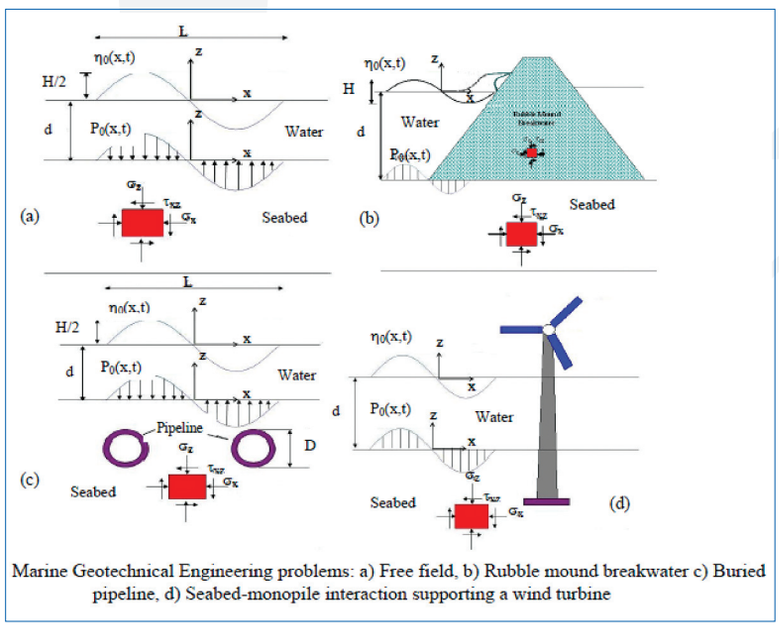
Website

http://faculty.itu.edu.tr/mbulker/

Abstract

Marine infrastructure plays a vital role in relation to energy, environment and sustainable development. Coastal and offshore structures built to protect coastal regions and to provide renewable energy, constitute a significant part of marine infrastructure in Europe. The need for such structures is expected to grow rapidly in the future due to increase in magnitude and frequency of storms, the alarming trends in global energy demand and finite nature of oil and gas. While there is the issue of designing safer structures for coastal protection, there is also the need for more renewable energy such as placing more wind farms. Hence, design and analysis of such structures under cyclic and breaking waves that cause instabilities in these systems is of huge concern. Geotechnical aspects play a significant role in the initiation of these instabilities, particularly the dynamic response of seabed around these structures is necessary to mitigate associated hazard. Although progress has been made towards understanding of these processes and their impact on the stability of marine infrastructure, there still remains a significant need for a comprehensive study to understand the underlying mechanics, formulate models and develop computational tools for the response and instability of seabed-structure systems. The objective of the proposed project is to evaluate cyclic and breaking wave-induced response and instability of seabed around rubble-mound breakwaters and offshore wind turbines by providing solutions to wave-soil-structure interaction problem. The objectives will be achieved with a set of tasks to be completed through a stepwise process of developing mathematical formulations and solving numerical models which will be verified with available tests. This way, the main scientific aspects of the problem will be studied and design solutions will be provided. The results are expected to be valued by many engineers, researchers, students and public in this field in Europe.

Image Abstract



Marine Geotechnical Engineering problems: a) Free field, b) Rubble mound breakwater c) Buried pipeline, d) Seabed-monopile interaction supporting a wind turbine

Project Acronym and Name

R2CITIES - Renovation of Residential Urban Spaces: Towards Nearly Zero Energy Cities

Programme Acronym

FP7-20 1 2-NMP-ENV-ENERGY-ICT-EeB

Sub-Programme Area

EEB.ENERGY.2012.8.8.3: "DEMONSTRATION OF NEARLY ZERO ENERGY BUILDING RENOVATION FOR CITIES AND DISTRICTS"

Contract Type

Collaborative project

Coordinator

Fundación Cartif, Spain

Researcher's Name

Assoc. Prof. Hatice SÖZER

Researcher's Contact

Energy Institute Istanbul Technical University 34469

hatice.sozer@itu.edu.tr +90 (212) 285 3947

Total Budget/ITU's Budget

EUR 14.800.000 / EUR 391.200

Start - End Date

2013 - 2017

Partners

- SmVIVA (Valladolid), Spain
- Acciona Infraestructuras, Spain
- Istanbul Technical University, Turkey
- D. Appolonia, Italy
- Steinbeis-Europa-Zentrum, Germany
- Youris.com, Belgium
- Genoa Municipality, Italy
- Ode Yalitim Sanayi ve Ticaret A.S., Turkey
- Grupo Unisolar/Soliker, Spain
- Universita degli Studi di Genova, Italy
- ABB, Italy
- Unicredit, Italy BANK (Large), Italy
- Exergy Ldt., UK
- Kartal Belediye Baskanligi (Istanbul), Turkey

Website

http://r2cities.eu/

Abstract

Technology and society are two concepts usually not very well linked. A lot of technical advances are not enough known by the final users or they are not appropriately addressing user needs. Frequently that means low impact of RTD activities on the society. The Smart Cities and Communities Initiative, officially and institutionally launched on June 2011 by the EC framed into the SET-PLAN (Strategic Energy Technologies Plan) plans to bring closer to the citizens the technological innovation, so that, it can be better perceived and can improve the quality of life of EU citizens. Main challenges are:

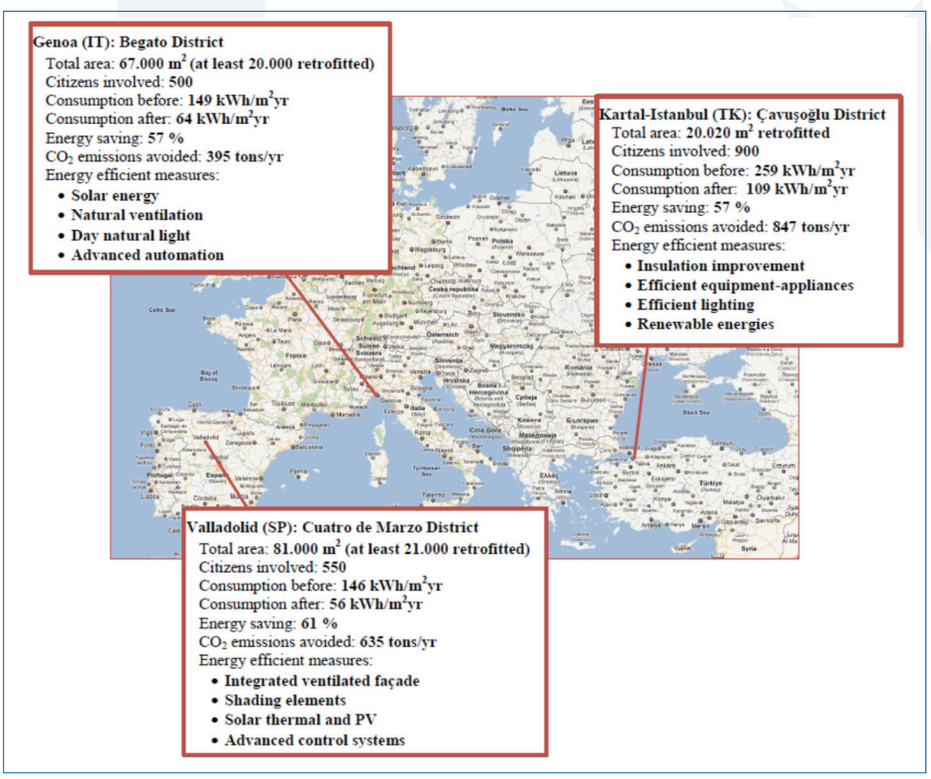
. To trigger a sufficient take-up (reaching 5% of the EU population) of energy efficient and low carbon technologies to unlock the market¡¨.

. To reduce by 40% the greenhouse gas reference year 1990 emissions by 2020, that will demonstrate not only environmental and energy security benefits but also to provide socio-economic advantages in terms of quality of life, local employment and businesses, and citizen empowerment¡¨.

. To effectively spread across Europe best practices of sustainable energy concepts at local level, for instance through the Covenant of Majors¨.

The involvement of the local authorities is a key aspect, but the involvement of the private sector addressing actions on the buildings, energy networks and transport sectors is also critical. This project is focused on existing buildings, in particular residential, at district level. The Smart Cities and Communities European Initiative encourages to *"Test and assess through 5-10 programmes, strategies for the complete refurbishment of 50% of all existing buildings (e.g. residential buildings, public buildings, non-residential buildings, etc.). Besides technologies, innovative financing schemes, and refurbishment techniques have to be developed and tested".*

Image



Project Acronym and Name

CITyFiED - RepliCable and InnovaTive Future Efficient Districts and Cities

Programme Acronym

FP7-SMARTCITIES-2013

Sub-Programme Area

ENERGY.2013.8.8.1: DEMONSTRATION OF OPTIMISED ENERGY SYSTEMS FOR HIGH PERFORMANCE-ENERGY DISTRICTS

Contract Type

Collaborative project

Coordinator

Cartif, Spain

Researcher's Name

Assoc. Prof. Hatice SÖZER

Researcher's Contact

Energy Institute Istanbul Technical University 34469

hatice.sozer@itu.edu.tr +90 (212) 285 3947

Total Budget/ITU's Budget

EUR 49.100.000 / EUR 513.920

Start - End Date

2013 - 2017

Partners

- Acciona Infraestructuras, Spain
- Laguna De Duero (Valladolid), Spain
- Dalkia, Spain
- Mondragon C., Spain
- Ingenieria Acustica Y Servicios 3Ia, Spain
- Lund Municipality, Sweden
- Swedish Enviromental Research Institute, Sweden
- Lunds Kommuns Fastighets AB, Sweden
- Lunds Energikoncernen AB Lener, Sweden
- Soma Municipality, Turkey
- Marmara Research Centre, the Scientific and Technological Research Council of Turkey, Turkey
- Istanbul Technical University, Turkey
- Soma-Seas, Seas, Turkey
- Mir Ar-Ge, Turkey
- Teknovasyon, Turkey

Website

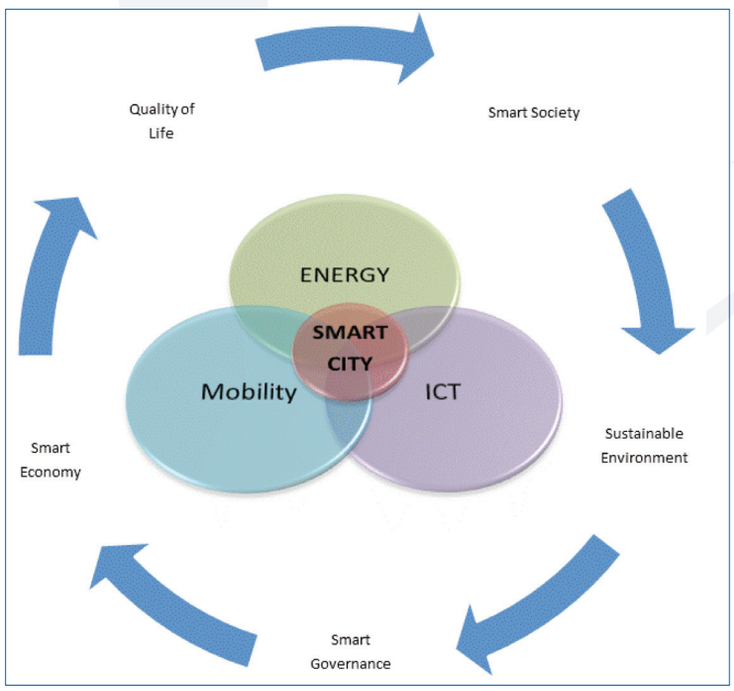
http://www.cityfied.eu/

Abstract

The CITyFiED project will concentrate its activities to develop a systemic vision and strategy to adapt European cities and its urban ecosystem into smart, sustainable and inclusive cities of the future. The outcome should deliver a highly replicable strategy to be firstly implemented in three real scale demonstrators and further expanded through a European Cities Cluster that will be created around the project.

CITyFiED will address all three pillars defined by the Smart Cities and Communities Initiative, focusing on the Energy Pillar and its interfaces with the ICT and the Mobility pillars, with the aim to reduce energy demand, GHG emissions and increase the use of renewable energy sources, devoting specific actions to address.

Image Abstract



Project Acronym and Name

PRACE - 1IP, Partnership for Advanced Computing in Europe - First Implementation Phase Project

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2010-2.3.1

Contract Type

Combination of Collaborative projects and Coordination and support action

Coordinator

Forschungszentrum Jülich Gmbh, JUELICH, Germany

Researcher's Name

Prof. M. Serdar ÇELEBİ
Assoc. Prof. Ahmet DURAN

Researcher's Contact

mscelebi@itu.edu.tr
aduran@itu.edu.tr

Total Budget/ITU's Budget

EUR 28.729.681,00 / EUR 476.933,00

Start - End Date

2010 - 2013

Partners

- Gauss Centre for Supercomputing, Germany
- Grand Equipement National Pour Le Calcul Intensif, France
- Engineering and Physical Sciences Research Council, UK
- Barcelona Supercomputing Center - Centro-Nacional De Supercomputacion, Bsc, Spain
- Csc – It Center For Science Ltd, Finland
- ETH Zurich, Switzerland
- Netherlands Computing Facilities Foundation, The Netherlands
- Institute for Computerarchitecture University Linz, Austria
- KTH Royal Institute of Technology, Sweden
- Consorzio Interuniversitario Cineca, Italy
- Poznan Supercomputing and Networking Center, Poland
- Uninett Sigma As, Norway
- Greek Research and Technology Network, Greece
- Universidade De Coimbra, Portugal
- National University of Ireland, Galway, Ireland
- Istanbul Technical University, Turkey
- The Cyprus Research and Educational Foundation, Cyprus
- National Centre for Supercomputing Applications, Bulgaria
- Technical University of Ostrava, The Czech Republic
- Institute of Physics Belgrade, Serbia

Website

http://www.prace-project.eu

Abstract

Large scale simulations are the third pillar of science today alongside theory and experiment. They produce scientific insights, technological advances, and solve problems in many fields of society. Their tools are high-end computers and effective software. PRACE, the Partnership for Advanced Computing, has been created as a not for profit association in May 2010 as a permanent pan-European High Performance Computing service providing world-class systems for world-class science. Up to six systems at the highest performance level (Tier-0) will be deployed the first one being the already installed BlueGene/P in Germany. Funding for the next three systems has been committed by France, Italy, and Spain. Twenty European states are members of the PRACE Research Infrastructure (RI). Access to the PRACE resources will be through a single peer review process. The Scientific Steering Committee represents the user communities and guides the strategic directions. PRACE works closely with national, regional, and topical centres to shape the European HPC ecosystem. The PRACE-1IP project is designed to support the accelerated implementation of the RI. The project supports the evolution of the RI by refining and extending the administrative, legal and financial framework with focus on the specific requirements of industry. To enable world-class science on novel systems the project assists users in porting, optimising and peta-scaling applications to the different architectures and deploys consistent services across the RI. The tools and techniques will be selected to have broad applicability across many disciplines. This is accompanied by advanced training in modern programming methods and paradigms, establishing a permanent distributed training infrastructure. The PRACE brand is already well established in the international HPC scene; extensive dissemination and outreach will be continued. The project advises PRACE on procurements of the next generation of systems. Finally, promising technologies, especially with respect to energy efficiency, will be evaluated with the ultimate goal to collaborate with industrial partners to develop products exploiting STRATOS, PRACE advisory group for Strategic Technologies created in the PRACE Preparatory Phase project.

Image

Project Acronym and Name

PRACE-2IP, Partnership for Advanced Computing in Europe – Second Implementation Phase Project

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

INFRA-2011-2.3.5

Contract Type

Combination of Collaborative projects and Coordination and support action

Coordinator

Forschungszentrum Jülich Gmbh, JUELICH Germany

Researcher's Name

Prof. M. Serdar ÇELEBİ
Assoc. Prof. Ahmet DURAN

Researcher's Contact

mscelebi@itu.edu.tr
aduran@itu.edu.tr

Total Budget/ITU's Budget

EUR 35.414.209,00 / EUR 628.100,00

Start - End Date

2011 - 2014

Partners

- Institute for Computerarchitecture University Linz, Austria
- Poznan Supercomputing and Networking Center, Poland
- The Cyprus Research and Educational Foundation, Cyprus
- ETH Zurich, Switzerland
- Universidade De Coimbra, Portugal
- The University of Edinburgh, UK
- Technical University of Ostrava, The Czech Republic
- Uninett Sigma As, Norway
- Istanbul Technical University, Turkey
- National Centre for Supercomputing Applications, Bulgaria
- It Center For Science Ltd, Finland
- Grand Equipement National Pour Le Calcul Intensif, France
- Consorzio Interuniversitario Cineca, Cineca, Italy
- Greek Research and Technology Network S.A, Hellas, Greece
- Kungl Tekniska Hogskolan, Snic, Sweden
- Netherlands Computing Facilities Foundation, Ncf, The Netherlands
- National University of Ireland, Galway, Ireland
- Barcelona Supercomputing Center - Centro-Nacional De Supercomputacion, Bsc, Spain
- Gauss Centre for Supercomputing, Germany
- Hungarian Research and Education Network, Hungary
- Institute of Physics Belgrade, Serbia

Website

http://www.prace-project.eu

Abstract

PRACE-2IP supports the accelerated implementation of the pan-European HPC Research Infrastructure created in April 2010 as the result of the preparatory phase PRACE project. It complements and extends the work of the PRACE-1IP project that was started in July 2010.

PRACE-2IP addresses the computational and simulation needs of European scientific communities to keep them at the forefront of discovery. Our vision is the formation of an integrated HPC ecosystem of facilities and services enabling researchers to realise the full potential of computational science within the supportive environment of the European Research Area.

Building on the implementation work of the preceding PRACE and DEISA projects, PRACE-2IP will enable seamless access to HPC systems and services at the Tier-0 and Tier-1 level to users, regardless of their country of work. This provides the means and motivation to undertake ambitious, ground-breaking computational science. In particular, DEISA-like services will be integrated into the ecosystem.

Applications enabling expertise will support researchers in code development, optimisation and peta-scaling to help them make effective use of the Tier-0 and Tier-1 systems. Training and dissemination activities will ensure that European scientists have the knowledge and the skills enabling them to take full advantage of the facilities on offer. Through collaboration with technology providers and vendors, novel architectures, systems and technologies will be evaluated to ensure that Europe remains at the forefront of HPC and that the future needs of the research community are understood and met. Targeted research activities will investigate possible solutions to challenges in programmability and scalability of future multi-petaflop systems.

PRACE-2IP will considerably strengthen and deepen the co-operation between HPC centres, funding bodies and research communities in a mutually beneficial partnership to enhance European scientific competitiveness.

Image

Project Acronym and Name

PRACE-3IP, Partnership for Advanced Computing in Europe – Third Implementation Phase Project

Programme Acronym

FP7-INFRASTRUCTURES

Sub-Programme Area

NFRA-2012-2.3.1

Contract Type

Combination of Collaborative Projects and Coordination and Support Actions

Coordinator

Forschungszentrum Jülich Gmbh, JUELICH Germany

Researcher's Name

Assoc. Prof. Ahmet DURAN
Prof. Ertuğrul KARAÇUHA
Prof. M. Serdar ÇELEBİ

Researcher's Contact

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karacuhae@itu.edu.tr
mscelebi@itu.edu.tr

Total Budget/ITU's Budget

EUR 26.831.803,00 / EUR 227.333,00

Start - End Date

2012 - 2016

Partners

- Poznan Supercomputing and Networking Center, Poland
- The University of Edinburgh, UK
- Stichting Academisch Rekencentrum Amsterdam, The Netherlands
- The Cyprus Research and Educational Foundation, Cyprus
- Technical University of Ostrava, The Czech Republic
- University of Copenhagen, Denmark
- Consorzio Interuniversitario Cineca, Italia
- National Centre for Supercomputing Applications, Bulgaria
- It Center for Science Ltd, Finland
- Inter University Computation Centre, Israel
- Universidade De Coimbra, Uc-Lca, Portugal
- Barcelona Supercomputing Center - Centro-Nacional De Supercomputacion, Bsc, Spain
- National University of Ireland, Galway, Ireland
- Univerza V Ljubljani, Slovenia
- Grand Equipement National Pour Le Calcul Intensif, France
- Istanbul Technical University, Turkey
- Gauss Centre for Supercomputing, Germany
- Partnership for Advanced Computing In Europe Aisbl, Belgium
- Institute for Computerarchitecture University Linz, Austria
- ETH Zurich, Switzerland
- Hungarian Research and Education Network, Hungary
- Institute of Physics Belgrade, Serbia
- Greek Research and Technology Network S.A, Hellas, Greece
- Uppsala University, Sweden

Website

http://www prace-project.eu

Abstract

PRACE-3IP supports the accelerated implementation of the pan-European HPC Research Infrastructure (RI) created in April 2010. It continues, complements, and extends the work of the PRACE-1IP and -2IP projects. PRACE-3IP addresses the computational and simulation needs of European scientific communities and of industry to keep them at the forefront of discovery. Our vision is the formation of an integrated HPC ecosystem of facilities and services enabling researchers to realise the full potential of computational science within the supportive environment of the ERA.

The project will undertake a joint pre-commercial procurement (PCP) pilot to obtain a solution for a 'Whole System Design for Energy Efficient HPC'. This pilot is the first of its kind on a Europe-wide level and the lessons learned will be invaluable for PRACE in its future procurement strategy and for Europe as a whole in using PCP as a driver for innovation.

PRACE-3IP will deliver a broad set of services suitable for use by industry and commerce. The PRACE RI will be open for use by SMEs and large European businesses, offering Tier-0 and Tier-1 access, training, and applications support.

Applications support and enabling will have a bias towards addressing major socio-economic challenges.

New tools will be made available under Open Source. Best practises will be identified, documented and made available to the European HPC community in academia and industry.

PRACE-3IP will have a broad training and outreach activity designed to engage more user communities, including industry, in the use of HPC. The next generation of students and researchers will be introduced to the benefits of HPC and the technologies and knowledge required applying it successfully in their discipline. PRACE-3IP will considerably strengthen and deepen the co-operation between HPC centres, funding bodies and research communities in a mutually beneficial partnership to enhance European scientific and industrial competitiveness.

Image

Project Acronym and Name

SEAHORSE- Safety Enhancements in transport by Achieving Human Orientated Resilient Shipping Environment

Programme Acronym

FP7-TRANSPORT

Sub-Programme Area

TPT.2013-1

Contract Type

Small or medium-scale focused research project

Coordinator

Strathclyde University, UK

Researcher's Name

Assoc. Prof. Özcan ARSLAN

Researcher's Contact

Phone: +902163951009
E-mail: arslano@itu.edu.tr
Maritime Faculty, 34940 Tuzla/Istanbul/Turkey

Total Budget/ITU's Budget

EUR 2.391.966,48 / EUR 36.800

Start - End Date

2013 - 2017

Partners

- Netherlands Organisation for Applied Scientific Research, The Netherlands
- Deep Blue Srl, Italy
- Lloyd's Register, UK
- Sakatunta University of Applied Sciences
- Calmac Ferries Ltd Calmac, UK
- Danaos Shipping Company Ltd, Cyprus
- Jumbo Maritime, The Netherlands
- Trinity College, Dublin, Ireland
- Instituto De Investigacion En Seguridad Y Factores Humanos - Esm Esm, Spain
- Ap&A Ltd, UK
- Kratis Training and Consulting Limited Kratis Training&Co, Cyprus
- Istanbul Technical University, Turkey

Website

http://www.seahorseproject.eu/

Abstract

Within the aeronautical industry it is critical to have safe and reliable operations in order to prevent accidents and mistakes which can potentially cause a huge loss of life and destruction. In this respect, the aeronautical industry has led the way in terms of understanding and implementing tools, methodologies and systems to combat human error within a system. One such principle which has been highlighted as being particularly successful is the integration and adoption of resilience engineering principles. Resilience engineering within the aeronautical industry has been very useful on board aircraft where the number of accidents and incidents have been shown to decrease through the utilisation of resilience engineering.

In order to achieve successful transfer and implementation of the proven resilience engineering concepts and tools from the aeronautical industry to marine transport, a systematic approach needs to be adopted. Therefore, within the SEAHORSE project it is our aim to TRANSFER the effective and successful safety concepts utilised in the aeronautical industry, adapting and tailoring them to the unique needs of marine transport in the following manner:

Firstly, the best practices in aeronautical industry with regard to managing errors and non-standard practices will be identified. Then, the current practices in marine transport will be assessed and gap analysis in order to identify any potential gaps that may affect the successful implementation of safety management will be conducted.

Finally, a 'Multi-level Resilient Marine Transport Framework' will be developed through the adaptation of the identified resilience engineering principles of the aeronautical industry to the unique needs of marine transport.

Through the concepts of the SEAHORSE project it is envisaged that more resilient and safer shipping operations will be achieved.

Image

Project Acronym and Name

INTRAREGIO - Towards an Intermodal Transport Network through Innovative Research-Driven Clusters İn Regions Of Organised And Competitive Knowledge

Programme Acronym

FP7-REGIONS

Sub-Programme Area

REGIONS-2011-1

Contract Type

Coordination (or networking) actions

Coordinator

Gobierno De Canarias, Spain

Researcher's Name

Asst. Prof. Dr. Münip BAŞ

Researcher's Contact

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Phone: +90 0216 446 91 39

Total Budget/ITU's Budget

EUR 1.821.519,20 / EUR 79.540,00

Start - End Date

2012 - 2014

Partners

- Asociacion Cluster Canario Del Transporte Y La Logistica Cctl, Spain
- Consulta Europa Projects And Innovation Sl Consulta Europa, Spain
- Wfb Wirtschaftsforderung Bremen Gmbh Wfb, Germany
- University of Bremen, Germany
- Blg Logistics Group Ag & Co Kg Blg, Germany
- Dogu Marmara Kalkinma Ajansi Baskanligi, Turkey
- Istanbul Technical University, Turkey
- Koc University, Turkey
- Uluslararasi Nakliyeciler Dernegi, Turkey
- Autorita Portuale Di Gioia Tauro Gtc-Pa, Italy
- Universita Della Calabria Unica, Italy
- Logistica Ricerca E Sviluppo Scarl R&D.Log, Italy
- Innova Spa Innova, Italy
- Executive Agency for Exploration and Maintenance of the Danube Eaemdr, Bulgaria
- University of Rousse Angel Kanchev Ru, Bulgaria
- Bulgarian River Shipping Jsc Brp, Bulgaria
- Holding Bulgarian State Railways Ead Bdz-Ead, Bulgaria

Website

http://www.intraregio.eu

Abstract

The InTraRegio project is a coordination action that aims to enhance the integration process and the capacity of the five European regions Canary Islands (ES), Bremen (DE), Marmara (TR), Calabria (IT) and Ruse (BG)

towards their development of regional RTD and economic policies and research strategies related to transport concerns, in particular to intermodal freight and passenger transport. Through mutual learning processes and collaborative relationships among regional research-driven clusters, represented by 18 partners coming from governmental, research and industrial side, a transnational strategy will be established, directed at developing the take up of innovative measures that spin towards new collaboration among regional players and address as a joint force transport-related issues.

The project will be implemented during a 36 months period in three main consecutive and complementary phases while project management and dissemination will be horizontal activities:

1) Establishment of the institutional cluster framework. In-depth analysis of the regions' state of play and Cross-regional Analysis of regional Research Agendas, detecting synergies and paving the way for concerted RTD activities and policy

strategies, including SWOT analyses and Directory of RTD offer and demand;

2) Joint RTD Strategy & Policy Formulation Event and building of the Joint Action Plan with integrated Business Plan;

3) Mutual learning and mentoring through personnel exchanges/ trainings and transnational workshops, supporting the goals set in the Joint Action Plan and improving the European integration process. Elaboration of

an International Cooperation Strategy with an international perspective for extending cooperation possibilities in RTD and innovation support services beyond European boundaries.

Image

CATALOGUE OF
ISTANBUL TECHNICAL UNIVERSITY'S
EU FRAMEWORK PROGRAMME PROJECTS

FRAMEWORK PROGRAMME PROJECTS OF
ISTANBUL TECHNICAL UNIVERSITY'S
ACADEMIC STAFF AT ITU TECHNOPARKS

Project Acronym and Name

MAGNETIDE - Improved Magnets for Energy Generation Through Advanced Tidal Technology

Programme Acronym

FP7-SME

Sub-Programme Area

SME-2011-1

Contract Type

Research for SMEs

Coordinator

Atard Savunma ve Havacılık Sanayi İleri Teknoloji Uygulamaları Araştırma ve Geliştirme A.Ş., Turkey

Researcher's Name

Dr. Levent KIRKAYAK

Researcher's Contact

kirkayak@itu.edu.tr

Total Budget/ITU's Budget

EUR 1.131.700 / EUR 200.000

Start - End Date

2013 – 2015

Partners

- ITUNOVA Teknoloji A.Ş., Turkey
- TWI Limited,UK
- Carlos III University of Madrid (UC3M), Spain
- Instituto Superior Técnico (IST),Portugal
- ITB Precisietechniek B.V., Holland
- Tidal Sails, Norway

Website

http://www.magnetide.eu

Abstract

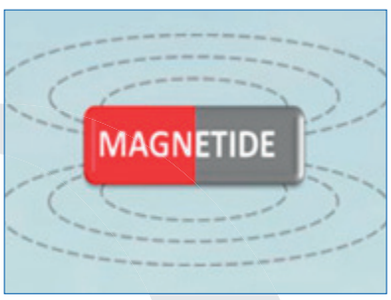
Gearless generators are of increasing interest and turbine system manufacturers are looking into gearless energy systems projecting onto 2015. Gear operates on mechanical engagement and friction which implies loss of energy and mechanical damage on parts in long term. Gearless generators, on the other hand, are possible by

employing magnets, for which powder metallurgy (PM) and most notably powder injection moulding (PIM) is an ideal process and currently sought after. Current tidal stream device technologies use bladed fans or oscillating hydrofoils to convert kinetic energy in

a flowing current of water into rotary motion driving a generator. The purpose of this project is to integrate an improved generator through appropriate selection of magnets with an innovative tidal system to stream tidal energy as a renewable source. Driven by the need for high energy efficiency, minimal friction loss as in a gear

system, therefore present potential opportunities. In this project, we will develop improved magnetic generator by exploring the use of high performance rare earth magnets, as well as iron (Fe) based PIM options for benchmarking and optimisation, in combination with an innovative generator design and power system connection to integrate with the tidal device and achieve a high energy conversion in terms of electrical power from the kinetic energy potential of tidal streams. Industrial use of near net shape PIM magnets for wave and tidal devices in renewable energy generation will be achieved, and therefore increasing the range of applications of these constantly developing materials. An improved generator will also enable higher output in terms of energy conversion from tidal streams, resulting in a more economical and efficient tidal device.

Image



Project Acronym and Name

CILECCTA - Construction Industry LifE Cycle CosT Analysis

Programme Acronym

FP7-NMP

Sub-Programme Area

NMP-2008-3.4-2

Contract Type

Large-scale integrating project

Coordinator

Holte Byggsafe As, Norway

Researcher's Name

Prof. Attila DİKBAŞ

Researcher's Contact

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Total Budget/ITU's Budget

EUR 5.967.129 / EUR 225.000

Start - End Date

2009-2013

Partners

- Holte as, Norway
- Cambridge Architectural Research Ltd, UK
- BSRIA, UK
- Luleå University of Technology Sweden
- Fraunhofer Institute for Building Physics (IBP), Germany
- University of Stuttgart, Germany
- TechnoBee, Turkey
- Designtech, Sweden
- PE INTERNATIONAL AG, Germany
- Norsk Teknologi, Norway
- SINTEF Building and Infrastructure, Norway
- TUI AG, Germany
- ACCIONA, Infraestructuras S.A., Spain
- APIA XXI S.A., Spain
- ASM-CENTRUM BADAŃ I ANALIZ RYNKU Sp. z o.o., Poland

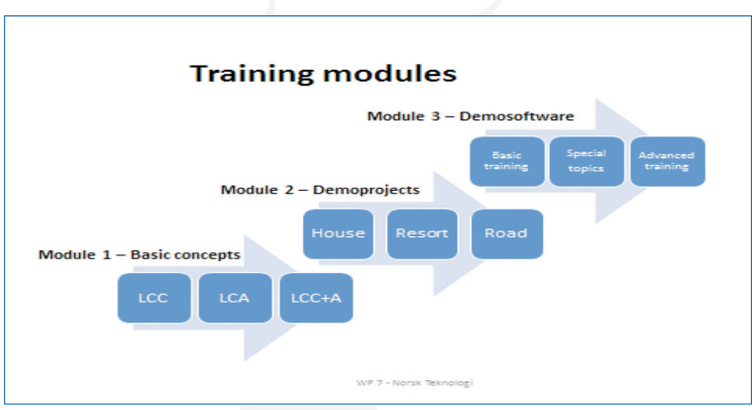
Website

http://cileccta.eu

Abstract

The CILECCTA project is a FP7 large-scale project with 17 partners from 7 European countries. The consortium combines top class academics and industrial researchers, associations and business to develop a suite of Life Cycle Cost Analysis software (LCC+A). The aim is to improve industrialization and use of resources in the construction sector by providing options based decision support. The CILECCTA outcome shall be a user-friendly interface that easily enables users to analyse economic considerations and environmental impacts of a construction project throughout its life cycle.

Image



Istanbul Technical University (ITU), which has experience in engineering education since 1773, is one of Turkey's leading state universities. ITU actively upholds a strong commitment to carry out both applicable and value-added research with a pervasive impact on improving society and producing a new generation of technology and innovation.

Within this catalogue, we would like to present an overview of all the EU Framework Programmes' projects that ITU has taken part in. The catalogue covers the research projects from the 5th, 6th, and 7th Framework Programmes between 2001 and 2013. This catalogue is intended to serve as a map of ITU's EU Research Projects for the institutions and researchers that are considering ITU as a potential partner.

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